



NEGATIVE DECLARATION

CIRCULATION PERIOD	2/5/2021 to 2/25/2021
PROJECT NAME	Palo Alto Solid Waste Processing Contract
PROJECT LOCATION	<p>The location of existing and proposed facilities for Palo Alto's municipal solid waste processing and landfilling are as follows:</p> <p>Existing:</p> <ul style="list-style-type: none">- SMaRT Station, 301 Carl Road, Sunnyvale, CA 94089- Kirby Canyon Recycling and Disposal Facility, 901 Coyote Creek Golf Course Drive, Morgan Hill, CA 95037 <p>Proposed:</p> <ul style="list-style-type: none">- GreenWaste Materials Recovery Facility, 625 Charles Street, San Jose, CA 95112- Newby Island Landfill, 1601 Dixon Landing Road, Milpitas, CA 94583- Monterey Peninsula Landfill, 14201 Del Monte Boulevard, Marina, CA 94538- Zanker Material Processing Facility, 675 Los Esteros Road, San Jose, CA 95134- Shoreway Environmental Center, 333 Shoreway Road, San Carlos, CA- Newby Island Resource Recovery Park, 1601 Dixon Landing Road, Milpitas, CA 94538 <p>Each of these facilities is permitted and regulated by the California Department of Resources and Recycling (CalRecycle) to accept the type of material that is currently, or proposed to be accepted, and has adequate capacity to accommodate the materials.</p>
PROJECT PROPONENT	City of Palo Alto, Environmental Services Division 3201 East Bayshore Road Palo Alto, California 94303
CITY CONTACT	Paula Borges, Solid Waste Manager City of Palo Alto Municipal Service Center, Bldg C 3201 E Bayshore Road, Palo Alto, CA 94303 Phone: (650) 496-5914 Email: Paula.Borges@cityofpaloalto.org

PROJECT DESCRIPTION

The project is for a new service contract that addresses the processing of residential and commercial solid waste collected within the City. The project will increase the City’s diversion rate for materials placed in the black solid waste containers from 29.68% to 70.45% and result in an additional 7,868 tons/per year of diversion.

The project will change where the waste is processed as well as the final landfill location for any residuals. No changes to the collection of materials within the City are proposed as part of the project.

DETERMINATION

In accordance with the City of Palo Alto’s procedures for compliance with the California Environmental Quality Act (CEQA), the City has conducted an Initial Study to determine whether the proposed project could have a significant effect on the environment. On the basis of that study, the City makes the following determination:

- The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is hereby adopted.
- Although the project, as proposed, could have a significant effect on the environment, there will not be a significant effect on the environment in this case because mitigation measures have been added to the project and, therefore, a MITIGATED NEGATIVE DECLARATION is hereby adopted.

The attached initial study incorporates all relevant information regarding the potential environmental effects of the project and confirms the determination that an EIR is not required for the project. In addition, the following mitigation measures have been incorporated into the project:

<i>Signature</i>	<i>Title</i>	<i>Date</i>
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<i>Adopted by City Council, Attested by Director of Planning + Development Services (signed after ND has been adopted)</i>	<i>Title</i>	<i>Date</i>
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INITIAL STUDY ♦ NEGATIVE DECLARATION

PALO ALTO SOLID WASTE PROCESSING CONTRACT

PREPARED BY

City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301
Contact: Claire Raybould, AICP, Senior Planner

**PREPARED WITH THE
ASSISTANCE OF**

Sophia Mitchell & Associates, LLC
P.O. Box 1700
Gualala, CA 95445

REPORT DATE

February 2021

INITIAL STUDY

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INITIAL STUDY

1. PROJECT TITLE

Palo Alto Solid Waste Processing Contract

2. LEAD AGENCY NAME AND ADDRESS

City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

3. CONTACT PERSON AND PHONE NUMBER

Claire Raybould, AICP, Senior Planner
(650) 329-2116

4. PROJECT SPONSOR'S NAME AND ADDRESS

City of Palo Alto, Environmental Services Division
3201 East Bayshore Road
Palo Alto, California 94303

5. PROJECT DESCRIPTION

The project is for a new service contract that addresses the processing of residential and commercial solid waste collected within the City. The project will change where the waste is processed as well as the final landfill location for any residuals.

The project will increase the City's diversion rate for materials placed in the black solid waste containers from 29.68% to 70.45% and result in an additional 7,868 tons/per year of diversion. This is due to better technology at the new processing location. No changes to the collection of materials within the City is proposed as part of the project. The project only deals with waste processing and disposition once it leaves the City.

The following provides a detailed description of the number of truck trips, facility location, and landfill location under both the existing conditions and the proposed condition.

Existing Conditions

Under existing conditions, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and make their way to Palo Alto to start their daily waste collection. Those nine trucks collect waste and then take it to the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station) at 301 Carl Road in Sunnyvale.¹ Up to 14

¹ The SMaRT Station is permitted as the Sunnyvale Food Materials T/P Operations and is active as a medium volume transfer/processing facility. SWIS No. 43-AA-0040.

truckloads of material are taken from Palo Alto to the SMaRT Station each day, which means some of the trucks make the trip to and from Palo Alto to the SMaRT Station multiple times a day. Included in these trips is the transportation of “grit” material from the sewage plant in Palo Alto. Grit includes materials like sand, gravel, cinder, or other heavy solid materials that are “heavier” (higher specific gravity) than the organic biodegradable solids in the wastewater. Grit also includes eggshells, bone chips, seeds, coffee grounds, and large organic particles, such as food waste. At the end of the day, when the final loads are taken to the SMaRT Station, the nine trucks return to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the SMaRT Station, the residuals are taken by the SMaRT Station operator to the Kirby Canyon Recycling and Disposal Facility at 910 Coyote Creek Golf Drive in Morgan Hill.² Residuals are solid waste materials that are unable to be recovered for recycling and composting. A daily average of three truck trips go to the landfill and then make the return trip back to the SMaRT Station.

Additionally, City crews take material such as illegally dumped items and leaf collection/landscaping materials from the City’s Municipal Service Center at 3201 East Bayshore Road in Palo Alto to the SMaRT Station. Due to the limited number of trips that are made, 0.5/trips per day to the SMaRT Station and back is assumed.

Proposed Conditions

Under the proposed conditions with the new contract, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and travel to Palo Alto to start their daily waste collection. Those nine trucks will collect waste and will now take it to the GreenWaste Material Recovery Facility (GreenWaste MRF) at 625 Charles Street in San Jose.³ An average of 13.6 truckloads of material will be taken from Palo Alto to the GreenWaste MRF, which means the trucks make the trip from Palo Alto to the GreenWaste MRF multiple times a day. The “grit” material from the sewage plant cannot be processed at the GreenWaste MRF, so twice a week a truck will take this material directly from Palo Alto to the Newby Island Landfill at 1601 Dixon Landing in Milpitas.⁴ At the end of the day, when the final loads are taken to the GreenWaste MRF, the 9 trucks head back to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the GreenWaste MRF, the residuals will now be taken to the Monterey Peninsula Landfill at 14201 Del Monte Boulevard in Marina.⁵ Due to better processing technology at the GreenWaste MRF only one truck per day will go to the landfill and return.

² Kirby Canyon Recycling and Disposal Facility is permitted and active as a solid waste landfill. SWIS No. 43-AN-0008.

³ GreenWaste MRF is permitted and active as a large volume transfer/processing facility. SWIS No. 43-AN-0019.

⁴ Newby Island Landfill is permitted and active and a solid waste landfill. SWIS No. 43-AN-0003.

⁵ Monterey Peninsula Landfill is permitted and active for solid waste facility, large volume transfer/processing facility and composting facility (mixed). SWIS No. 27-AA-0010

City crews disposing of illegally dumped materials will now take the materials to one of three locations: Zanker Material Processing Facility at 675 Los Esteros Road in San Jose,⁶ Shoreway Environmental Center at 333 Shoreway Road in San Carlos,⁷ or Newby Island Resource Recovery Park at 1601 Dixon Landing Road in Milpitas.⁸ For this analysis the Newby Island Recovery Park was used since it is the farthest location from Palo Alto and would be the most conservative. Due to the limited number of trips that would go to this site, 0.5 truck/day to the Newby Island Resource Recovery Park and back are assumed.

Changes in Trip Length Due to Proposed Project

Under existing conditions, the combined daily vehicle miles traveled (VMT) for all truck trips taking municipal solid waste from the City to the resource recovery facility and then the landfill is 508.4 daily VMT. Under the proposed project, the combined daily VMT will be 580.9 daily VMT. No changes are proposed with how waste will be collected within the City. As such, no change in VMT is expected for those activities, and therefore have not been included, since there will be no change. With implementation of the project, there will be a net increase of 72.5 daily VMT. This is due to changes in the location of the resource recovery facility and the landfill as well as changes in the number of trips. A detailed breakdown of the trip assumptions is provided in Appendix C of this document.

6. LOCATION AND EXISTING SETTING

The location of existing and proposed facilities for municipal solid waste processing and landfilling are presented in the following table. Each of these facilities is permitted and regulated by the California Department of Resources and Recycling (CalRecycle) to accept the type of material that is currently, or proposed to be accepted, and has adequate capacity to accommodate the materials.

Facility	Purpose
Existing Conditions	
SMaRT Station 301 Carl Road, Sunnyvale, CA 94089	Materials recovery and transfer and also the location where City crews take illegally dumped material and where “grit” material from the sewage plant is taken.
Kirby Canyon Recycling and Disposal Facility 910 Coyote Creek Golf Dr., Morgan Hill, CA 95037	Landfilling of materials not recovered at the SMaRT Station

⁶ Zanker Material Processing Facility is permitted and active as a large volume transfer/processing facility and as a solid waste landfill. SWIS No. 43-AN-0001

⁷ Shoreway Environmental Center is permitted and active as a large volume transfer/processing facility. SWIS No. 41-AA-0016

⁸ Newby Island Resource Recovery Park is permitted as the BFI Newby Recyclery and is active as a large volume transfer/processing facility. SWIS No. 43-AA-0014.

Facility	Purpose
Proposed Condition	
GreenWaste MRF 625 Charles Street, San Jose, CA 95112	Materials recovery and transfer.
Newby Island Landfill 1601 Dixon Landing Road, Milpitas, CA 94538	Location for “grit” material from the sewage plant since this material cannot be processed at the GreenWaste MRF.
Monterey Peninsula Landfill 14201 Del Monte Boulevard, Marina, CA 93933	Landfilling of materials not recovered at the GreenWaste MRF
Zanker Material Processing Facility 675 Los Esteros Road, San Jose, CA 95134	Possible location where City crews will take illegally dumped materials.
Shoreway Environmental Center 333 Shoreway Road, San Carlos, CA 94065	Possible location where City crews will take illegally dumped materials.
Newby Island Resources Recovery Park 1601 Dixon Landing Road, Milpitas, CA 94538	Possible location where City crews will take illegally dumped materials.

7. COMPREHENSIVE PLAN DESIGNATION AND ZONING

None of the current or proposed facilities to process the City’s municipal solid waste are located in Palo Alto. The following table shows the General Plan and zoning designation for each of the facility sites. No change in designation or zoning is proposed as part of the project. Each of these facilities is currently permitted and operating.

Facility	General Plan Designation	Zoning Designation
Existing Conditions		
SMaRT Station 301 Carl Road, Sunnyvale, CA 94089	Public Facility (PF)	Public Facility (PF)
Kirby Canyon Recycling and Disposal Facility 910 Coyote Creek Golf Dr., Morgan Hill, CA 95037	Open Hillside (OH)	Planned Development (Open Space Base District)
Proposed Conditions		
GreenWaste MRF 625 Charles Street, San Jose, CA 95112	Heavy Industrial (HI)	Heavy Industrial (HI)
Newby Island Landfill 1601 Dixon Landing, Milpitas, CA 95035	Light Industrial (LI)	Planned Development (Agricultural Base District)
Monterey Peninsula Landfill 14201 Del Monte Boulevard, Marina, CA 93933	Public Facilities	Public Quasi Public (PQP-DS)

INITIAL STUDY

Facility	General Plan Designation	Zoning Designation
Zanker Material Processing Facility 675 Los Esteros Road, San Jose, CA 95134	Public/Quasi-Public (PQP)	Light Industrial (LI)
Shoreway Environmental Center 333 Shoreway Road, San Carlos, CA 94065	Planned Industrial	Heavy Industrial (HI)
Newby Island Resource Recovery Park 1601 Dixon Landing, Milpitas, CA 95035	Light Industrial (LI)	Planned Development (Agricultural Base District)

8. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The City of Palo Alto is the lead agency with jurisdiction over approval of the project and adoption of the CEQA document. No other agency approvals are required.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural and Tribal Resources | <input type="checkbox"/> Geology and Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Energy Conservation |
| <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION

Based on this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

Title

ENVIRONMENTAL CHECKLIST

1 AESTHETICS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urban areas, substantially degrade the existing visual character or quality 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 a.m. and 3:00 p.m. from September 21 to March 21?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project 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 non-urban areas, substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage

ENVIRONMENTAL CHECKLIST
AESTHETICS

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 that would adversely affect daytime or nighttime views in the area?*
- e. Substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 a.m. and 3:00 p.m. from September 21 to March 21?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. No development is proposed as part of the project; thus, there would be no potential for the project to have a substantial adverse effect on a scenic vista, to substantially damage scenic resources, to degrade the existing visual character or quality of a site, to create new sources of light or glare, or to shadow public open spaces. No impact is identified.

NO IMPACT

2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- Would the project convert Prime Farmland, Unique Farmland, 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?
- Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
- 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

ENVIRONMENTAL CHECKLIST
AGRICULTURE AND FORESTRY RESOURCES

Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

- d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. As such, the proposed project would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contracts; result in the loss of forest land or conversion of forest land to non-forest use; or other conversion of farmland to non-agricultural use.

NO IMPACT

3 AIR QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

The Bay Area Air Quality Management District (BAAQMD) regulates air quality emissions in the nine counties of the San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma.

Air Quality Management

The Bay Area 2017 Clean Air Plan (CAP) provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the CAP was to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with state air quality planning requirements as codified in the California Health & Safety Code. Although steady progress in reducing ozone levels in the Bay Area has been made, the region continues to be designated as non-attainment for both the one-hour and eight-hour state ozone standards. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, state law requires the CAP to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins (BAAQMD 2017a).

In 2006, the U.S. Environmental Protection Agency (EPA) tightened the national 24-hour PM_{2.5} standard regarding short-term exposure to fine particulate matter (PM) from 65 µg/m³ (micro-

ENVIRONMENTAL CHECKLIST
AIR QUALITY

grams per cubic meter) to $35 \mu\text{g}/\text{m}^3$. Based on air quality monitoring data for years 2006-2008 showing that the region was slightly above the standard, U.S. EPA designated the Bay Area as non-attainment for the 24-hour national standard in December 2008. This triggered the requirement for the Bay Area to prepare a State Implementation Plan (SIP) submittal to demonstrate how the region would attain the standard. However, data for both the 2008-2010 and the 2009-2011 cycles showed that Bay Area $\text{PM}_{2.5}$ levels met the standard. On October 29, 2012, the U.S. EPA issued a proposed rule-making to determine that the Bay Area now attains the 24-hour $\text{PM}_{2.5}$ national standard. Based on this, the Bay Area is required to prepare an abbreviated SIP submittal which includes an emission inventory for primary (directly-emitted) $\text{PM}_{2.5}$, as well as precursor pollutants that contribute to formation of secondary PM in the atmosphere; and amendments to the BAAQMD New Source Review (NSR) to address $\text{PM}_{2.5}$ (adopted December 2012). However, key SIP requirements to demonstrate how a region will achieve the standard (i.e. the requirement to develop a plan to attain the standard) will be suspended as long as monitoring data continues to show that the Bay Area attains the standard.

In addition to preparing the “abbreviated” SIP submittal, the BAAQMD has prepared a report entitled “Understanding Particulate Matter: Protecting Public Health in the San Francisco Bay Area” (2012). The report will help to guide the BAAQMD’s on-going efforts to analyze and reduce PM in the Bay Area in order to better protect public health. The Bay Area will continue to be designated as “non-attainment” for the national 24-hour $\text{PM}_{2.5}$ standard until such time as the Air District elects to submit a “redesignation request” and a “maintenance plan” to the U.S. EPA, and the U.S. EPA approves the proposed redesignation.

Air Emissions Thresholds

The BAAQMD May 2017 CEQA Air Quality Guidelines include revisions made to the 2010 Guidelines, addressing the California Supreme Court’s 2015 opinion in the *Cal. Bldg. Indus. Ass’n vs. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369 (BAAQMD 2017a). For this Initial Study, the City of Palo Alto has determined that the BAAQMD’s significance thresholds in the updated May 2017 BAAQMD CEQA Guidelines for project operations in the Basin are the most appropriate thresholds for use in determining air quality impacts of the proposed project. **Table 1** presents the significance thresholds for construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis. These represent the levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the Basin’s existing air quality conditions. For the purposes of this analysis, the proposed project would result in a significant impact if construction or operational emissions would exceed any of the thresholds shown in Table 1.

In addition, a significant air quality impact would occur if the project design or project construction does not incorporate control measures recommended by the BAAQMD to control emissions during construction (as listed in Table 8-1 of the BAAQMD CEQA Guidelines).

Table 1 BAAQMD Air Quality Thresholds of Significance

Pollutant/ Precursor	Construction-Related Thresholds	Operation-Related Thresholds	
	Average Daily Emissions (pounds per day)	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10

Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM₁₀ = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less.

Source: Table 2-1, BAAQMD 2017b

IMPACT ANALYSIS

- Would the project conflict with or obstruct implementation of the applicable air quality plan?*
- Would the project 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*

Operational Emissions

Operational emissions from the project are from the annual addition of 18,850 vehicle miles traveled (VMT). This VMT increase is associated with the changes in truck trip lengths due to changes in the location of where solid waste will be processed and ultimately disposed in the City. CalEEMod was modified manually adjusting vehicular trips to 100% percent trucks using a 2021 operational year. The calculated operational daily emissions are identified in **Table 2** and yearly emissions are shown in **Table 3**. Modeling results are provided in Attachment A to the air quality screening letter which is included as Appendix A of this document (LDN 2021a).

Table 2 Expected Daily Operational Air Quality Emissions

	ROG	NO _x	PM _{2.5}	PM ₁₀
Summer Scenario				
Operational Emission Estimates (Lb/Day)	0.025	0.629	0.024	0.077
BAAQMD Thresholds	54	54	54	82
Significant?	No	No	No	No
Winter Scenario				
Operational Estimates (Lb/Day)	0.027	0.647	0.024	0.077
Significant?	No	No	No	No

Table 3 Expected Yearly Operational Air Quality Emissions

	ROG	NO _x	PM _{2.5}	PM ₁₀
Annual Scenario				
Operational Emission Estimates (Ton/Year)	0.011	0.238	0.003	0.008
BAAQMD Thresholds (Ton/Year)	10	10	10	15
Significant?	No	No	No	No

Source: LDN 2021a

Based upon the conclusions presented in Tables 2 and 3, the increase in air emissions due to an increase in VMT from trucks transporting solid waste for processing and final disposition is well below BAAQMD thresholds. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors include uses such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills and no new development is proposed. Collection routes within the City would remain the same. As shown in Tables 2 and 3, the increase in air emission due to the increase in truck trip lengths is well below the BAAQMD threshold. Impacts to sensitive receptors would be less significant.

LESS THAN SIGNIFICANT IMPACT

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills and no new development is proposed. Odor can be an issue at facilities that handle municipal solid waste. All of the facilities proposed to receive municipal waste from the City are regulated by CalRecycle and are required to have Odor Impact Minimization Plans (OIMP) in place and have procedures that establish fence line odor detection thresholds. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or as defined by the City of Palo Alto's Tree Preservation Ordinance (Municipal Code Section 8.10)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p><i>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?</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*
- b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. Would the project have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*
- d. Would the project 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 proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. As such, there is no potential for the project to have a substantial adverse effect on candidate, sensitive or special status species, riparian habitat, sensitive natural communities, or protected wetland. Also, the project would not have the potential to interfere with the movement of species or impede the use of native wildlife nursery sites. No impact is identified.

NO IMPACT

- e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or as defined by the City of Palo Alto's Tree Preservation Ordinance (Municipal Code Section 8.10)?

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project and the project would not directly or indirectly impact trees. Therefore, no impact is identified for this issue area.

NO IMPACT

- f. *Would the project 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 development is proposed as part of the project. Therefore, there would not be any conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CDFW 2017). No impact would occur.

NO IMPACT

ENVIRONMENTAL CHECKLIST
BIOLOGICAL RESOURCES

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5 CULTURAL AND TRIBAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 or recognized by City Council resolution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Disturb any human remains, including those interred out of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. 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, that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. A resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code section 5024.1 (c), and considering the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL CHECKLIST
CULTURAL AND TRIBAL RESOURCES

IMPACT ANALYSIS

- a. *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 or recognized by City Council resolution?*
- b. *Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?*
- c. *Disturb any human remains, including those interred out of formal cemeteries?*
- d. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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)?*
- e. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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 2024.1?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. As such, there is no potential for the project to cause a substantial adverse change in the significance of a historical or archaeological resource, disturb any human remains, or cause any substantial adverse change in the significance of a tribal resources.

NO IMPACT

6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Directly or indirectly cause potential Expose substantial adverse effects, including the risk of loss, injury, or death involving:

1. 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.
2. Strong seismic ground shaking?
3. Seismic-related ground failure, including liquefaction?
4. Landslides?
5. Result in substantial soil erosion or loss of topsoil?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risk to life or property?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c. Be located on a geologic unit or that would become unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d. 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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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ENVIRONMENTAL CHECKLIST
GEOLOGY AND SOILS

IMPACT ANALYSIS

- a1. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?*
- a2. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*
- a3. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*
- a4. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*
- a5. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving substantial soil erosion or loss of topsoil?*
- b. *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risk to life or property?*
- c. *Would the project 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. *Would the project 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?*
- e. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. No development is proposed as part of the project. As such, there is no potential for the project to cause a significant impact for any of the geology and soils topics noted above in the list of thresholds.

NO IMPACT

7 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

IMPACT ANALYSIS

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Greenhouse gas (GHG) impacts related to daily operations were calculated using the latest CalEEMod Version 2016.3.2 air quality and GHG model, which was developed by BREEZE Software in collaboration with South Coast Air Quality Management District (SCAQMD) in 2018. The City of Palo Alto recognizes the CalEEMod Version 2016.3.2 as an acceptable model for projects of this nature. GHG screening criteria for the City utilize BAAQMD Air Quality Thresholds (BAAQMD 2017a). The screening threshold for daily operations is shown in **Table 4**.

Table 4 Operations GHG Screening Thresholds (BAAQMD)

Pollutant	GHG Screening Threshold
Greenhouse Gases (For Projects other than Stationary Sources)	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO ₂ e/Year

Operational Emissions

Operational emissions from the project are from the annual addition of 18,850 vehicle miles traveled (VMT). This VMT increase is associated with the changes in truck trip lengths due to changes in the location of where solid waste will be processed and ultimately disposed. CalEEMod was modified manually adjusting vehicular trips to 100% trucks using a 2021 operational year. The calculated operational yearly GHG emissions are identified in **Table 5** and the modeling results are provided in Attachment A to Appendix B of this document.

Table 5 Expected Increase in Operational Emissions (MT CO₂e/Year)

Operations	MT CO ₂ e/Year
Mobile Emissions	25.07

Source: LDN 2021b

The expected increase in operational emissions is well under the threshold of significance. Additionally, with a change in the processing contract, the project will divert 7,868 tons of residential waste per year from the landfill. This reduction of waste is due to better material processing technology that results in increased recycling. The project will also assist the City in implementation of the Palo Alto Zero Waste Plan which outlines how the City can attain its goal to increase waste diversion to 95% from landfills by 2030, and reduce greenhouse gas emissions caused by solid waste. Diversion includes all waste prevention, reuse, recycling, and composting activities (City of Palo Alto 2018).

Based on the Zero Waste Plan, a number of initiatives to reduce waste and GHG emissions were analyzed. This project best fits Initiative 21 which seeks to pursue more effective material recovery facilities for municipal solid waste as well as ensure that residuals after processing are further composted or digested to minimize landfilling. Based on this initiative, the increased recycling would save approximately 1.85 MT CO₂e per ton of waste diverted.

Given this, the proposed 7,868 tons of diverted waste would have a reduction potential of 14,619 MT CO₂e per year. When the 25.07 MT CO₂e increase from the project is subtracted from this number there is still an overall reduction of 14,594.90 MT CO₂e. Since the project would have an overall reduction in GHGs, impacts are less than significant.

LESS THAN SIGNIFICANT IMPACT

8 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. <i>Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. <i>Expose people or structures to a significant risk of loss, injury, or death involving wildland fires?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**ENVIRONMENTAL CHECKLIST
HAZARDS AND HAZARDOUS MATERIALS**

IMPACT ANALYSIS

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- 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 proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. The collection routes within the City would stay the same and the same types of materials would be picked up. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The facilities would be handling municipal solid waste, not hazardous materials. In the event that hazardous materials inadvertently come to one of the facilities, materials would be stored in a secure location until they could be properly disposed using a hazardous waste disposal contractor, consistent with current practices. No impact is identified.

NO IMPACT

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. No development is proposed as part of this project and the facilities handle municipal solid waste, not hazardous materials. Therefore, the project would not result in emissions of hazardous emission or handing of hazardous materials within 0.25 mile of a school. No impact is identified.

NO IMPACT

- d. *Would the project create a significant hazard to the public or the environment from existing hazardous materials contamination by exposing future occupants or users of the site or from location on listed hazardous material sites compiled pursuant to Government Code Section 65962.5?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. The collection routes within the City would stay the same and the same types of materials would be picked up. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The project does not change the potential for individual to be exposed to sites listed on hazardous materials site compiled pursuant to Government Code Section 65962.5. No impact is identified.

NO IMPACT

- 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?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The project does not change the potential for individuals working at these facilities to be exposed to safety hazards or excessive noise should the facilities be located near airports. No impact is identified for this issue area.

NO IMPACT

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The proposed project does not result in any use or activity which would substantially impair an adopted emergency response plan or evacuation plan. The project will change the destination of where solid waste generated in the City is processed and ultimately disposed; however, there will be no changes to waste collection within the City. Materials would be taken to existing permitted resource recovery facilities and landfills. No conflict with emergency response plan or evacuation plans would occur. No impact is identified for this issue area.

NO IMPACT

- g. *Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project and there are no aspects of the project which would increase the potential for exposure of people or structures to a significant risk of loss, injury or death involving wildlife fires.

NO IMPACT

**ENVIRONMENTAL CHECKLIST
HAZARDS AND HAZARDOUS MATERIALS**

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9 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Would the project have any of the following impacts:</i>				
a. <i>Violate any water quality standards or waste discharge requirements or otherwise degrade surface or groundwater quality?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. <i>Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would:</i>				
1. <i>Result in substantial erosion or siltation on- or off-site?</i>				
2. <i>Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</i>				
3. <i>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</i>				
4. <i>Impede or redirect flows</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. <i>In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. <i>Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Violate any water quality standards or waste discharge requirements or otherwise 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?*
 - c1. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of a 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?*
 - c2. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
 - c3. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would 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?*
 - c4. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river or through the addition of impervious surfaces in a manner which would impede or redirect flows?*
- d. *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*
- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing permitted resource recovery facilities and landfills. No development is proposed as part of the project. As such, there is no potential for the project to cause a significant impact for any of the hydrology or water quality issue areas noted above in the list of thresholds.

NO IMPACT

10 LAND USE AND PLANNING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

a. *Would the project physically divide an established community?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing permitted resource recovery facilities and landfills. No development is proposed as part of the project; therefore, there is no potential that the project would physically divide an established community. No impact is identified for this issue area.

NO IMPACT

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?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. The project will change the destination of where solid waste generated in the City is processed and ultimately disposed; however, there will be no changes to waste collection within the City. Materials would be taken to existing permitted resource recovery facilities and landfills. No conflict with land use plans, policies or regulations adopted for the purpose of avoiding or mitigating environmental effects is anticipated. No impact is identified for this issue area.

NO IMPACT

**ENVIRONMENTAL CHECKLIST
LAND USE AND PLANNING**

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11 MINERAL RESOURCES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project 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. Would the project 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?

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. As such, the proposed project would have no impact related to the loss of known mineral resources or locally important mineral resources. Further, according to the Natural Environment Element of the City’s Comprehensive Plan, there are no policies relating to mineral resources because Palo Alto does not contain any mineral deposits of regional significance (City of Palo Alto Comprehensive Plan, 2007). No mineral resource activities would be altered or displaced by the proposed project. No impact would occur.

NO IMPACT

ENVIRONMENTAL CHECKLIST
MINERAL RESOURCES

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12 NOISE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Generate a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. The collection routes within the City would remain the same. Solid waste would be taken to existing permitted resource recovery facilities and landfills. No development is proposed as part of the project. As such, there is no potential for the project to result in the generation of excessive groundborne vibrations or groundborne noise levels. No impact is identified for this issue area.

NO IMPACT

ENVIRONMENTAL CHECKLIST
NOISE

- b. Generate a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste collection activities can generate noise, however, no changes to the collection within the City is proposed. Solid waste would be taken to existing permitted resource recovery facilities and landfills. These facilities operate under applicable noise standards and ordinances for the jurisdiction where they are located and also according to any specific permit requirements related to hours of operation. There are no aspects of the project which would generate a substantial temporary or permanent increase in ambient levels in excess of established standards. No impact is identified for this issue area.

NO IMPACT

- 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 proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The project does not change the potential for individuals working at these facilities to be exposed to excessive noise should the facilities be located near an airport. No impact is identified for this issue area.

NO IMPACT

13 POPULATION AND HOUSING

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Create a substantial imbalance between employed residents and jobs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project induce substantial 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)?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project and the project would not require the extension or expansion of roads or other infrastructure. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. Therefore, the project would not induce substantial unplanned population growth. No impact is identified.

NO IMPACT

- b. *Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

The proposed project would not displace any people or housing. The project would use existing permitting facilities and landfills for municipal solid waste processing and disposal. No impact is identified for this issue area.

NO IMPACT

- c. *Would the project create a substantial imbalance between employed residents and jobs?*

The proposed project would not create a substantial imbalance between employed residents and jobs. No changes are proposed with how municipal solid waste is collected in the City. The proposed

ENVIRONMENTAL CHECKLIST
POPULATION AND HOUSING

changes are related to the processing and ultimate disposition of the solid waste. The project would use existing permitting facilities and landfills for municipal solid waste processing and disposal and would not create a substantial imbalance between employed residents and jobs. No impact is identified for this issue area.

NO IMPACT

14 PUBLIC SERVICES

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Result in an adverse physical impact from the construction of additional school facilities in order to maintain acceptable performance standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in an adverse physical impact from the construction of additional fire protection facilities in order to maintain acceptable performance standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in an adverse physical impact from the construction of additional police protection facilities in order to maintain acceptable performance standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in an adverse physical impact from the construction of additional parks and recreation facilities in order to maintain acceptable performance standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in an adverse physical impact from the construction of additional library facilities in order to maintain acceptable performance standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project result in an adverse physical impact from the construction of additional school facilities in order to maintain acceptable performance standards?
- b. Would the project result in an adverse physical impact from the construction of additional fire protection facilities in order to maintain acceptable performance standards?
- c. Would the project result in an adverse physical impact from the construction of additional police protection facilities in order to maintain acceptable performance standards?
- d. Would the project result in an adverse physical impact from the construction of additional parks and recreation facilities in order to maintain acceptable performance standards?

ENVIRONMENTAL CHECKLIST
PUBLIC SERVICES

- e. Would the project result in an adverse physical impact from the construction of additional library facilities in order to maintain acceptable performance standards?*

The Palo Alto Unified School District provides school services in the City. The City of Palo Alto Fire Department provides fire protection, fire suppression, paramedic ambulance service, search and rescue, fire prevention inspections/permits, public fire education programs, emergency preparedness planning, and other services based on community needs. The Palo Alto Police Department provides police protection, and the Palo Alto City Library (PACL) provides library services. Refer to Section 15, Recreation, for information on park and recreation facilities and services.

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. The project will change the destination of where solid waste generated in the City is processed and ultimately disposed of, however, there will be no changes to waste collection within the City. Materials would be taken to existing permitted resource recovery facilities and landfills. The project would not increase demand for schools, fire, police, parks or libraries, nor would it result in an increased use of existing neighborhood, regional parks or other facilities. The project would not require the construction or expansion of public service facilities which could have an adverse physical effect on the environment. No impact is identified for this issue area.

NO IMPACT

15 RECREATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project 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. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The City of Palo Alto owns and operates approximately 36 parks and preserves, comprising about 162 acres of urban parks and 4,000 acres of open space (City of Palo Alto, 2015). The project proposes changes to the way solid waste generated within the City is processed and disposed. There are no aspects of the project which would result in the increase in use of existing neighborhood, regional parks, or other facilities as it does not increase demand for these facilities. The project would not require the construction or expansion of recreational facilities which could have an adverse physical effect on the environment. No impact is identified for this issue area.

NO IMPACT

**ENVIRONMENTAL CHECKLIST
RECREATION**

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16 TRANSPORTATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Conflict with an applicable plan, ordinance or policy addressing the circulation system, taking into account all modes of transportation, including transit, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. Conflict with an applicable plan, ordinance or policy addressing the circulation system, taking into account all modes of transportation, including transit, bicycle, and pedestrian facilities?

The project proposes changes to the way solid waste generated within the City is processed and disposed. No development is proposed. The project does not create any new hazardous condition that currently does not exist for pedestrians and bicyclists, or otherwise interfere with pedestrian or bicycle accessibility. The project would not create a demand for public transit services above the capacity which is provided or planned, would not disrupt existing transit services or facilities including disruptions caused by proposed project driveways on transit streets, impacts to transits stops/shelters, would not conflict with an existing or planned transit facility, nor would it conflict with transit policies adopted by the City of Palo Alto, Santa Clara County, Valley Transportation Authority, or Caltrans for their respective facilities in the study area. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

VMT Background and Thresholds

California Senate Bill (SB) 743 was signed in 2013, which changed the way transportation impacts are analyzed under CEQA. As directed by SB 743, the Governor's Office of Planning and Research (OPR) prepared amendments to the CEQA guidelines rejecting Level of Service (LOS), which measures traffic delay at intersections or roadway segments, and endorsing vehicle miles traveled (VMT), which measures the amount of distance people traveled to a destination. Section 15064.3(b) of the CEQA Guidelines details the criteria for analyzing transportation impacts.

To implement SB 743, the Palo Alto City Council adopted VMT thresholds of significance by Resolution on June 15, 2020. A white paper, SB 743 Implementation Decision for Palo Alto, was prepared by Fehr & Peers (2020) and provides a summary of key information relevant to how SB 743 will be implemented in the City.

Based on direction from the Governor's Office of Planning and Research (OPR 2018) and evidence presented in the Fehr & Peers white paper, Council also adopted screening criteria, identifying projects that are considered to have a less than significant impact with respect to VMT based on substantial evidence. Projects that meet these screening criteria would not require more complete VMT analysis. Types of projects that can be screened out by the City include the following:

- Small developments/projects (836 VMT per day or less);
- Residential and office projects located in low-VMT areas;
- Projects located in proximity to a major transit stop;
- Affordable housing developments;
- Local-serving retail projects; and
- Transportation projects that would not lead to a measurable increase in vehicle travel.

The proposed project, which is a change to the contract for the processing and handling of municipal solid waste in the City, is not a typical land development project or a transportation project. When individual projects do not meet the screening criteria identified above, Council has adopted VMT thresholds of significance based on the Fehr & Peers white paper. For individual land use projects that are not screened out and require a quantitative VMT assessment, this would mean the following:

- Residential projects – A proposed project exceeding a level of 15 percent below existing (baseline) County home-based VMT per resident may indicate a significant transportation impact.
- Office projects – A proposed project exceeding a level of 15 percent below existing (baseline) regional home-based work VMT per employee may indicate a significant transportation impact.
- Retail projects – A net increase in total (boundary) VMT may indicate a significant transportation impact.

- Mixed-use projects – The City will evaluate each component of a mixed-use project independently, and apply the above residential, office, or retail thresholds.
- Other project types – The City will either develop an Ad Hoc (i.e., project-specific) VMT threshold for a unique land use type or apply the most applicable of the above thresholds depending on project characteristics.
- Redevelopment projects – Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project may cause a less than significant VMT impact. If the redevelopment project leads to a net overall increase in VMT, it may cause a significant VMT impact proposed new residential, office or retail land uses would individually exceed their respective thresholds.
- Land Use Plans – A comprehensive plan, area plan, or community plan may have a significant impact on transportation if the proposed new land uses would individually exceed their respective thresholds or cause the total project generated VMT per service population to exceed 15 percent below the baseline VMT per service population. Baseline total project generated VMT per service population may be measured as regional VMT per service population, a citywide VMT per service population, or as geographic sub-area VMT per service population.

The proposed project would fit into the “Other Project Type” category and, therefore, the City would develop a project-specific VMT threshold for a unique land use type or apply the most applicable of the above thresholds depending on project characteristics.

For the purposes of this analysis, the City has determined that the project would be less than significant if it generates less than 836 daily VMT. This threshold is derived from the VMT screening threshold for Small Developments/Projects as identified in the Fehr & Peers white paper. In accordance with the City’s adopted screening criteria, the City has concluded that Small Developments/Projects would have a less than significant impact with respect to VMT and would not require further VMT analysis based on the substantial evidence presented in the Fehr and Peers white paper. The supporting evidence described on page 63 of the white paper equated small projects to projects that generate less than 836 VMT per day. Although this project is not a typical land development project or a transportation project, it is reasonable to similarly conclude that other projects which generate less than 836 daily VMT would also be less than significant.

Project VMT

To understand the change in VMT associated with implementation of the project, trip lengths under the existing conditions and the proposed conditions were calculated. A detailed breakdown of the average trip lengths is provided in Appendix C of this document. Under existing conditions, the combined daily VMT for all truck trips taking municipal solid waste from the City to the resource recovery facility and then the landfill is 508.4 daily VMT. Under the proposed project, the combined daily VMT will be 580.9 daily VMT. No changes are proposed with how waste will be collected within the City. As such, no change in VMT is expected for those activities, and therefore have not been included. With implementation of the project, there will be a net increase of 72.5 daily VMT. This is due to changes in the location of the resource recovery facility and landfill as well as changes in the number of trips.

**ENVIRONMENTAL CHECKLIST
TRANSPORTATION**

Since the projects net increase of 72.5 daily VMT is well below the project-specific threshold of 836 daily VMT, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The project does not propose any new development or any changes to circulation network infrastructure. The project would not result in any changes to design or access at these existing facilities. There are no aspects of the project that would result in a substantial increase in hazards due to a design feature or incompatible use. No impact is identified.

NO IMPACT

- d. *Result in inadequate emergency access?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. The project would not result in any changes to access at these facilities. Additionally, the project does not change how waste is collected within the City. There are no aspects of the project that would result in inadequate emergency access. No impact is identified.

NO IMPACT

17 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

**ENVIRONMENTAL CHECKLIST
UTILITIES AND SERVICE SYSTEMS**

- c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project. Solid waste would be taken to existing, permitted resource recovery facilities and landfills. These facilities are already served by existing utilities providers for water, wastewater, electrical power, natural gas, and communications. No expansion of these facilities will be required to accommodate the project. As such, the project would not increase demand for water or wastewater treatment and would not require construction of additional utility infrastructure. No impact is identified for this issue area.

NO IMPACT

- d. Would the project 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. Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

The proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. The project does not result in a change to waste generation nor does it result in a change in how waste is collected within the City. Solid waste would be taken to existing, permitted resource recovery facilities and landfills that have adequate, permitted capacity to accept the materials.

The project will increase the City's diversion rate for materials placed in the black solid waste containers from 29.68% to 70.45% and result in an additional 7,868 tons/per year of diversion. No impact is identified for this issue area.

NO IMPACT

18 ENERGY CONSERVATION

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project have any of the following impacts:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?
- b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project would result in a minor increase in fuel consumption since there would be an overall increase in truck trip length (approximately 72.5 VMT per day). The truck fleet used for waste collection are all fueled with compressed natural gas (CNG), with the exception of one truck that is electric.

While the project will result in a minor increase in fuel consumption due to increased truck VMT, the project will also increase landfill diversion rates compared to the existing condition. The project will increase the City’s diversion rate for materials placed in the black solid waste containers from 29.68% to 70.45% and result in an additional 7,868 tons/per year of diversion. This is due to better technology at the new processing location. By recovering more recyclable materials, more recyclable materials will be available for manufacturing, and energy would be saved associated with the extraction, transport, and refining resources that go into producing metal, paper, plastic, and glass.

There are no aspects of the project that would result in an impact due to wasteful, inefficient, or unnecessary consumption of energy resources, nor would the project conflict with plans related to renewable energy or energy efficiency.

LESS THAN SIGNIFICANT IMPACT

ENVIRONMENTAL CHECKLIST
ENERGY CONSERVATION

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19 WILDFIRE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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If located in or near a state responsibility area or land classified as very high fire hazard severity zones, would the project result in any of the following impacts:

<i>a. Substantially impact an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IMPACT ANALYSIS

- a. *Would the project substantially impact an adopted emergency response plan or emergency evacuation plan?*

The proposed project does not result in any use or activity which would substantially impair an adopted emergency response plan or evacuation plan. Existing solid waste collection routes within the City would remain the same. The only change proposed would be the location where collected materials are taken for processing and ultimate disposal. No impact is identified for this issue area.

NO IMPACT

ENVIRONMENTAL CHECKLIST

WILDFIRE

- b. Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. Would the project 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. Would the project 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 proposed project is a change to the contract for the processing and handling of municipal solid waste in the City. No development is proposed as part of the project and there are no aspects of the project which would exacerbate wildfire risk, require the installation of infrastructure that could exacerbate fire risk, or expose people or structure to significant risks. No impact is identified for this issue area.

NO IMPACT

20 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

<p><i>a. Have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><i>b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p><i>c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</i></p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IMPACT ANALYSIS

- a. Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Based upon the analysis presented in this document (see Section 4, Biological Resources and Section 5, Cultural and Tribal Resources), the project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a

ENVIRONMENTAL CHECKLIST
MANDATORY FINDINGS OF SIGNIFICANCE

fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. No impact is identified.

NO IMPACT

- b. *Would the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Based upon the analysis presented in Sections 1 through 19 of this document, implementation of the project would not result in any significant impacts and no mitigation would be required. The project will not result in any new development. There are no project impacts that are individually limited but cumulatively considerable. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

The project's potential to impact human beings was analyzed within several of the environmental topics, including air quality, greenhouse gas, hazards/hazardous materials, noise, and public services and utilities. The analysis concluded that there would either be no impact or that impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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**Palo Alto Solid Waste Processing Contract
Technical Appendices**

**Appendix A
Air Quality Screening Letter**

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January 27, 2021

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RE: Palo Alto Waste Processing Contract Change Air Quality Screening Letter

The purpose of this air quality screening letter is to identify potential significant impacts, if any, from the adoption of a new service contract that addresses the processing of residential and commercial solid waste collected within the City of Palo Alto. The project will change where the waste is processed as well as the final landfill location for any residuals. The proposed project is located in The Bay Area Air Quality Management District (BAAQMD which regulates air quality emissions within the City of Palo Alto.

The project will increase the City's overall landfill diversion rate for materials placed in the black solid waste bins from 29.68 percent to 70.45 percent and result in an additional 7,868 tons/per year of diversion. This is due to better technology at the new processing location. No changes to the collection of materials within the City is proposed as part of the project. The project only deals with waste processing and disposition once it leaves the City.

Existing Conditions

Under existing conditions, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and make their way to Palo Alto to start their daily waste collection. Those nine trucks collect waste and then take it to the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station) at 301 Carl Road in Sunnyvale. Up to 14 truckloads of material are taken from Palo Alto to the SMaRT Station each day, which means some of the trucks make the trip to and from Palo Alto to the SMaRT Station multiple times a day. Included in these trips is the transportation of "grit" material from the sewage plant in Palo Alto. At the end of the day, when the final loads are taken to the SMaRT Station, the nine trucks return to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the SMaRT Station, the residuals are taken by the SMaRT Station operator to the Kirby Canyon Landfill at 910 Coyote Creek Golf Drive in Morgan Hill. An average of three truck trips go the landfill and then make the return trip back to the SMaRT Station.

Additionally, City crews take material such as illegally dumped items and leaf collection/landscaping materials from the City's Municipal Service Center at 3201 East Bayshore Road in Palo Alto to the SMaRT Station. Due to the limited number of trips that are made, 0.5/trips per day to the SMaRT Station and back is assumed.

Proposed Conditions

Under the conditions with the new contract, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and travel to Palo Alto to start their daily waste collection. Those nine trucks will collect waste and will now take it to the GreenWaste Materials Recovery Facility (GreenWaste MRF) at 625 Charles Street in San Jose. An average of 13.5 truckloads of material will be taken from Palo Alto to the Greenwaste MRF, which means the trucks make the trip from Palo Alto to the Greenwaste Facility multiple times a day. The "grit" material from the sewage plant cannot be processed at the Greenwaste MRF so twice a week a truck will take this material directly from Palo Alto to the Newby Island Landfill at 1601 Dixon Landing in Milpitas. At the end of the day, when the final loads are taken to the Greenwaste MRF, the 9 trucks head back to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the Greenwaste MRF, the residuals will now be taken to the Monterey Peninsula Landfill at 14021 Del Monte Blvd. in Marina. Due to better processing technology at the Greenwaste MRF, only one truck per day will go to the landfill and return.

City crews disposing of illegally dumped materials will now take the materials to one of three locations (Zanker Material Processing Facility at 675 Los Estero Road in San Jose, ReThink Shoreway Environmental Center at 333 Shoreway Road in San Carlos, or Newby Island Resource Recovery Park at 1601 Dixon Landing Road in Milpitas). For this analysis the Newby Island Resource Recovery Park was used since it is the furthest location from Palo Alto and would be the most conservative. Due to the limited number of trips that would go to this site, 0.5 truck/day to Newby Island Resource Recovery Park and back are assumed.

Based on the proposed conditions, an increase of 72.5 VMT is expected per day over a 260 day work year or 18,850 VMT per year. The VMT was increased in the model to just over 20,000 to be conservative.

Air Quality Modeling

Air quality impacts related to daily operations were calculated using the latest CalEEMod 2016.3.2 air quality and GHG model, which was developed by BREEZE Software in collaboration with South Coast Air Quality Management District (SCAQMD) in 2018. The City of Palo Alto recognizes the CalEEMod Version 2016.3.2 as an acceptable model for projects of this nature.

Air quality screening criteria for the City of Palo Alto utilize BAAQMD Air Quality Thresholds (BAAQMD, 2017). The screening thresholds for construction and daily operations are shown in Table 1.

Table 1: Operational Screening Thresholds for Criteria Pollutants BAAQMD

Pollutant	Total Emissions	
	(Pounds per Day)	Tons/Year
Respirable Particulate Matter (PM ₁₀)	82	15
Respirable Particulate Matter (PM _{2.5})	54	10
Nitrogen Oxide (NO _x)	54	10
Reactive Organic Gases (ROG)	54	10

Project Related Operational Emissions

Operational emissions are from the added VMT, as described above, expected from the new diversion project. CalEEMod was modified manually adjusting vehicular trips to 100 percent trucks using a 2021 operational year. The calculated operational daily emissions are identified in Table 2 and yearly emissions are shown in Table 3 and the modeling results are provided in **Attachment A** to this report.

Table 2: Expected Daily Operational Air Quality Emissions

	ROG	NO _x	PM _{2.5}	PM ₁₀
Summer Scenario				
Operational Emission Estimates (Lb/Day)	0.025	0.629	0.024	0.077
BAAQMD Thresholds	54	54	54	82
Significant?	No	No	No	No
Winter Scenario				
Operational Estimates (Lb/Day)	0.027	0.647	0.024	0.077
Significant?	No	No	No	No

Table 3: Expected Yearly Operational Air Quality Emissions

	ROG	NO _x	PM _{2.5}	PM ₁₀
Annual Scenario				
Operational Emission Estimates (Ton/Year)	0.003	0.083	0.003	0.010
BAAQMD Thresholds (Ton/Year)	10	10	10	15
Significant?	No	No	No	No

Based upon the findings for the proposed Project, the daily and annual operations of the deconstruction/construction materials management ordinance and inert debris transfer facility activities are anticipated to produce air quality emissions well below BAAQMD thresholds. Therefore, less than significant impacts are expected and no further analysis is required. If you have any questions, please do not hesitate to contact me directly at (760) 473-1253.

Sincerely,
Ldn Consulting, Inc.



Jeremy Loudon

Attachments: CalEEMod Output

Sources:

BAAQMD. (2017). *Bay Area Air Quality Management District California Environmental Quality Act - Air Quality Guidelines*. Retrieved from http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

Palo Alto Waste Processing Contract Change
Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	13.26	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2021
Utility Company	City of Palo Alto Public Utilities				
CO2 Intensity (lb/MW hr)	354.26	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

Project Characteristics -

Land Use - Project Site Acreage 13.26 acres

Construction Phase - Truck trips only no construction

Off-road Equipment - zero'd out so that construction emissions are zero

Trips and VMT - zero'd out... no construction emissions

Vehicle Trips - 100 percent trucks assumed

Construction Off-road Equipment Mitigation -

Fleet Mix - 100 percent trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3610e-003	0.00
tblFleetMix	MCY	5.9040e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8900e-004	0.00
tblFleetMix	MHD	0.02	1.00
tblFleetMix	OBUS	2.5810e-003	0.00
tblFleetMix	SBUS	8.8100e-004	0.00
tblFleetMix	UBUS	2.3490e-003	0.00
tblLandUse	LotAcreage	0.00	13.26
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblVehicleTrips	CC_TL	7.30	5.56
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	14.00

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0252	0.6285	0.2751	2.0500e-003	0.0759	1.2600e-003	0.0771	0.0227	1.2000e-003	0.0239		213.0412	213.0412	3.2700e-003		213.1230
Total	0.0252	0.6285	0.2752	2.0500e-003	0.0759	1.2600e-003	0.0771	0.0227	1.2000e-003	0.0239		213.0415	213.0415	3.2700e-003	0.0000	213.1233

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0252	0.6285	0.2751	2.0500e-003	0.0759	1.2600e-003	0.0771	0.0227	1.2000e-003	0.0239		213.0412	213.0412	3.2700e-003		213.1230
Total	0.0252	0.6285	0.2752	2.0500e-003	0.0759	1.2600e-003	0.0771	0.0227	1.2000e-003	0.0239		213.0415	213.0415	3.2700e-003	0.0000	213.1233

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	1/1/2020	1/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Rollers	1	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

3.2 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

3.2 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.0 Operational Detail - Mobile

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

Palo Alto Waste Processing Contract Change
Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
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1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2021
Utility Company	City of Palo Alto Public Utilities				
CO2 Intensity (lb/MW hr)	354.26	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

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Construction Off-road Equipment Mitigation -

Fleet Mix - 100 percent trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
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tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3610e-003	0.00
tblFleetMix	MCY	5.9040e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8900e-004	0.00
tblFleetMix	MHD	0.02	1.00
tblFleetMix	OBUS	2.5810e-003	0.00
tblFleetMix	SBUS	8.8100e-004	0.00
tblFleetMix	UBUS	2.3490e-003	0.00
tblLandUse	LotAcreage	0.00	13.26
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblVehicleTrips	CC_TL	7.30	5.56
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	14.00

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0267	0.6472	0.3139	2.0400e-003	0.0759	1.2700e-003	0.0772	0.0227	1.2100e-003	0.0239		212.3921	212.3921	3.5200e-003		212.4801
Total	0.0267	0.6472	0.3140	2.0400e-003	0.0759	1.2700e-003	0.0772	0.0227	1.2100e-003	0.0239		212.3923	212.3923	3.5200e-003	0.0000	212.4804

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0267	0.6472	0.3139	2.0400e-003	0.0759	1.2700e-003	0.0772	0.0227	1.2100e-003	0.0239		212.3921	212.3921	3.5200e-003		212.4801
Total	0.0267	0.6472	0.3140	2.0400e-003	0.0759	1.2700e-003	0.0772	0.0227	1.2100e-003	0.0239		212.3923	212.3923	3.5200e-003	0.0000	212.4804

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	1/1/2020	1/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Rollers	1	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

3.2 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

3.2 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.0 Operational Detail - Mobile

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

Palo Alto Waste Processing Contract Change
Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	13.26	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2021
Utility Company	City of Palo Alto Public Utilities				
CO2 Intensity (lb/MW hr)	354.26	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

Project Characteristics -

Land Use - Project Site Acreage 13.26 acres

Construction Phase - Truck trips only no construction

Off-road Equipment - zero'd out so that construction emissions are zero

Trips and VMT - zero'd out... no construction emissions

Vehicle Trips - 100 percent trucks assumed

Construction Off-road Equipment Mitigation -

Fleet Mix - 100 percent trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

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Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3610e-003	0.00
tblFleetMix	MCY	5.9040e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8900e-004	0.00
tblFleetMix	MHD	0.02	1.00
tblFleetMix	OBUS	2.5810e-003	0.00
tblFleetMix	SBUS	8.8100e-004	0.00
tblFleetMix	UBUS	2.3490e-003	0.00
tblLandUse	LotAcreage	0.00	13.26
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblVehicleTrips	CC_TL	7.30	5.56
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	14.00

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	1/1/2020	1/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Rollers	1	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

**Palo Alto Solid Waste Processing Contract
Technical Appendices**

**Appendix B
Greenhous Gas Screening Letter**

Ldn Consulting, Inc.

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www.ldnconsulting.net

phone 760-473-1253
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January 27, 2021

Sophia Habi Mitchell
Sophia Mitchell & Associates
PO BOX 1700
Gualala, CA 95445

RE: Palo Alto Waste Processing Contract Change Greenhouse Gas (GHG) Letter

The purpose of this Greenhouse Gas (GHG) letter is to identify any significant impacts, if any, which may be created from the adoption of a new service contract that addresses the processing of residential and commercial solid waste collected within the City of Palo Alto. The project will change where the waste is processed as well as the final landfill location for any residuals. The proposed project is located in The Bay Area Air Quality Management District (BAAQMD which regulates GHG emissions within the City of Palo Alto.

The project will increase the City's overall landfill diversion rate for materials placed in the black solid waste bins from 29.68 percent to 70.45 percent and result in an additional 7,868 tons/per year of diversion. This is due to better technology at the new processing location. No changes to the collection of materials within the City is proposed as part of the project. The project only deals with waste processing and disposition once it leaves the City.

Existing Conditions

Under existing conditions, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and make their way to Palo Alto to start their daily waste collection. Those nine trucks collect waste and then take it to the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station) at 301 Carl Road in Sunnyvale. Up to 14 truckloads of material are taken from Palo Alto to the SMaRT Station each day, which means some of the trucks make the trip to and from Palo Alto to the SMaRT Station multiple times a day. Included in these trips is the transportation of "grit" material from the sewage plant in Palo Alto. At the end of the day, when the final loads are taken to the SMaRT Station, the nine trucks return to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the SMaRT Station, the residuals are taken by the SMaRT Station operator to the Kirby Canyon Landfill at 910 Coyote Creek Golf Drive in Morgan Hill. An average of three truck trips go the landfill and then make the return trip back to the SMaRT Station.

Additionally, City crews take material such as illegally dumped items and leaf collection/landscaping materials from the City's Municipal Service Center at 3201 East Bayshore Road in Palo Alto to the SMaRT Station. Due to the limited number of trips that are made, 0.5/trips per day to the SMaRT Station and back is assumed.

Proposed Conditions

Under the conditions with the new contract, on a typical weekday, nine waste trucks will leave the truck storage yard at 2765 Lafayette Street in Santa Clara and travel to Palo Alto to start their daily waste collection. Those nine trucks will collect waste and will now take it to the GreenWaste Materials Recovery Facility (GreenWaste MRF) at 625 Charles Street in San Jose. An average of 13.5 truckloads of material will be taken from Palo Alto to the Greenwaste MRF, which means the trucks make the trip from Palo Alto to the Greenwaste MRF multiple times a day. The "grit" material from the sewage plant cannot be processed at the Greenwaste Facility, so twice a week a truck will take this material directly from Palo Alto to the Newby Island Landfill at 1601 Dixon Landing in Milpitas. At the end of the day, when the final loads are taken to the GreenWaste MRF, the 9 trucks head back to the truck storage yard in Santa Clara instead of going back to Palo Alto.

Once materials are processed at the GreenWaste MRF, the residuals will now be taken to the Monterey Peninsula Landfill at 14021 Del Monte Blvd. in Marina. Due to better processing technology at the GreenWaste MRF, only one truck per day will go to the landfill and return.

City crews disposing of illegally dumped materials will now take the materials to one of three locations (Zanker Material Processing Facility at 675 Los Estero Road in San Jose, ReThink Shoreway Environmental Center at 333 Shoreway Road in San Carlos, or Newby Island Resource Recovery Park at 1601 Dixon Landing Road in Milpitas). For this analysis the Newby Island Resource Recovery Park was used since it is the furthest location from Palo Alto and would be the most conservative. Due to the limited number of trips that would go to this site, 0.5 truck/day to Newby Island Resource Recovery Park and back are assumed.

Based on the proposed conditions, an increase of 72.5 VMT is expected per day over a 260 day work year or 18,850 VMT per year. The VMT was increased in the model to just over 20,000 to be conservative.

GHG Modeling

Air quality impacts related to daily operations were calculated using the latest CalEEMod 2016.3.2 air quality and GHG model, which was developed by BREEZE Software in collaboration with South Coast Air Quality Management District (SCAQMD) in 2018. The City of Palo Alto recognizes the CalEEMod Version 2016.3.2 as an acceptable model for projects of this nature.

GHG screening criteria for the City of Palo Alto utilize BAAQMD Air Quality Thresholds (BAAQMD, 2017). The screening thresholds for construction and daily operations are shown in Table 1.

Table 1: Operational GHG Screening Thresholds for Criteria Pollutants BAAQMD

Pollutant	GHG Screening Thresholds
GHGs – Projects other than Stationary Sources	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO ₂ e/Year OR 4.6 MT CO ₂ e/Service Population/Year (residents + employees)

Project Related Operational Emissions

Operational emissions are from the added VMT, as described above, expected from the new diversion project. CalEEMod was modified manually adjusting vehicular trips to 100 percent trucks using a 2021 operational year. The calculated operational yearly GHG emissions are identified in Table 2 and the modeling results are provided in **Attachment A** to this report.

Table 2: Expected Operational Emissions Summary – MT CO₂e /Year

Operations	MT CO ₂ e/Year
Mobile Emissions	25.07

The proposed project will divert 7,868 tons of residential waste per year from the landfill. This reduction of waste will be recycled and reused. The project will also assist the City in implementation of the Palo Alto Zero Waste Plan which outlines how the City can attain its goal to increase waste diversion to 95% from landfills by 2030 and reduce greenhouse gas emissions caused by solid waste. Diversion includes all waste prevention, reuse, recycling, and composting activities (City of Palo Alto 2018).

Based on this plan, a number of initiatives to reduce GHG emissions were analyzed. This project best fits initiative 21 which seeks to pursue more effective material recovery facilities for municipal solid waste as well as ensure that residues after processing are further composted or digested to minimize landfilling. Based on this initiative, the recycling would save approximately 1.85 MT CO₂e per ton of waste diverted.

Sophia Hahl Mitchell
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phone 760-473-1253
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Given this, the proposed 7,868 tons of diverted waste would have a reduction potential of 14,619 MT CO₂e per year. Based on this, the proposed project would have a reduction potential of 14,594.90 MT CO₂e (14,619 MT CO₂e – 25.07 MT CO₂e). Since the project would have an overall reduction in GHGs, a less than significant GHG impact would be expected.

Based upon the findings for the proposed Project, the Project would have an overall reduction of 14,594.9 MT CO₂e from the existing scenario. Based on this, the Project would not exceed the BAAQMD screening thresholds of 1,100 MT CO₂e. Therefore, a less than significant impact is expected and no further analysis is required. If you have any questions, please do not hesitate to contact me directly at (760) 473-1253.

Sincerely,
Ldn Consulting, Inc.



Jeremy Loudon

Attachments: CalEEMod Annual Output

Sources:

BAAQMD. (2017). *Bay Area Air Quality Management District California Environmental Quality Act - Air Quality Guidelines*. Retrieved from http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

City of Palo Alto. (2018). *Zero Waste Plan*. Retrieved from <https://www.cityofpaloalto.org/civicax/filebank/documents/66620>

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

Palo Alto Waste Processing Contract Change
Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	13.26	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2021
Utility Company	City of Palo Alto Public Utilities				
CO2 Intensity (lb/MW hr)	354.26	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - Project Site Acreage 13.26 acres

Construction Phase - Truck trips only no construction

Off-road Equipment - zero'd out so that construction emissions are zero

Trips and VMT - zero'd out... no construction emissions

Vehicle Trips - 100 percent trucks assumed

Construction Off-road Equipment Mitigation -

Fleet Mix - 100 percent trucks

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

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Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	20.00	1.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3610e-003	0.00
tblFleetMix	MCY	5.9040e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	7.8900e-004	0.00
tblFleetMix	MHD	0.02	1.00
tblFleetMix	OBUS	2.5810e-003	0.00
tblFleetMix	SBUS	8.8100e-004	0.00
tblFleetMix	UBUS	2.3490e-003	0.00
tblLandUse	LotAcreage	0.00	13.26
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblVehicleTrips	CC_TL	7.30	5.56
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	14.00

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3600e-003	0.0833	0.0383	2.7000e-004	9.5700e-003	1.6000e-004	9.7400e-003	2.8800e-003	1.6000e-004	3.0400e-003	0.0000	25.0623	25.0623	4.0000e-004	0.0000	25.0723

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Paving	Paving	1/1/2020	1/1/2020	5	1	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Rollers	1	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Paving	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Palo Alto Waste Processing Contract Change - Bay Area AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

**Palo Alto Solid Waste Processing Contract
Technical Appendices**

**Appendix C
Trip Length/VMT Calculations**

Existing Conditions

	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	
Trip Segment	Truck Storage Yard to Palo Alto	Palo Alto to MRF	MRF to Palo Alto	MRF to Truck Storage Yard	Palo Alto to MRF (sewage plant grit)	MRF to Palo Alto (sewage plant grit)	MRF to Landfill	Landfill to MRF	Palo Alto to MRF (City Crew)	MRF to Palo Alto (City Crew)	Combined Daily VMT
Starting Point	2765 Lafayette St., Santa Clara	Oregon Exp./101, Palo Alto	SMART Station, 301 Carl Road, Sunnyvale	SMART Station, 301 Carl Road, Sunnyvale	Oregon Exp./101, Palo Alto	SMART Station, 301 Carl Road, Sunnyvale	SMART Station, 301 Carl Road, Sunnyvale	Kirby Canyon Landfill, 910 Coyote Creek Golf Dr, Morgan Hill	Oregon Exp./101, Palo Alto	SMART Station, 301 Carl Road, Sunnyvale	
Ending Point	Oregon Exp./101, Palo Alto	SMART Station, 301 Carl Road, Sunnyvale	Oregon Exp./101, Palo Alto	2765 Lafayette St., Santa Clara	SMART Station, 301 Carl Road, Sunnyvale	Oregon Exp./101, Palo Alto	Kirby Canyon Landfill, 910 Coyote Creek Golf Dr, Morgan Hill	SMART Station, 301 Carl Road, Sunnyvale	SMART Station, 301 Carl Road, Sunnyvale	Oregon Exp./101, Palo Alto	
Number of Trips/Day	9	13.6	4.6	9	0.4	0.4	3	3	0.5	0.5	
Number of Miles	12.4	8.5	8.5	7.0	8.5	8.5	27.3	27.3	8.5	8.5	
Daily VMT (trips X miles)	111.6	115.6	39.1	63.0	3.4	3.4	81.9	81.9	4.3	4.3	508.4

Proposed Conditions

	2A	2B	2C	2D	2E	2F	2G	2H	2I	2J	
Trip Segment	Truck Storage Yard to Palo Alto	Palo Alto to MRF	MRF to Palo Alto	MRF to Truck Storage Yard	Palo Alto to Landfill (sewage plant grit)	Landfill to Palo Alto (sewage plant grit)	MRF to Landfill	Landfill to MRF	Palo Alto to MRF (City Crew)	MRF to Palo Alto (City Crew)	Combined Daily VMT
Starting Point	2765 Lafayette St., Santa Clara	Oregon Exp./101, Palo Alto	GreenWaste Facility, 625 Charles Street, San Jose	GreenWaste Facility, 625 Charles Street, San Jose	Oregon Exp./101, Palo Alto	Newby Island Landfill, 1601 Dixon Landing, Milpitas	GreenWaste Facility, 625 Charles Street, San Jose	Monterey Peninsula Landfill, 14021 Del Monte Blvd, Marina	Oregon Exp./101, Palo Alto	Newby Island Resource Recovery, 1601 Dixon Landing, Milpitas	
Ending Point	Oregon Exp./101, Palo Alto	GreenWaste Facility, 625 Charles Street, San Jose	Oregon Exp./101, Palo Alto	2765 Lafayette St., Santa Clara	Newby Island Landfill, 1601 Dixon Landing, Milpitas	Oregon Exp./101, Palo Alto	Monterey Peninsula Landfill, 14021 Del Monte Blvd, Marina	GreenWaste Facility, 625 Charles Street, San Jose	Newby Island Resource Recovery, 1601 Dixon Landing, Milpitas	Oregon Exp./101, Palo Alto	
Number of Trips/Day	9	13.6	4.6	9	0.4	0.4	1	1	0.5	0.5	
Number of Miles	12.4	15.2	15.2	4.4	15.9	15.9	62.2	62.2	15.9	15.9	
Daily VMT (trips X miles)	111.6	206.7	69.9	39.6	6.4	6.4	62.2	62.2	8.0	8.0	580.9

Change in VMT	72.5
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