5.0 ALTERNATIVES

5.1 INTRODUCTION

GENERAL CEQA REQUIREMENTS

California Environmental Quality Act (CEQA) Guidelines Section 15126.6(a) states "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The EIR need not consider every conceivable alternative, but rather consider a "reasonable range" of potentially feasible alternatives that foster informed decision-making and public participation. The range of potential alternatives to the proposed project shall include those alternatives that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (CEQA Guidelines Section 15126.6(c)).

PROJECT OBJECTIVES

As described in Section 2.0, Project Description, the proposed project was created to meet the following objectives:

- Serve as the regional recycling facility for eastern and central Contra Costa County, including the cities of Pittsburg, Concord, Oakley, Discovery Bay, and Antioch, parts of the unincorporated county, and Rio Vista in Solano County.

- Assist the City of Pittsburg and Contra Costa County in reducing greenhouse gas (GHG) emissions and complying with the measures of the adopted AB 32 Scoping Plan by 2020 by generating renewable energy, increasing solid waste diversion rates, and expanding programs to provide recycling to businesses and multi-family residences.

- Assist the City of Pittsburg and Contra Costa County in maintaining compliance with AB 939 mandates requiring 50 percent diversion of solid waste from landfills and preparing to accommodate future AB 939 goals and mandates, such as assisting in the statewide recycling goal of a 75 percent recycling rate by 2020, consistent with AB 341.

- Upgrade and improve the existing facility to allow for more efficient service and to incorporate measures to reduce GHG emissions. The improvements include (1) an expansion of current recycling efforts, (2) the construction of a Biomass Gasification Unit to generate 1 megawatt per hour of electrical power using 10,400 tons of waste wood per year, and (3) installation of solar panels on the rooftops of the two existing buildings to produce up to 800 kilowatt-hours of renewable energy.

- Assist the City of Pittsburg and Contra Costa County in implementing the mandatory commercial recycling program required by AB 341.

- Increase facility capacities and expand hours of operation to better serve customers and to meet projected solid waste generation rates until the year 2035.

- Increase efficiency and productivity of the facility by including a new truck maintenance facility and yard within the project site.

- Consolidate all project components under one Solid Waste Facility Permit issued by the City of Pittsburg Local Enforcement Agency and with the concurrence of the California Department of Resources Recycling and Recovery (CalRecycle).

SUMMARY OF SIGNIFICANT EFFECTS

The analysis presented in the technical sections of this Draft Environmental Impact Report (Draft EIR; DEIR) (Sections 3.1 through 3.-8) determined that the following significant impacts would result from implementation of the proposed project:

- Construction-related emissions of criteria air pollutants and precursors could violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, and/or conflict with air quality planning efforts (Impact 3.1.1). Mitigation measures identified for the project would reduce the amount of reactive organic gases and oxides of nitrogen, but maximum daily emissions would still be projected to exceed the BAAQMD's significance threshold of 54 lbs/day for each pollutant.

- Project-Specific Traffic Impacts (Impact 3.7.1; Table 3.7-7). Mitigation identified for the project, which includes payment of Capital Improvement Program (CIP) fees, would improve level of service at impacted intersections to less than significant. However, while the improvements are listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain, this impact remains significant and unavoidable.

  – Typical Operating Conditions—The Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from level of service (LOS) B to LOS high-D during the AM peak hour and would degrade from LOS E to LOS F (an increase in the volume-to-capacity ratio (V/C) of more than 0.01) during the PM peak hour.

  – Maximum Permitted Operating Conditions—The SR 4 Eastbound Ramps/ Loveridge Road intersection would degrade to LOS high-D (V/C of 0.85 to 0.90) during the PM peak hour, thus resulting in a significant impact. Additionally, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour.

- Cumulative Traffic Impacts (Impact 3.7.2; Table 3.7-8). While most intersections studied in the DEIR would operate acceptably under cumulatively conditions, the addition of project-generated traffic to projected future traffic would result in unacceptable conditions under typical operating conditions or maximum permitted operating conditions. The traffic study determined that widening along Loveridge Road to accommodate an additional northbound lane may be infeasible due to the railroad crossing and right-of-way constraints. Therefore, the operating conditions at this intersection remain significant and unavoidable.

  – Typical Operating Conditions—Based on the Highway Capacity Manual (HCM) methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic.

  – Maximum Permitted Operating Conditions—Based on Contra Costa Transportation Authority (CCTA) methodology, the Pittsburg-Antioch Highway/ Loveridge Road

intersection would degrade to LOS D during the AM peak hour and to LOS E during the PM peak hour. Based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of project traffic.

ALTERNATIVES CONSIDERED BUT REJECTED

CEQA Guidelines Section 15126.6(c) states that an EIR should identify any alternatives that were considered but rejected as infeasible by the lead agency during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (1) failure to meet most of the stated project objectives; (2) infeasibility; and (3) inability to avoid significant environmental impacts.

The following alternative was considered but rejected from further analysis in the EIR:

Off-Site Alternative—Off-site alternatives are generally evaluated in an environmental document to avoid, lessen, or eliminate the significant impacts of a project by considering the proposed development in an entirely different location. To be feasible, development of off-site locations must be able to fulfill the project purpose and meet most of the project's stated objectives. Given the nature of the proposed project (expansion of operations at an existing facility), the fundamental purpose of the project cannot be fulfilled at another site, and most of the project's stated objectives, as listed above and in Section 2.0, Project Description, of this DEIR, would not be met. Specifically, development of a new facility to serve eastern and central Contra Costa County would result in more construction impacts than modifications to an already existing facility designed to accommodate such tonnage and waste streams. For these reasons, an off-site alternative is considered infeasible pursuant to State CEQA Guidelines Section 15126.6(c) and is not discussed further in this section.

ALTERNATIVES ANALYZED IN THE EIR

Three alternatives to the proposed project are analyzed in this DEIR and are described below. As discussed above, the significant unavoidable impacts identified for the proposed project are related to traffic generated by car and truck trips to the facility. Therefore, the alternatives below include the no project alternative and two alternatives that would reduce trips associated with project operation.

When a proposed project involves revisions to an existing plan, policy or ongoing operation, the no project alternative should reflect the continuation of the existing plan, policy or operation into the future. (CEQA Guidelines Section 15126.6(e)(3)(A)). The EIR should also analyze the impacts of the no-project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on the current plans and consistent with available infrastructure and community services. (CEQA Guidelines Section 15126.6(e)(3)(C)). The purpose of the no project alternative is to provide a comparison of the environmental impacts that would result if the proposed project is not approved with those that would occur if the proposed project is approved. (CEQA Guidelines Section 15126.6(e)(1)).

The facility is currently subject to a conditional use permit (CUP) that allows it to operate at certain permitted levels. Historically, the facility has operated at levels lower than those permitted in the CUP. While the applicant does not operate the facility today (nor at the time the Notice of Preparation was released) at the permitted levels, the applicant can do so in the

future. It is reasonable to assume that if the proposed project is not approved, the facility would ultimately increase operations, possibly to the current permitted levels. Therefore, the no project alternative assumes that if the proposed project is not approved, the applicant will operate in the future at the permitted levels. Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), the no project alternative assumes the future continuation of the existing CUP at the permitted levels, as discussed below.

Alternative 1—No Project Alternative. Alternative 1, the no project alternative, assumes the existing Mt. Diablo Recycling Center and Transfer Station would continue to operate under its current permitted capacities and that no physical improvements would be made at the project site. This alternative also assumes that no revisions would be made to the facility's current Solid Waste Facility Permit issued by the California Department of Resources Recycling and Recovery (CalRecycle). The facility is currently permitted to process a throughput of 2,650 tons per day (TPD).[1] The facility currently processes less than its permitted capacity, approximately 1,181 TPD. This alternative assumes that the facility would ultimately increase operations to the permitted levels (a 125 percent increase from existing operations), with a proportionate increase in the number of truck and vehicle trips entering and leaving the site. The current permitted capacity is less than the total capacity requested for the proposed project, which is 5,500 TPD.

Alternative 2—Biomass and Solar Alternative. Alternative 2, the biomass and solar alternative, assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility, with the exception of the 40 tons per day increase in clean wood chips to fuel the biomass plant. This alternative assumes only the construction of the Biomass Gasification Unit on approximately 3.5 acres of expansion land and installation of the solar panels would move forward. Because the facility's capacities would not be substantially increased, no revisions to the facility's Solid Waste Facility Permit would be requested and the proposed addition of sort lines, bays, and other equipment would not be required.

Alternative 3—Limited Expansion Alternative (Typical Operating Conditions). Alternative 3, the limited expansion alternative, assumes that there would be increases at the Mt. Diablo Recycling Facility, Transfer/Processing Facility, Mixed Construction and Demolition (C&D) Processing Facility, or Organics Processing Facility. The existing facility has historically operated below the facility's permitted levels. While the DEIR analysis assumes that the expanded facility under the proposed project would operate every day at the maximum permitted level currently requested, the limited expansion alternative assumes the permit would seek an expansion to only 55 percent of the requested permit level of the proposed project. Therefore, the operating condition of the facility under the limited expansion alternative (operating at 55 percent of the maximum permitted level under the proposed project) would be 3,050 tons per day (TPD), compared to 5,500 TPD for the proposed project. This alternative was analyzed as "typical operating conditions" in the traffic impact study and in Section 3.7, Transportation and Circulation of this DEIR.

[1] Mt. Diablo Recycling Facility, 500 TPD; Recycling Center and transfer Station, 1,500 TPD; Green Material Processing, 200 TPD; Mixed Construction and Demolition Processing, 450 TPD.

Relationship of Alternatives to Project Objectives

Alternative 1—No Project Alternative

Alternative 1 would not meet any of the project objectives listed above. This alternative would not assist in the further reduction of greenhouse gas emissions and would not respond to any of the requirements of AB 32, as it would not result in the generation of renewable energy, would not increase the solid waste diversion rates of the cities and counties it serves beyond that currently permitted, and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and the associated increased solid waste generation in the facility's service area, expand hours of operation at the facility to better serve customers, or consolidate facilities under one permit.

Alternative 2—Biomass and Solar Alternative

Alternative 2 would not meet several of the project objectives listed above. This alternative would assist in the further reduction of greenhouse gas emissions, through solar and biogas electricity generation; however, it would not achieve the same avoided emissions of greenhouse gases that would be realized under the proposed project related to the avoided landfill methane emissions and the emissions avoided by the use of recycled materials. While this alternative would respond to some of the requirements of AB 32 by installing and operating alternative energy systems on site, it would not increase the solid waste diversion rates of the cities and counties it serves and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and increased solid waste generation in the facility's service area, would not expand hours of operation at the facility to better serve customers, and would not consolidate facilities under one permit.

Alternative 3—Limited Expansion Alternative

Alternative 3 would not meet some of the project objectives listed above. This alternative would assist in the further reduction of greenhouse gas emissions and would respond to some of the requirements of AB 32 by increasing the solid waste diversion rates of the cities and counties it serves and by adding a business and multi-family residential recycling program. This alternative would meet the objective to consolidate facilities under one permit. However, because this alternative limits the throughput at the facility to a level that is consistent with the current level of throughput relative to the facility's existing permitted capacity, this alternative may not be consistent with the objective related to significantly expanding the facility's capacities and hours of operation to meet projected population growth and better serve customers and to meet projected solid waste generation rates until the year 2035. It is likely that if this plant is not expanded, then another plant would have to be constructed or expanded, resulting in additional environmental impacts in order to accommodate future state-mandated waste diversion goals (see also off-site alternative considered and rejected above).

5.2 COMPARATIVE IMPACT ANALYSIS

For each project alternative, the significant environmental impacts are identified, as well as the impacts of the proposed project that would be avoided. If an alternative would cause one or more significant effects in addition to those that would be caused by the proposed project, the significant effects of the alternative are discussed but in less detail than the significant effects of the proposed project (CEQA Guidelines Section 15126.6(d)). The discussion for each alternative addresses potential impacts on each of the environmental issues presented in Section 3.0 of this

DEIR. If a potential impact under an alternative is similar to that under the proposed project, the discussion will so note and no further analysis of the potential impact is conducted.

Table 5.0-2 provides a summary of the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the proposed project.

TABLE 5.0-2
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY IMPACT

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.1 Air Quality				
3.1.1 Short-Term Construction Emissions of Criteria Air Pollutants and Precursors	SU	R	R	R
3.1.2 Long-Term Operational Emissions of Criteria Air Pollutants and Precursors	LTS + M	R	R	R
3.1.3 Exposure of Sensitive Receptors to Localized Concentrations of Mobile-Source Carbon Monoxide	LTS	R	R	R
3.1.4 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminants	LTS	R	R	R
3.1.5 Create Objectionable Odors Affecting a Substantial Number of People	LTS	R	R	R
3.1.6 Cumulatively Considerable Net Increase of Nonattainment Criteria Pollutants and Precursors	LCC + M	R	R	R
3.1.7 Cumulatively Considerable Contribution to Localized Concentrations of Toxic Air Contaminants	LCC	R	R	R
3.1.8 Cumulatively Considerable Contribution to Localized Concentrations of Odorous Emissions	LCC	R	R	R
3.2 Climate Change and Greenhouse Gases				
3.2.1 AB 32 Compliance and GHG Emissions	LCC	I	I	I
3.3 Hazards and Hazardous Materials				
3.3.1 Hazard to the Public through Routine Transport, Use, or Disposal of Hazardous Materials	LTS	R	R	R
3.3.2 Exposure of Persons to Hazardous Materials During Project Construction	LTS + M	R	R	R
3.3.3 Interference with Emergency Operations Plans	LTS	R	R	R
3.3.4 Cumulative Hazardous Materials Exposure	LCC	R	R	R

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.4 Hydrology and Water Quality				
3.4.1 Violate Water Quality Standards or Waste Discharge Requirements	LTS	R	R	S
3.4.2 Deplete Groundwater Supplies or Interfere with Recharge	LTS	R	R	S
3.4.3 Alter Drainage Patterns/Exceed Capacity of Drainage System	LTS	R	R	S
3.4.4 Degrade Water Quality During Construction	LTS	R	R	S
3.4.5 Degrade Water Quality During Operation	LTS	R	R	S
3.4.6 Flooding Hazards	LTS	R	R	S
3.4.7 Cumulative Impact to Water Quality	LCC	R	R	S
3.4.8 Cumulative Flooding Hazards	LCC	R	R	S
3.5 Land Use				
3.5.1 Conflict with Applicable Land Use Plans	LTS	S	S	S
3.5.2 Cumulative Land Use Impacts	LCC	S	S	S
3.6 Public Services and Utilities				
3.6.1.1 Increased Demand for Fire Protection Services	LTS	R	R	R
3.6.1.2 Provide Inadequate Emergency Access	LTS + M	R	R	R
3.6.1.3 Cumulative Impacts to Fire Protection Services	LCC	R	R	R
3.6.2.1 Adequate Water Supply	LTS	R	R	R
3.6.2.2 Cumulative Water Supply	LCC	R	R	R
3.6.3.1 Wastewater Treatment Impacts	LTS	R	R	R
3.6.3.2 Wastewater Infrastructure Impacts	LTS	R	R	R
3.6.3.3 Increased Demand for Wastewater Services	LTS	R	R	R
3.6.3.4 Cumulative Demand for Wastewater Services	LCC	R	R	R
3.7 Transportation and Circulation				
3.7.1 Exceedance of LOS Thresholds at Study Intersections	SU	R	R	R
3.7.2 Cumulative Traffic Impacts	CC	R	R	R
3.8 Biological Resources				
3.8.1 Special-Status Species	LTS + M	R	S	S

Impact	Proposed Project (Significance)	Alternative 1 No Project (Comparison)	Alternative 2 Biomass and Solar (Comparison)	Alternative 3 Limited Expansion (Comparison)
3.8.2 Impacts to Riparian Habitat or Sensitive Natural Communities	LTS + M	R	R	S
3.8.3 Impacts to Federally Protected Wetlands	NI	S	S	S
3.8.4 Impacts to Wildlife Movement	NI	S	S	S
3.8.5 Conflict with Local Policies or Ordinances or Conservation Plans	LTS	R	R	S
3.8.6 Cumulative Biological Resource Impacts	LCC	R	R	S

Notes: Significance is identified by the following: NI = No impact, LTS = less than significant, LTS +M = less than significant with mitigation, SU = significant and unavoidable, LCC = less than cumulatively considerable, CC = cumulatively considerable. Comparisons identified by the following: R = reduced impact over the proposed project, S = similar impact, I = Increased impact.

AIR QUALITY

Alternative 1—Reduced

The no project alternative would result in an increase in the operations to the permitted capacity of the facility (2,650 TPD), which would increase trips and operations at the project site compared to existing conditions. However, this would be less than the permitted capacity of 5,500 TPD allowed under the proposed project, so the impact would less than the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the number of trips to the facility and the handling of the material would be less than that of the proposed project. The Biomass Gasification Unit would generate emissions similar to those attributed to the Unit under the proposed project analysis. Therefore, emissions associated with operations of the facility would be reduced under this alternative compared to the proposed project.

Alternative 3—Reduced

Because Alternative 3 would limit operations to 55 percent of the permitted operating capacity of the proposed project, the operational emissions under this alternative would be proportionately less than the proposed project.

GREENHOUSE GASES

Alternative 1—Increased

The no project alternative would result in increases in the operations of the facility, which would result in an increase in trips at the project site. Therefore, there would be a direct increase in emissions of greenhouse gases from the facility under the no project alternative, although the increase would be less than the permitted capacity of the proposed project. However, the greenhouse gas emissions that would be avoided under the proposed project, due to increased recycling and benefits of the biogas unit, would not occur at the same extent as the proposed project. In fact, as discussed in Section 3.2, Climate Change and Greenhouse Gases, the proposed project would actually have a beneficial effect related to greenhouse gas emissions due to the increased recycling that would occur under the proposed project. Recycling reduces the demand for raw or virgin materials, while re-manufacturing with recycled materials generally reduces overall energy use. Recycling also results in increased carbon sequestration by forests since fewer trees need to be harvested for wood and paper products. In addition, well-managed composting ultimately results in increased soil carbon storage, and end use of compost results in reduced demand for water, fertilizer, and other soil inputs. The production of biomass energy also reduces the demand for fossil fuels. Therefore, the benefits of avoided emissions would not be achieved under this alternative.

Alternative 2—Increased

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the number of trips to the facility and the handling of the material would be reduced compared to the proposed project. The Biomass Gasification Unit would generate emissions similar to the proposed project. However, because recycling rates at the facility would not be increased under this alternative, the operations would not achieve the same level of avoided GHG emissions as the proposed project. Therefore, greenhouse gas emissions associated with operations of the facility would be increased under this alternative compared to the proposed project.

Alternative 3—Increased

The no project alternative would result in increases in the operations of the facility, which would result in an increase in trips at the project site. Therefore, there would be a direct increase in emissions of greenhouse gases from the facility under Alternative 3. Because Alternative 3 would limit operations to 55 percent of the permitted operating capacity of the proposed project, the facility would not achieve recycling rates similar to the proposed project and could therefore not result in beneficial effect related to greenhouse gas emissions due to the increased recycling that would occur under the proposed project. Therefore, this alternative would not achieve the same level of greenhouse gas emissions reductions through avoided emissions as the proposed project.

HAZARDS AND HAZARDOUS MATERIALS

Alternative 1—Reduced

Because Alternative 1 assumes operation of the facility at its current maximum permitted level, compared to existing conditions Alternative 1 would increase the amount of waste processed at the facility, some of which could be hazardous. However, the current capacity is 2,650 TPD compared to 5,500 TPD under the proposed project 5,500 TPD, Therefore, the potential for exposure to hazardous materials during transport and handling under Alternative 1 would be reduced compared to the proposed project..

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station, Mixed C&D Processing Facility, or Organics Processing Facility, but the Biomass Gasification Unit and installation of the solar panels would be included. Because the amount of materials processed under this alternative would be less than the proposed project, the potential for exposure to hazardous materials during transport and handling would be reduced compared to the proposed project. This alternative would not result in increased traffic as would the proposed project, so there would be no impact on emergency plans. Because capacity would not be increased under this alternative, the contribution to hazardous materials exposure would be less than the proposed project.

Alternative 3—Reduced

Alternative 3 assumes that the permit for operation of the facility would allow up to 55 percent of the capacity allowed under the proposed project. Because this alternative includes expanded capacity for the transport and handling of solid waste that is less than the proposed project, the impact related to hazardous waste would be reduced relative to the proposed project. Exposure to materials emitted from the gasification unit is discussed above in Air Quality. Improvements to the site would be the same as the proposed project, but trips would be reduced, so impacts related to emergency access and evacuation plans would be reduced compared to the proposed project. Because the capacity would be reduced under this alternative, the contribution to hazardous materials exposure would be less than the proposed project.

HYDROLOGY AND WATER QUALITY

Alternative 1—Reduced

Alternative 1 would increase operations to permitted capacity, but there would not be any changes to the facilities on site and would not alter the capacity of the facility. Therefore, there would be no change to the hydrology on the site or changes to any discharges from the site. This alternative would not result in any changes related to surface water quality, flooding, or groundwater quality or quantity. This alternative's contribution to cumulative hydrologic and water quality effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels

would be included. This alternative would include construction of the Biomass Gasification Unit, which would alter the amount of impervious surfaces on the project site, but other improvements, such as the concrete pad at the Mixed C&D Processing Facility, would not be constructed. This alternative would include a 3.5-acre expansion of operations outside the current facility boundaries, compared to an 18.5-acres expansion for the project. Therefore, this alternative would result in less improved impervious surface being constructed, which would make this alternative's impact related to hydrology and flooding less than that of the proposed project.

Alternative 3—Similar

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. Because this alternative would include the same amount of impervious surface as the proposed project, its impact related to hydrology and flooding would be the same as that of the proposed project.

LAND USE

Alternative 1—Similar

The proposed project would expand into an area that is currently undeveloped, but the zoning allows the proposed use and there would be no impacts related to land use incompatibility or inconsistency with plans. Alternative 1 would not change any land uses compared to existing conditions. This alternative does not increase the capacity at the facility, the land uses would be the same as under existing conditions. The land use impacts would be the same as the proposed project.

Alternative 2—Similar

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. The land uses would be the same as the proposed project, so the land use impacts would be the same as the proposed project.

Alternative 3—Similar

Alternative 3 would include the same improvements and the same uses as the proposed project, albeit at a reduced capacity. Because this alternative includes the same uses, the land use impacts would be the same as the proposed project.

PUBLIC SERVICES AND UTILITIES

Alternative 1—Reduced

Because Alternative 1 would increase the operations of the facility to the permitted capacity, there would be an increase in demand for public services or facilities. The proposed project permitted capacity would be more than double the current permitted capacity. Therefore, impacts related to public services and utilities would be less than the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. Because Alternative 2 would not increase the capacity of the solid waste handling at the facility, the impacts on services would be less than that of the proposed project.

Alternative 3—Reduced

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. Because the facility would be allowed to handle and process less solid waste than the proposed project, the demand for public services and utilities at the facility would be less than the proposed project.

TRANSPORTATION AND TRAFFIC

Alternative 1—Reduced

Alternative 1 would increase operations on the project site to operate at the permitted capacity of the facility, so there would be an increase in traffic under this alternative. The proposed project permitted capacity would be more than double the current permitted capacity, so there would be a corresponding increase in traffic. Therefore, this impact would be less than that of the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. This alternative would generate some additional trips to the facility to provide the green wood waste to fuel the Biomass Gasification Unit. However, because the other portions of the facility would not be expanded, this alternative would have proportionately fewer trips than the proposed project.

Alternative 3—Reduced

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit sought for the proposed project. As discussed in Section 3.7, Transportation and Circulation, based on Contra Costa Transportation Authority (CCTA) methodology with the addition of project traffic under maximum permitted operating conditions (proposed project), the State Route (SR) 4 Eastbound Ramps/Loveridge Road intersection would degrade to a level of service (LOS) high-D (volume-to-capacity ratio (V/C) of 0.85 to 0.90) during the PM peak hour; the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS F during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour; and based on the Highway Capacity Manual (HCM) methodology, both the SR 4 Eastbound Ramps/Loveridge Road and Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS F during at least one of the peak hours with the addition of project traffic under maximum permitted operating conditions. These are significant impacts.

Based on CCTA methodology with the addition of project traffic under this alternative, the Pittsburg-Antioch Highway/Loveridge Road intersection would degrade from LOS B to LOS D during the AM peak hour and would degrade from LOS E to LOS F (an increase in V/C of more than 0.01) during the PM peak hour; and based on the HCM methodology, both the SR 4 Eastbound Ramps/Loveridge Road and the Pittsburg-Antioch Highway/Loveridge Road intersections would operate at LOS E or F during at least one of the peak hours with the addition of traffic under typical operating conditions. The level of service under this alternative would not degrade to the extent it would under the proposed project. Therefore, this alternative would result in a reduced impact compared to the proposed project; however, it would still result in significant impacts.

BIOLOGICAL RESOURCES

Alternative 1—Reduced

Alternative 1 would increase operations to permitted capacity, but there would not be any changes to the facilities on site and no construction activities would occur. Therefore, this alternative would not result in any impacts to special-status species, either directly or through habitat modification. This alternative would also have no impact on riparian habitat or other sensitive natural communities. The project site does not contain any federally protected wetlands and does not provide for wildlife movement or nursery sites. Therefore, similar to the proposed project, this alternative would have no impact on wetlands or wildlife movement. Also similar to the proposed project, this alternative would not result in the removal of any trees and would not conflict with the City's tree ordinance or any other City policies related to biological resources. This alternative would not involve any construction activities and would not be subject to ECCC HCP/NCCP mitigation fee requirements. This alternative's contribution to cumulative biological resource effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 2—Reduced

Alternative 2 assumes that the facility's permitted capacities would not be increased and no new programs would be added to the Recycling Center and Transfer Station or Mixed C&D Processing operations, but the Biomass Gasification Unit and installation of the solar panels would be included. The proposed site of the Biomass Gasification Unit is unpaved and could, therefore, provide suitable habitat for burrowing owl, Swainson's hawk, golden eagles, and white-tailed kites. Therefore, this alternative could have impacts to special-status species similar to the proposed project requiring similar mitigation. This alternative would not affect the ditch onsite which may be a water of the U.S., therefore, potential impacts to riparian habitat and sensitive natural communities would less than that of the proposed project. The project site does not contain any federally protected wetlands and does not provide for wildlife movement or nursery sites. Therefore, similar to the proposed project, this alternative would have no impact on either wetlands or wildlife movement. Also similar to the proposed project, this alternative would not conflict with the City's tree ordinance or any other City policies related to biological resources but would require payment of the required ECCC HCP/NCCP mitigation fees. This alternative's contribution to cumulative biological resource effects would be less than the proposed project. Overall, impacts from this alternative would be reduced compared to the proposed project.

Alternative 3—Similar

Alternative 3 would include construction of the same facilities as identified for the proposed project, but the permit would allow only 55 percent of the capacity as allowed under the permit

south for the proposed project. Because this alternative would include the same construction activities in the same locations as the proposed project, its impact related to biological resources would be the same as that of the proposed project.

5.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the evaluation in this section, Alternative 1, the no project alternative, is considered to be the environmentally superior alternative. Alternative 1 would have fewer adverse environmental impacts than the proposed project and was determined to have the fewest negative impacts on the physical environment. However, Alternative 1 would not meet the objectives of the proposed project.

Under CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the no project alternative, another environmentally superior alternative must be identified. According to the analysis above, Alternative 2 would have the fewest environmental impacts when compared with the proposed project. Because this project would receive no additional waste other than clean wood chips for the biomass facility, resulting in significantly fewer truck trips than the proposed project, many of the impacts identified for the proposed project related to increased traffic and operational impacts at the facility would not occur. However, this alternative would only partially meet the project alternatives by assisting in the reduction of greenhouse gas emissions and would respond to some of the requirements of AB 32 by installing and operating alternative energy systems on site. This alternative also would not increase the solid waste diversion rates of the areas it serves and would not add a business and multi-family residential recycling program. In addition, this alternative would not respond to projected population growth and increased solid waste generation in the facility's service area, would not expand hours of operation at the facility to better serve customers, and would not consolidate facilities under one permit.

Alternative 3 assumes that the facility would be expanded to accept approximately half (55%) of the tonnage accepted under the project at full build-out, resulting in proportionately fewer truck trips and operational impacts. This alternative was analyzed in the Traffic Impact Study and is described as the project operating under "typical operating conditions." With regard to transportation-related impacts, as noted above, this alternative would result in degradation at the Pittsburg-Antioch Highway/Loveridge Road intersection from LOS B to LOS high-D in the AM peak hour. During the PM peak hour, the intersection is projected to experience an increase in V/C of more than 0.01 when already operating at unacceptable levels resulting in a significant impact. Under cumulative conditions, and based on the HCM methodology, the Pittsburg-Antioch Highway/Loveridge Road intersection would operate at LOS F during both AM and PM peak hours with the addition of typical operating condition project traffic under the 55%/typical operating conditions alternative. Mitigation identified for the project, which includes payment of Capital Improvement Program (CIP) fees, would improve level of service at impacted intersections to less than significant. However, while the improvements are listed in the CIP, there is no funding plan identified. Since funding for the full improvement is not certain, the impact would remain significant and unavoidable under this alternative. This alternative would meet many of the project objectives; however, it could also be seen as a missed opportunity to leverage an existing facility that is capable of operating at a much larger scale with relatively little construction. As noted in Section 3.2, Climate Change and Greenhouse Gases, reductions of CH_4 associated with biomass energy projects that utilize wood wastes, such as the proposed project, are considered to have a substantial net reduction of GHG emissions and an overall beneficial greenhouse effect. Mandatory increases in recycling were one of the measures adopted in the AB 32 Scoping Plan by the California Air Resources Board pursuant to the California Global Warming Solutions Act. As a result, projected increases of GHGs emissions

associated with the transport and handling of recycling materials would be projected to occur in future years, whether or not they occur at this or other recycling facilities. However, as noted above, the proposed project's avoided emissions would actually exceed the direct emissions of the project, so the proposed project would be superior in terms of GHG emissions.