

# Forward Inc. Landfill, 2018 Expansion Project

FILE #PA-0800105

USE PERMIT #PA-1800090

SCH# 2008052024

**August 2018**

*Prepared for:*



*San Joaquin County  
Community Development Department  
1810 E. Hazelton Ave.  
Stockton, CA 95295*



**DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT:  
FORWARD INC. LANDFILL 2018 EXPANSION PROJECT**

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**San Joaquin County  
File #: PA-0800105, Use Permit #: PA-1800090  
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**Prepared for:**

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## **I. INTRODUCTION**

### **A. PURPOSE OF THE SUPPLEMENTAL EIR**

This supplement to the Forward Landfill Expansion Project Final Environmental Impact Report<sup>1</sup> (2013 EIR or FEIR), certified by the San Joaquin County Board of Supervisors on August 21, 2013, addresses the potential environmental impacts of proposed changes to the Forward Landfill Expansion Project, located on Austin Road in unincorporated San Joaquin County south of the City of Stockton. This Supplemental EIR is intended to inform County decision-makers, other responsible and trustee agencies, and the general public of the proposed changes to the Project and their potential environmental consequences. San Joaquin County is the Lead Agency for the environmental review of the proposed Project. Unless otherwise noted, references to “the Project” in this document refer to the Project as modified by the proposed changes discussed in this document.

This Supplemental EIR has been prepared because the currently proposed Project (“2018 Expansion Project”) includes a number of substantive changes to the Expansion Project as described in the 2013 EIR, and these changes may have the potential to result in new or substantially different significant environmental effects beyond those identified in the previous EIR. The key purpose of this review is to determine whether the environmental effects of the Project as currently proposed would result in new, significant environmental effects or a substantial increase in the severity of previously identified environmental effects pursuant to Section 15163 of the California Environmental Quality Act (CEQA) Guidelines. This section of the CEQA Guidelines is discussed in more detail below.

### **B. PROPOSED MODIFICATIONS TO THE 2013 FORWARD LANDFILL FEIR EXPANSION PROJECT**

The 2013 Forward Landfill Expansion EIR analyzed an expansion of the landfill that included the following substantial modifications to the landfill:

- Expand the Forward Landfill to contiguous parcels including an approximately 184-acre parcel (“Brocchini parcel”) to the southwest of the existing landfill site and an approximately 10-acre parcel in the northeast of the existing landfill. In addition, approximately 11 acres of currently permitted landfill disposal area in the southern portion of the Forward Landfill would be relocated within the currently permitted landfill boundary due to realignment of the South Fork of South Littlejohns Creek (also known as the South Branch of the South Fork of Littlejohns Creek).

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<sup>1</sup> San Joaquin County, Forward Landfill Expansion Project Final Environmental Impact Report, May 2013, accessible at <http://www.sjgov.org/Commdev/cgi-bin/cdyn.exe/handouts-planning/CompleteFEIR5-242013.pdf>

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- Increase the remaining landfill capacity by approximately 32.0 million cubic yards (cy) to approximately 54.0 million cubic yards (cy). All of the increase would be Class II landfill space and would extend the landfill closure date to approximately 2039<sup>2</sup>.
- Relocate approximately 3,000 feet of the South Fork of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek will be approximately 3,200 feet in length.
- Allow cannery waste processing in areas of site that are not being used for disposal at the time.

The Board of Supervisors certified the Forward Landfill Expansion Final Environmental Impact Report however the project application required an override to the Airport Land Use Plan by the County Board of Supervisors, which was not approved.

In 2014, Forward proposed a smaller increase in permitted landfilling capacity that did not include the previously proposed expansion of landfilling operations on the 184-acre Brocchini parcel. This proposed increase in landfill acreage was entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002) approved by the Board of Supervisors on April 8, 2003. A Draft Supplemental EIR (DSEIR) was circulated for this proposed expansion in December 2014 and comments were received, but Forward abandoned the project before the Final Supplemental EIR was completed.

The 2018 Expansion Project described in this Supplemental EIR is very similar to the 2014 proposal. It has a smaller increase in permitted landfilling capacity than the 2013 project and does not include the any expansion of landfilling operations onto the Brocchini parcel. The additional proposed landfill acreage is entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002) approved by the Board of Supervisors on April 8, 2003.

The 2018 Expansion Project would make the following changes to the currently permitted landfill:

- Landfilling of an 8.7-acre parcel in the northeast portion of the site within the currently permitted landfill boundary.
- Landfilling of approximately 8.6 acres in the south area
- The south area expansion would require realigning about 2,900 feet of the South Fork of South Littlejohns Creek to a 3,300-foot alignment along the southern and eastern boundaries of the site, along with a new bridge across the creek.
- The expansion would increase total landfill capacity by up to 8.12 million cubic yards beyond currently permitted levels, which would increase the remaining Class II land-

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<sup>2</sup> The 2013 FEIR estimated closure dates with and without that project of 2039 and 2021, respectively. However, 2014 estimated closure dates with and without the 2012 (previously proposed) project are 2045 and 2026, respectively.

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fill capacity by approximately 8.42 million cubic yards (cy), from approximately 15.7 million cy currently permitted to approximately 25 million cy.

- Landfill expansion would allow disposal at the landfill to continue until approximately 2036, a six-year increase from the current anticipated closure date of 2030.

Site operations would remain mostly as described in the 2013 EIR. The complete 2018 Expansion Project, including the components that are unchanged, is also summarized in Chapter III, Project Description.

### **C. CEQA REQUIREMENTS FOR A SUPPLEMENTAL EIR**

This Supplemental EIR has been prepared in compliance with CEQA and the CEQA Guidelines, as amended. A Supplemental EIR, as defined in CEQA Guidelines Section 15163, is intended to evaluate changes to a project analyzed in a certified EIR, when those project changes could result in new or more substantial impacts – or require new or altered mitigation measures or project alternatives – beyond those already identified in the certified EIR. CEQA Guidelines Section 15162, referenced in Section 15163, lists the conditions requiring preparation of a Subsequent or Supplemental EIR:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
  - Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
  - New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declarations;
    - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to
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adopt the mitigation measure or alternative.

CEQA Guidelines Section 15163 states:

- (a) The lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
  - (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
  - (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.
- (b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.
- (c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- (d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- (e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

This Supplemental EIR is being prepared for the 2018 Expansion Project because, per CEQA Guidelines Section 15162, the proposed changes to the Project summarized in Section I.B above would represent changes to the development proposed for the site as anticipated in the 2013 EIR, and these changes would require revisions to the 2013 EIR, but no new significant unmitigable impacts are anticipated. The changes to the Project could result in changed impacts to land use and agricultural resources, biological resources, traffic, noise, air quality, and health risk, compared with those identified in the 2013 EIR.

This document includes revised sections addressing those topics only. These changed impacts are discussed in detail in Sections IV.A through IV.G. All other topics are summarized in Section IV.H, Other CEQA Topics.

#### **D. SCOPE OF THIS SUPPLEMENTAL EIR**

On May 15, 2018 the San Joaquin County Planning Department circulated a Notice of Preparation (NOP) to help identify the types of impacts that could result from the 2018 Expansion Project, as well as potential areas of controversy. The NOP was mailed to public agencies (including the State Clearinghouse), organizations, and individuals considered likely to be interested in the proposed Project and its potential impacts. The public comment period ended on June 14, 2018. Based on preliminary research into the potential environmental effects of the Project and scoping, the County determined that potential new significant effects of the proposed Project would be limited to the topics of land use (including airport land use compatibility) and agricultural resources, biological resources, water quality, traffic, noise, air quality, and health risk. The NOP and written comments received during the scoping period are included in Appendices A and B.

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## E. USES OF THIS SUPPLEMENTAL EIR

This document is a project-level Supplemental EIR for the 2018 Forward Landfill Expansion Project. Its primary use is to provide CEQA-compliant review of any substantive changes to the proposed project, existing conditions, impacts, or mitigation measures identified in the 2013 EIR that have been identified since certification of the 2013 EIR.

Under CEQA, a responsible agency is an agency other than the lead agency that has a legal responsibility for carrying out or approving a project or elements of a project (Public Resource Code [PRC] Section 21069). Responsible agencies are encouraged to actively participate in the CEQA process of the lead agency, review the CEQA documents of the lead agencies, and use the documents when making decisions on the project. Possible CEQA responsible agencies for components of this project that are proposed to change include:

- U.S. Army Corps of Engineers (USACE)
- U.S Fish and Wildlife Service
- California Department of Resources Recycling and Recovery (CalRecycle)
- California Department of Water Resources
- Central Valley Flood Protection Board
- San Joaquin County Environmental Health Department
- San Joaquin County Department of Public Works
- San Joaquin County Flood Control and Water Conservation District
- California Department of Fish and Wildlife
- Central Valley Regional Water Quality Control Board
- San Joaquin Valley Unified Air Pollution Control District
- Manteca-Lathrop Fire Department

Specific permits and approvals required from these agencies, as well as federal agency permits and approvals, are listed in Chapter II. Project Description.

## F. REPORT ORGANIZATION

This Supplemental EIR is organized into the following chapters:

**Chapter 1 – Introduction:** Discusses the overall purpose of the Supplemental EIR; summarizes the organization of the document; discusses the function of a Supplemental EIR as described in the CEQA Guidelines.

**Chapter 2 – Summary:** summarizes the original and revised Project, and any changes in impacts that would result from implementation of the 2018 Expansion Project.

**Chapter 3 – Project Description:** Provides background information about the Project, including the Project’s environmental review history; existing conditions at the Project site; the objectives and physical characteristics of the Project; and changes to the entitlements that would be required as part of the Project.

**Chapter 4 – Supplemental Environmental Setting, Impacts, and Mitigation Measures:** This

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chapter, which constitutes the updated environmental analysis of the proposed Project, describes existing conditions, and evaluates the potential effects of the Project as they relate to land use and agricultural resources, transportation and circulation, noise, air quality/odor/climate change, public health and safety, and biological resources. It also provides summaries of other issues addressed in the 2013 EIR, and explains why the proposed revisions to the Project have either reduced or not changed the potential impacts to those resources, or would not have the potential to significantly adversely affect those resources.

**Chapter 5 – Report Preparation:** Identifies preparers of the Supplemental EIR, references used in the analysis, and organizations/individuals that were contacted.

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## **II. SUMMARY**

### **A. PURPOSE OF THIS SUPPLEMENTAL EIR**

This supplement to the Forward Landfill Expansion Project Final Environmental Impact Report<sup>1</sup> (2013 EIR or FEIR), certified by the San Joaquin County Board of Supervisors on August 21, 2013, addresses the potential environmental impacts of proposed changes to the Forward Landfill Expansion Project, located on Austin Road in unincorporated San Joaquin County south of the City of Stockton.

This Supplemental EIR (SEIR) is intended to inform County decision-makers, other responsible and trustee agencies, and the general public of the proposed changes to the Project and their potential environmental consequences. San Joaquin County is the Lead Agency for the environmental review of the proposed Project. Unless otherwise noted, references to “the Project” in this document refer to the Project as modified by the proposed changes discussed in this document.

This SEIR has been prepared because the currently proposed Project (“2018 Expansion Project”) includes a number of substantive changes to the expansion Project as described in the 2013 EIR, and these changes may have the potential to result in new or substantially different significant environmental effects beyond those identified in the previous EIR. The key purpose of this review is to determine whether the environmental effects of the Project as currently proposed would result in new, significant environmental effects or a substantial increase in the severity of previously identified environmental effects pursuant to Section 15163 of the California Environmental Quality Act (CEQA) Guidelines, as detailed in Section I.C.

The proposed project would require a new Use Permit from the County. Therefore, the County of San Joaquin, Department of Community Development, is the CEQA Lead Agency for this project. In addition, the Forward Landfill is currently operating under existing County Environmental Health Department, Regional Water Quality Control Board, and California Department of Resources Recycling and Recovery (CalRecycle) permits. Those permits would require revisions, or new permits would need to be obtained by Forward, to permit the proposed expansion. This SEIR may be used by those CEQA Responsible Agencies in their permit approval actions.

### **B. PROJECT DESCRIPTION**

The 2013 Forward Landfill Expansion EIR analyzed an expansion of the landfill that included the following substantial modifications to the landfill:

- Expand the Forward Landfill to contiguous parcels including an approximately 184-acre parcel (“Brocchini parcel”) to the southwest of the existing landfill site and an approximately 10-acre parcel in the northeast of the existing landfill. In

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<sup>1</sup> San Joaquin County, Forward Landfill Expansion Project Final Environmental Impact Report, May 2013, accessible at <http://www.sjgov.org/Commdev/cgi-bin/cdyn.exe/handouts-planning/CompleteFEIR5-242013.pdf?>

addition, approximately 11 acres of currently permitted landfill disposal area in the southern portion of the Forward Landfill would be relocated within the currently permitted landfill boundary due to realignment of the South Fork of South Littlejohns Creek (also known as the South Branch of the South Fork of Littlejohns Creek).

- Increase the remaining landfill capacity by approximately 32.0 million cubic yards (cy) to approximately 54.0 million cubic yards (cy). All of the increase would be Class II landfill space and would extend the landfill closure date to approximately 2039<sup>2</sup>.
- Relocate approximately 3,000 feet of the South Fork of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek will be approximately 3,200 feet in length.
- Allow cannery waste processing in areas of site that are not being used for disposal at the time.

The Board of Supervisors certified the 2013 Forward Landfill Expansion Final Environmental Impact Report however the project application required an override to the Airport Land Use Plan by the County Board of Supervisors, which was not approved.

In 2014, Forward proposed a smaller increase in permitted landfilling capacity that did not include the previously proposed expansion of landfilling operations on the 184-acre Brocchini parcel. This proposed increase in landfill acreage was entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002) approved by the Board of Supervisors on April 8, 2003. A Draft Supplemental EIR (DSEIR) was circulated for this proposed expansion in December 2014 and comment were received, but Forward abandoned the project before the Final Supplemental EIR was completed.

The 2018 Expansion Project described in this Supplemental EIR is very similar to the 2014 proposal. It has a smaller increase in permitted landfilling capacity than the 2013 project and does not include the any expansion of landfilling operations onto the Brocchini parcel. The additional proposed landfill acreage is entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002) approved by the Board of Supervisors on April 8, 2003.

The 2018 Expansion Project would make the following changes to the currently permitted landfill:

- Landfilling of an 8.7-acre parcel in the northeast portion of the site within the currently permitted landfill boundary.

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<sup>2</sup> The 2013 FEIR estimated closure dates with and without that project of 2039 and 2021, respectively. However, 2014 estimated closure dates with and without the 2012 (previously proposed) project are 2045 and 2026, respectively.

- Landfilling of approximately 8.6 acres in the south area
- The south area expansion would require realigning about 2900 feet of the South Fork of South Littlejohns Creek to a 3300-foot alignment along the southern and eastern boundaries of the site, along with a new bridge across the creek.
- The expansion would increase total landfill capacity by up to 8.420 million cubic yards beyond currently permitted levels, which would increase the remaining Class II landfill capacity by approximately 8.12 million cubic yards (cy), from approximately 15.7 million cy currently permitted to approximately 25 million cy.
- Landfill expansion would allow disposal at the landfill to continue until approximately 2036, a six-year increase from the current anticipated closure date of 2030.

Site operations would remain mostly as described in the 2013 EIR. The complete 2018 Expansion Project, including the components that are unchanged, is described in Chapter II, Project Description, of this SEIR.

### **C. ENVIRONMENTAL IMPACTS**

Table S-1, below, summarizes the environmental impacts of the proposed project.

**Table S-1**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

ENVIRONMENTAL IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<b>A. LAND USE, PLANS, AND POLICIES</b>		
A.1. Compliance with County Plans and Policies.	<i>No Impact.</i> None required.	No Impact
A.2. The proposed project would convert agricultural land to industrial use.	<i>No Impact.</i> None required.	No Impact
Impact A.3. The proposed project could exceed FAA height limits for structures near airports.	<i>Proposed as part of the Project:</i>  Forward would continue its procedure of submitting a Notice of Proposed Construction or Alteration (FAA Form 7460-1) at least 45 days prior to operation of any equipment that could temporarily intrude into the imaginary surface, as required by the Federal Aviation Administration (FAA) for all proposed	Less Than Significant

	<p>construction or alterations that could intrude into the airport imaginary surface.</p>	
<p>A.4. The proposed project could increase bird hazards at the Stockton Metropolitan Airport.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <p>The following procedures are proposed as part of the project:</p> <ul style="list-style-type: none"> <li>• Existing measures to discourage birds from the landfill will be continued. Surface area of ponds will be limited to the extent feasible.</li> <li>• The project sponsor will continue to monitor bird population after operation of the expanded landfill begins. If follow-up surveys show an increase in bird populations, the project sponsor will increase mitigation measures such as covering the fill areas as soon as possible and using noise-makers and other measures as necessary to discourage birds from the site, until bird population levels return to the level found in pre-project surveys. Use of noise-makers would be limited to daylight hours.</li> <li>• As required by California Code of Regulation Title 27, Section 20270(b), Airport Safety, the owner or operators proposing to site new solid waste facility units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the FAA. Forward notified the Stockton Metropolitan Airport and FAA by letter on July 6, 2018. (Basso, 2018a)</li> <li>• As required by California Code of Regulation Title 27, Section 20270(c), Airport Safety, the owner or operator must place the demonstration in the operating record that the site will not pose a bird hazard to aircraft, and notify the Department of Resources Recycling and Recovery (CalRecycle) that it has been placed in the operating record. Forward notified CalRecycle that the</li> </ul>	<p>Less Than Significant</p>

	<p>demonstration was placed in the operating record by letter on July 6, 2018. (Basso, 2018d, 2018e).</p> <ul style="list-style-type: none"><li>• The project sponsor shall comply with the requirements applicable to existing landfills contained in Federal Aviation Administration (FAA) Advisory Circulars 150/5200-33B, <i>Hazardous Wildlife Attractants On or Near Airports</i>, and 150/5200-34A, <i>Construction or Establishment of Landfills Near Public Airports</i>. Requirements in Advisory Circular 150/5200-33B applicable to the proposed project include notification of the FAA and airport, and a demonstration that the landfill is designed and operated so it does not pose a bird hazard to aircraft. Forward notified the Stockton Metropolitan Airport and FAA by letter on July 6, 2018. (Basso, 2018a). The effectiveness of the gull control program at the existing landfill in avoiding bird hazards to aircraft is discussed under Surrounding and Nearby Land Uses, above, and the demonstration that the site will not pose a bird hazard to aircraft was placed in the operating record by letter on July 6, 2018. (Basso, 2018b). Advisory Circular 150/5200-34A applies only to establishment of new landfills near airports, and does not apply to the proposed project.</li><li>• The project sponsor will abide by any additional reasonable and feasible measures designated by the Stockton Metropolitan Airport or the FAA to mitigate bird population impacts that could be caused by the proposed project.</li></ul> <p><i>Identified in this EIR</i></p> <p><b><u>Mitigation Measure A.4: (Implement Annual Gull Control Program):</u></b> The project sponsor shall continue to implement an annual gull control program as described in <i>Rolph A. Davis, Ph.D. LGL Limited environmental research associates, Demonstration of the Continued Effectiveness of the Bird Control Program at the Forward Landfill,</i></p>	
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Manteca, California – 2016-2017, August 7, 2017.

The gull control program shall include monitoring of gulls feeding at or using the landfill, as described below.

- Monitoring shall be conducted by an independent third-party firm or individual with experience in the field of bird hazards to aircraft safety.
- The third-party monitoring shall consist of a minimum of six site visits, each lasting four hours, every month from October through May. To the extent possible, the site visits shall be announced in advance. During each month:
  - two of the visits shall begin at dawn,
  - two shall occur during mid-day,
  - one shall occur late in the afternoon covering the period after the falconer has finished for the day, and
  - one shall occur on Sunday when the landfill is closed to ensure that gulls are not accessing the site when staff are absent.
- Site visits in addition to the minimum of six monthly visits described above shall be made if necessary to verify the criteria for failure described below.
- The results of the monitoring shall be documented in an annual report.
- Landfill staff shall participate in monitoring so that action can be taken as soon as a potential problem is identified.

The control program shall be considered to be failing and will require upgrading if



	<p>any of the following situations occur:</p> <ul style="list-style-type: none"><li>• Gulls land at the active disposal area, begin to feed, and are able to feed for 10 minutes or more, on two or more occasions during a week.</li><li>• Flocks of gulls begin loafing on other parts of the landfill and are not scared away by the control program within 30 minutes, on more than two occasions during a week.</li><li>• Gulls begin to circle over the landfill, including adjacent creek areas, and are not removed by the falcons. If this behavior continues over a period of one week, then it indicates that the birds are likely getting food at the landfill.</li></ul> <p>The above triggers do not specify a minimum number of gulls because if one or two gulls are present, they will soon attract other gulls and numbers will build up. Therefore, it is essential to deter the first gulls.</p> <p>In the event that the bird control measures proposed as part of the project, described above, in combination with the gull control program described in this mitigation measure, are found to be ineffective in reducing the numbers of flocking birds by the criteria described above, the project sponsor shall implement one or more of the following:</p> <ol style="list-style-type: none"><li>1. The falconry program shall be intensified to ensure that there are no gaps in coverage and that additional falcons are available for those days when it may be necessary to fly the falcons often.</li><li>2. The operator shall introduce a more comprehensive pyrotechnic-based control program to supplement the falconry program. Many landfills successfully control gulls using only a pyrotechnic-based program. The pyrotechnics program shall provide coverage when</li></ol>	
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	<p>the falcons were not on site during the week and on weekends. The pyrotechnics program shall also cover areas remote from the active area to remove loafing gulls.</p> <p>3. With the exception of removal of prey base for predatory birds and mammals, and actions involving special-status bird species, the operator shall implement the recommendations for vegetation, wildlife, and water management contained in <i>Odell, Russel W., Senior Wildlife Biologist, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services California, Letter to John Funderburg, Principal Planner, San Joaquin County Community Development Department, August 29, 2011.</i></p> <p>The Conditions of Approval for the proposed project shall include the requirement that the project sponsor, prior to construction, file a Notice of Proposed Construction or Alteration (Form 7460-1) with the Federal Aviation Administration. Forward has already submitted this form (Lewis, 2018).</p> <p>The project sponsor shall undertake regular, ongoing communication with Airport staff regarding the airports Wildlife Hazard Assessment and wildlife management program, to address changes in wildlife presence or behavior observed at the landfill.</p> <p>Implementation of the procedures proposed as part of the project, identified above, and Mitigation Measure A.4 would reduce bird hazard impacts to a <i>less than significant</i> level.</p>	
<p>A.5. Night lighting at the proposed project could interfere with airport landing lights.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• Aircraft warning lights will be installed at the landfill as and when required by the FAA.</li> </ul>	<p>Less Than Significant</p>

- As required by California Code of Regulation Title 27, Section 20270(b), Airport Safety, the owner or operators proposing to site new solid waste facility units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the FAA. Forward notified the Stockton Metropolitan Airport and FAA by letter on July 6, 2018.
- As required by California Code of Regulation Title 27, Section 20270(c), Airport Safety, the owner or operator must place the demonstration in the operating record that the site will not cause a bird hazard to aircraft, and notify the Department of Resources Recycling and Recovery (CalRecycle) that it has been placed in the operating record. Forward notified CalRecycle that the demonstration was placed in the operating record by letter on July 6, 2018.
- The use of highly reflective surface materials in constructing structures on the site will be prohibited.

*Identified in This EIR:*

**Mitigation Measure A.5:** The project sponsor shall include downward shielding of new landfill lighting, and shall abide by any reasonable and feasible measures or regulations the Federal Aviation Administration (FAA) and Stockton Metropolitan Airport have to mitigate lighting impacts that could be cause by the proposed project, including reducing or eliminating lighting during foggy conditions and concurrently suspending operations that depend on the lighting.

The Conditions of Approval for the proposed project shall include the requirement that the project sponsor, prior to construction, file a Notice of Proposed Construction or Alteration (Form 7460-1) with the Federal Aviation

	<p>Administration. Forward has already filed this form (Lewis, pers. com, August 8, 2018). This form shall be re-filed if there is any change to proposed landfill grade.</p> <p>Mitigation Measure K.4 (2013 EIR) also applies to night lighting impacts.</p>	
A.6. Potential conflicts with nearby land uses.	<i>Less than Significant.</i> None required.	Less Than Significant
<b>B. TRANSPORTATION AND CIRCULATION</b>		
B.1. Potential Project Impact to LOS at Nearby Intersections.	<i>Less than significant.</i> None required.	Less than Significant
Impact B.2. Potential Project Impact on Mainline Roadway Segments.	<i>Less than significant.</i> None required.	Less than Significant
Impact B.3. Potential Traffic Collision Impacts	<i>Less than significant.</i> None required.	Less than Significant
Impact B.4. Queuing at Landfill Entrance.	<i>Less than significant.</i> None required.	Less than Significant
Impact B.5. Potential Project Impacts on Bicycles.	<i>Less than significant.</i> None required.	Less than Significant
Impact B.6. Potential	<i>Less than significant.</i> None required.	Less than

Project Impacts on Public Transit.		Significant
B.7. Cumulative Conditions Intersection Impacts	<p>Eight study intersections are projected to operate at unacceptable conditions in the 2035 condition without any improvements. However, a large number of roadway and signalization improvements are required as mitigation or otherwise included in the other approved projects. These are summarized in the 2018 TIA. Implementation of these improvements would reduce the significantly impacted intersections to the following four:</p> <p style="padding-left: 40px;">SR 99 SB On-off Ramps &amp; E. French Camp Rd., (AM and PM peak hours)                  SR 99 Urban Interchange &amp; Arch Rd. (AM and PM peak hours)                  SR 99 SB On-off Ramps &amp; Mariposa Rd. (AM and PM peak hours)                  SR 99 NB On-off Ramps &amp; Mariposa Rd. (PM peak hour)</p> <p>The proposed Project would add traffic to the unacceptable levels of service at these intersections. Although the project’s contributions would be small, based on County policy they would be considered cumulatively considerable. The intersections were evaluated for mitigation potential, however there is not adequate land available at the required locations to further improve these intersections. Therefore the Project’s cumulative contribution would be considered a <i>significant unavoidable impact</i>.</p> <p>Mitigation Measure B.7 would reduce the significant cumulative impact at the Austin/ Arch Roads intersection to a less-than-significant level.</p> <p><b><u>Mitigation Measure B.7. (Revises 2013 EIR Mitigation Measure B.6).</u></b>                  Improvements to Intersection 11, Arch Road/ Austin Road, Southbound: The project shall contribute its fair share to the addition of one lane to provide one left-turn lane, two thru lanes, and one right- turn lane, as detailed in the TIA, Figures 12 and 13.</p>	Significant and Unavoidable
B.8 Potential Cumulative Impact to mainline	<i>Less than significant.</i> None required.	Less than Significant

Roadway Operations.		
B.9. Potential Cumulative Impacts at Main Access Driveway.	<i>Less than significant.</i> None required.	Less than Significant
B.10. Potential Cumulative Impacts on Bicycles.	<i>Less than significant.</i> None required.	Less than Significant
B.11. Potential Cumulative Impacts on Public Transit.	<i>Less than significant.</i> None required.	Less than Significant
<b>C. NOISE</b>		
C.1. Construction Noise Impacts	<i>Less than Significant.</i> None required.	Less than Significant
C.2. Truck Traffic Noise Impacts.	<p><b><i>Proposed as Part of the Project:</i></b>                      As recommended mitigation in the 2000 EIR and implemented by the applicant the landowner or tenant at 9690 Austin Road shall be provided with the option of requesting a sound wall or noise barrier to reduce noise exposure both in the front yard and within the home. Additional noise monitoring and measures will be undertaken to demonstrate compliance with Development Title Section 9-1025.9 Transportation Noise Sources in the event noise complaints are received.</p> <p><b><i>Identified in This EIR:</i></b>  <u><b>Mitigation Measure C.2.</b></u> The landfill operator shall annually notify truck drives with a flyer that encourages drivers to maintain a steady speed on surface roads leading to the landfill. Drivers should be instructed to eliminate unnecessary noise</p>	Significant and Unavoidable

	<p>by staying within the speed limit and travelling at a steady speed, especially for trips during the morning peak hours.</p> <p>Mitigation Measure C.2 could reduce the impact of increased truck noise but not to a level that would be less than significant. Other than Mitigation Measure C.2, no additional mitigations are available for this impact other than reducing project operations. Such a reduction is a substantial change to the proposed project and therefore is addressed as a component of Alternative 2 (Reduced Size/Reduced Daily Operations Alternative) in Chapter V of the 2013 EIR.</p>	
C.3. On-Site Landfill Equipment Noise	<p><b><u>Mitigation Measure C.3.</u></b> Two options exist to mitigate the project’s potentially significant impact from equipment operations, as follows:</p> <p>(a) Heavy equipment operations shall not be conducted within 1,500 feet of any occupied residence after 10 p.m. and before 7 a.m.; or</p> <p>(b) Equipment operations within 1,500 feet of any residence after 10 p.m. or before 7 a.m. shall be fully shielded from the direct line of sight to the residence by an earthen berm whose crown elevation exceeds the elevation of the top of the exhaust stack.</p>	Less than Significant
C.4. Cumulative Traffic Noise Impacts	<p><b><i>Significant and Unavoidable.</i></b> No feasible mitigation measures are available to reduce the project’s contribution to cumulative noise impacts.</p>	Significant and Unavoidable
<b>D. AIR QUALITY/ODORS/CLIMATE CHANGE</b>		
D.1. Initial construction particulate matter (PM10) and equipment	<p><b><u>Mitigation Measure D.1.</u></b> The applicant shall comply with Regulation VIII Rule 8011 and implement the following control measures during construction:</p> <ul style="list-style-type: none"> <li>• The applicant shall submit a Dust Control Plan subject to review and approval</li> </ul>	Less than Significant

exhaust emissions.	<p>of the SJVAPCD at least 30 days prior to the start of any construction activity on a site that includes 5 acres or more of disturbed surface area.</p> <p>Specific relevant control measures for construction, excavation, extraction, and other earthmoving activities required by the SJVAPCD include:</p> <ul style="list-style-type: none"><li>• All disturbed areas, including storage piles not actively utilized for construction purposes, shall be effectively stabilized using water, chemical stabilizer/suppressant, or covered with a tarp or other suitable cover or vegetative ground cover in order to comply with Regulation VIII's 20 percent opacity limitation.</li><li>• All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized using water or chemical stabilizer/suppressant.</li><li>• All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled utilizing application of water or by presoaking.</li><li>• When materials are transported offsite, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.</li><li>• All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. However, the use of blower devices is expressly forbidden, and the use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.</li><li>• Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized utilizing sufficient water or chemical stabilizer/suppressant.</li><li>• Any site with 150 or more vehicle trips per day shall prevent carryout and</li></ul>	
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	<p>trackout.</p> <p>Enhanced and additional control measures for construction emissions of PM<sub>10</sub> shall be implemented where feasible. These measures include:</p> <ul style="list-style-type: none"><li>• Limit traffic speeds on unpaved roads to 15 mph by signage and electronic speed monitoring devices.</li><li>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.</li><li>• Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.</li><li>• Install wind breaks at windward side(s) of construction areas.</li><li>• Suspend excavation and grading activity when winds exceed 20 mph.</li><li>• Limit area subject to excavation, grading, and other construction activity at any one time.</li></ul> <p>The applicant shall implement feasible control measures during construction to mitigate NO<sub>x</sub> and ROG emissions from construction equipment, which may include:</p> <ul style="list-style-type: none"><li>• Require construction equipment used at the site to be equipped with catalysts/particulate traps to reduce particulate emissions. These catalysts/traps require the use of ultra-low sulfur diesel fuel (15 ppm). Currently, CARB has verified a limited number of these devices for installation in several diesel engine families to reduce particulate emissions. At the time bids are made, contractors must show that the construction equipment used is equipped with particulate filters and/or catalysts or prove why it is infeasible.</li><li>• Use alternative fueled construction equipment, where feasible.</li></ul>	
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	<ul style="list-style-type: none"> <li>• Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).</li> <li>• Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways.</li> <li>• Require that all diesel engines be shut off when not in use on the premises for more than five minutes to reduce the emissions from idling.</li> </ul>	
D.2. The project would result in an increase in operational emissions of criteria air pollutants from onsite emission sources and increase emissions associated with traffic-related trips.	<p><b><u>Mitigation Measure D.2a. (Revises 2013 EIR Mitigation Measure D.2a.):</u></b> The applicant shall comply with SJVAPCD Rule 2201 regulations to offset stationary source emissions of VOCs, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> in excess of the applicable SJVAPCD emissions offset threshold levels. The applicant shall also comply with Regulation VIII and implement Mitigation Measure D.1. for operational activities such as earth-moving.</p> <p><b><u>Mitigation Measure D.2b. (Same as 2013 EIR Mitigation Measure D.2b.):</u></b> The applicant shall enter into a Voluntary Emissions Reduction Agreement (VERA) with the SJVAPCD (to offset unmitigated mobile and fugitive dust emission impacts). The VERA shall cover mobile emissions and fugitive emissions (above the SJVAPCD CEQA thresholds for NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) associated with the 8.1 mcy of new capacity.</p>	Less than Significant
D.3: Odor and Fugitive Dust Impact.	<b><u>Mitigation Measure IV.D.3:</u></b> To reduce the potential for any off-site odor impacts, the Odor Control Management Plan for Forward Landfill shall be modified to include daily management odor inspections when cannery wastes are being processed.	Less than Significant
D.4. Project operations would generate	<b><u>Mitigation Measure IV.D.4:</u></b> Both the Flare and LFG engine options would require feasible mitigation measures to further reduce GHG emissions. The landfill	Less than Significant

<p>emissions of GHG that could conflict with the implementation of the California Global Warming Solutions Act of 2006 (AB32).</p>	<p>operators shall annually report GHG emissions from the project (actual operations) to the County and SJVAPCD. If project operations exceed 25,000 metric tons of CO<sub>2</sub>e per year by 2020, then the landfill shall purchase verifiable GHG credits to offset the remaining project emissions above 25,000 metric tons of CO<sub>2</sub>e per year. Additional GHG credits shall be purchased every five years if the annual reports indicate that the credits have not offset excess GHG emissions (those above 25,000 metric tons of CO<sub>2</sub>e per year) in the prior five years.</p> <p>The purchase of the verifiable GHG credits would reduce the impact to a level that is <i>less than significant</i>.</p>	
<p>D.5. The project would contribute to a cumulatively significant air quality impact in the project area.</p>	<p><b>Mitigation Measure D.5. (Revises 2013 EIR Mitigation Measure D.6.):</b> Implement Mitigation Measures D.1, D.2a, D.2b and D.4. However, even after mitigation, the cumulative impacts discussed above would be significant.</p>	<p>Significant and Unavoidable</p>
<p><b>E. PUBLIC HEALTH AND SAFETY</b></p>		
<p>E.1. Worker exposure to chemical contaminants and particulates during landfill operations may exceed levels protective of human health or safety.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• Use of a total of 17 pieces of equipment (at any given time) over the life of the project to minimize particulate discharge, will remain unchanged.</li> <li>• Operations at the landfill would be limited to a single working area at any given time.</li> <li>• All employees would be given appropriate training regarding the potential for exposure to hazardous materials. This training will include a 24-hour</li> </ul>	<p>Less than Significant</p>

	<p>hazardous waste operations course and an annual 8-hour refresher course for personnel involved in the “load checking” program where the incoming loads are screened for hazardous materials.</p> <ul style="list-style-type: none"><li>• The landfill would not accept any designated waste that may potentially contain hazardous levels of regulated substances (as defined in water Code Section 13173) unless authorized by the RWQCB.</li><li>• Dust control procedures specified in the Site Operations Plan (per the JTD) would use the application of fine water spray at a minimum of twice daily on the active soil-covered work areas, soil excavation areas, and soil stockpile areas where fugitive dust may exist.</li><li>• Existing fire protection facilities would be maintained to the satisfaction of the Lathrop – Manteca Fire Protection District.</li><li>• Dust exposure of site workers would be monitored periodically, at the discretion of the landfill manager, to evaluate if any additional respiratory protection or dust suppression (watering) mitigation is needed.</li><li>• Additional engineering controls would be implemented by the site operator, if needed based on the evaluation of the site health and safety or operations manager, to control dust emissions. Such controls might include wind screens near unloading areas or the use of dust suppressants.</li><li>• If the above controls cannot reduce employee dust exposure below acceptable levels as determined by Forward Landfill (considering factors including irritation and annoyance to employees), site personnel at risk would be supplied with gloves, coveralls, eye protection and respirators, with associated training in their use.</li><li>• Wastes must not leave the landfill on workers’ clothing. Workers who have had direct contact with waste, or who have performed operations that may</li></ul>	
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	<p>involve direct contact with wastes (such as equipment maintenance or asbestos handling), would wear disposable clothing or change clothing before leaving the site. The potentially contaminated clothing will be cleaned or disposed as appropriate.</p> <ul style="list-style-type: none"><li>• To avoid cross-contamination from contaminated to non-contaminated sites, the applicant would install a pressurized water distribution system to service a decontamination facility for personnel and equipment. The decontamination facility may be fixed or mobile. Wastewater generated from the decontamination of personnel and equipment is containerized and analyzed in accordance with applicable requirements. If analytical results support compatibility with the Class II impoundments, a request will be submitted to the Regional Water Quality Control Board to dispose of decontamination water in the Class II surface impoundments. Upon approval in writing from the Regional Water Quality Control Board, containerized decontamination water will be discharged in the Class II surface impoundments.</li><li>• For asbestos, a strict Asbestos-Containing Materials (ACM) handling program would be developed, and would include the following:<ul style="list-style-type: none"><li>a. Bagged ACM would be dumped only onto the working face of the asbestos disposal area and not onto the flat compacted landfill surface. Bulldozers would then push soil cover onto the working face to cover the ACM bags and will not contact the bags.</li><li>b. For Forward site employees engaged in handling asbestos materials, Forward will implement one of the following:<ol style="list-style-type: none"><li>1. A three-day approved asbestos workers training program</li><li>2. Any asbestos training program specific to landfill employees that has been developed, described, or required by regulation by either the CalRecycle or Cal-</li></ol></li></ul></li></ul>	
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	<p style="text-align: center;">OSHA</p> <p style="text-align: center;">3. Any other asbestos training program approved by Cal-OSHA</p> <p style="padding-left: 40px;">c. Provision of water at the working face to keep ACM damp until covered.</p> <ul style="list-style-type: none"> <li>• Continuation of the annual physical evaluations of all onsite Forward employees for asbestos exposure.</li> <li>• Workers would not be allowed to eat near the active landfill.</li> </ul>	
<p>E.2. Hazardous waste might inadvertently be contained in the solid waste that is brought to the landfill for disposal.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <p>As part of the project, the following procedures are proposed to reduce this impact:</p> <ul style="list-style-type: none"> <li>• The Forward Landfill “load-checking program,” which is designed to mitigate against hazardous waste being placed in the landfill, will continue to be implemented for the consolidated landfill.</li> <li>• Landfill operators will be trained to recognize and properly segregate and handle hazardous waste. This will include a 24-hour hazardous- waste materials-management training program that complies with 29 CFR, Section 1910.</li> </ul>	<p>Less than Significant</p>
<p>E.3. Spills, collisions, upsets, or other accidents at the landfill or during waste transport could cause injury to site workers, the general public, or the environment.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• The Standard Safe Work Practices listed in the Forward, Inc. Site Health and Safety Program and Contingency Plan will be implemented by the operator.</li> <li>• The landfill operator will comply with the provisions of CCR Title 27, Section 20590, which requires that O&amp;M personnel wear and use approved safety equipment for personal health and safety.</li> <li>• Landfill access will continue to be controlled to limit unauthorized entry by persons or vehicles.</li> </ul>	<p>Less than Significant</p>

	<ul style="list-style-type: none"> <li>The landfill operator will comply with all provisions of CCR, Title 27, Division 2, Chapter 3, Subchapter 4, Articles 1-3 that apply to landfill health and safety.</li> </ul> <p><i>Identified in This EIR:</i></p> <p><b>Mitigation Measure E.3.</b> The San Joaquin County Public Works Department shall approve any new waste transport haul routes to the landfill from major arterials, SR 4, or Highway 99.</p>	
<p>E.4. Additional landfill gas would be generated, thus increasing the potential for landfill gas hazards.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>Where required by State and Federal regulations, the landfill gas monitoring, gas control and collection system will be installed, extending to the new areas of the expanding landfill and operating in conformance with applicable regulations.</li> <li>The existing gas extraction system, or an equivalent system, will continue to operate.</li> <li>Regular gas monitoring will be conducted to prevent explosive or toxic gas accumulation in onsite buildings or beneath temporary buildings. The landfill operator will install an automatic combustible gas detection and alarm system for structures at the site.</li> <li>The landfill operator will not construct or otherwise locate any structure in an area of known landfill gas build-up.</li> <li>All site personnel who work in permanent structures will be trained to use and respond to the landfill gas monitoring and alarm system.</li> </ul> <p><i>Identified in This EIR:</i></p> <p><b>Mitigation Measure E.4:</b> Landfill gas monitoring shall include the volatile organic compounds in order to determine the amount of contaminant recovery, and control</p>	<p>Less than Significant</p>

	potential exposure to onsite personnel.	
E.5. Solid waste contains pathogens that could spread by vectors.	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• The landfill operator will follow legally required daily or alternative cover practices.</li> <li>• The landfill will continue to ban intact tires (which collect water and serve as a breeding ground for vectors) and large dead animals from disposal at the landfill.</li> <li>• Existing measures to discourage birds from the landfill will be continued.</li> <li>• Appropriate landfill personnel will periodically monitor the landfill for the presence of vectors, and landfill inspections will be documented in the landfill operations administrative file.</li> </ul>	Less than Significant
E.6. The project would involve the use of additional regulated or hazardous materials during the proposed landfill expansion construction and operation.	<p><b><i>Identified in This EIR:</i></b></p> <p><b>Mitigation Measure E.6:</b></p> <p>(a) All applicable regulatory guidance originating after the Forward Landfill 2002 EIR shall be implemented; all hazardous materials shall be handled in accordance with local, State, and federal regulations.</p> <p>(b) The site HMMP, SWPPP, Operations Manual, and Wet Weather Plan shall serve to provide guidance in the use and handling of hazardous materials during the operations of the facility.</p>	Less than Significant
E.7. Private groundwater production wells located downgradient of the landfill may be affected	<p><b><i>Identified in This EIR:</i></b></p> <p><b>Mitigation Measure F.6</b>, described under F. Hydrology and Water Quality, below, applies to this impact.</p>	Less than Significant



<p>by the VOC-contaminated groundwater plume.</p>		
<p>E.8. Emissions of air toxics could pose a risk to human health.</p>	<p><i>Less than Significant.</i> None required.</p>	<p>Less than Significant</p>
<p><b>F. HYDROLOGY AND WATER QUALITY<sup>3</sup></b></p>		
<p>F.1. If rainfall runoff was not properly controlled, surface water bodies could become contaminated through contact with the landfill refuse.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• The drainage study utilizes San Joaquin County local rainfall data, and the Rational Method would be used to estimate maximum potential runoff from a 1,000-year, 24-hour storm event. The surface water control system and drainage control structures for the proposed project would be sized to accommodate the calculated peak flows.</li> <li>• As part of the design plans for the proposed landfill expansion, Forward has completed calculations of the 1000-year, 24-hour storm event peak discharges. The hydraulic and drainage study would be used to design appropriate drainage controls. Drainage controls would be designed to prevent contact between surface water and refuse. Site run-on and run-off control facilities consist of drains and perimeter ditches that channel surface water to holding and evaporation ponds on the site. The surface-water collection drain system would be designed to divert the water to the onsite sedimentation basins. All waste at the proposed Forward Landfill would be separated from the North and South Branches of South Littlejohns Creek by a levee system or other acceptable method designed to protect the site from a</li> </ul>	<p>Less than Significant</p>

<sup>3</sup> Note – In this SEIR’s Hydrology and Water Quality Chapter, these impacts and mitigation measures are numbered “G. \_” for document organizational purposes

	<p>100-year flood event.</p> <ul style="list-style-type: none"> <li>• The project includes channel reconfiguration and localized flood protection berms to isolate the landfill surfaces from floodwaters.</li> <li>• The project design shall also include provision of replacement floodplain area and storage volume in an easement along the relocated South Branch of South Littlejohns Creek.</li> <li>• The channel and floodplain storage easement are designed to accommodate the 100-year, 24-hour storm. The design would also include a three-foot freeboard.</li> </ul> <p>All of these measures have been incorporated into the design of the landfill expansion and relocated South Branch channel. Therefore, potential surface water drainage impacts would be reduced to a <i>less than significant</i> level.</p>	
<p>F.2. Uncontrolled erosion from soil stockpiles and landfill surfaces, or inadvertent spills of refuse or other substances onsite, could contaminate surface water.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• The current drainage control structures and monitoring would continue to be implemented to control erosion and sedimentation in the expansion areas. Proposed structural controls include the drainage control system and daily cover. Operational controls include maintenance of the drainage system by keeping ditches clear of debris and excessive vegetation, and making needed repairs to drainage structures. Corrective measures would be implemented if inspections show excessive erosion or damage to drainage channels. Any areas showing erosive effects would be mitigated by removing loose debris followed by replacement, regrading, and compacting the area. Monitoring and protection against sediment from entering the Littlejohns Creek channel would be implemented, including the diversion of part of Littlejohns Creek farther away from the landfilled area.</li> <li>• In order to minimize sediment transport to Littlejohns Creek, landfill slopes,</li> </ul>	<p>Less than Significant</p>

	<p>ridge tops, and peripheral areas would be revegetated to inhibit erosion.</p>	
<p>F.3. Groundwater contamination would result if the leachate collection systems for the expansion areas fail.</p>	<p><i>Proposed as Part of the Project (required under CCR Title 27):</i></p> <ul style="list-style-type: none"> <li>• A pan lysimeter (secondary liner) would be installed under the sump area, as previously required by the RWQCB;</li> <li>• The liner and leachate collection system for the two new expansion areas would meet Title 27 requirements and be reviewed and approved by the RWQCB and new WDRs issued, as warranted;</li> <li>• The regulatory required separation between the liner and groundwater shall be implemented to allow for chemicals in the leachate to attenuate before reaching the groundwater, should the leachate breach the liner and leachate collection system;</li> <li>• Leak location testing of the liner in each WMU shall be conducted before waste can be disposed in that Unit, as required by the RWQCB;</li> <li>• If any modifications to the leachate collection system and associated monitoring are required by the RWQCB, the landfill operator shall implement those changes;</li> <li>• The liner system will be overlain by a protective operations layer consisting of a one-foot thickness of soil and a one-foot thick gravel layer that serves as the leachate collection layer. This two-foot layer will serve to protect the liner system from sharp or jagged materials in the waste.</li> <li>• The operator will remove any hazardous materials spotted during delivery, thus minimizing the potential for leachate impacts to groundwater if a break occurs in the liner or the leachate collection system.</li> <li>• Landfill operations and maintenance are designed with appropriate schedules to identify and correct any failures in the leachate collection</li> </ul>	<p>Less than Significant</p>

	<p>system.</p> <ul style="list-style-type: none"> <li>In addition, the RWQCB will review the updated Joint Technical Document (JTD), the leachate collection system, and associated monitoring, and could require changes to the planned leachate collection system or monitoring.</li> </ul> <p>Implementation of the described protection measures and long-term operations and maintenance procedures, obtaining new RWQCB Waste Discharge Requirements, and compliance with RWQCB orders would reduce the impact to a <i>less-than-significant</i> level</p>	
<p>F.4. If not properly managed, the volume of leachate generated from the expansion areas could result in potential groundwater impacts.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>The proposed measures to address concerns about additional leachate generation as a result of the expanded landfill will be addressed in the JTD with the presentation of the updated EPA HELP model results based on the projected volumes of refuse, a historical analyses of actual leachate generation volumes (which were at significantly higher volumes than the model predicted for peak year rainfall) and the description of the leachate collection system designed to meet the maximum probable leachate generated. Engineering control systems (leachate collection system, drainage control, groundwater and gas controls), monitoring programs, and institutional controls have been presented in the JTD, which has been reviewed by the RWQCB. Reporting on leachate generation volume and quality is a requirement of the RWQCB-stipulated progress reporting through the various proposed landfilling phases.</li> <li>The landfill cell anchor trenches would be elevated 2 to 3 feet above the surrounding land to minimize the possibility of water from major storm events draining into the cells and adding to the volume of leachate.</li> </ul> <p>Implementation of these procedures would reduce the impact to a <i>less-than-significant</i> level.</p>	<p>Less than Significant</p>

<p>F. 5: The re-routing of the South Branch of South Littlejohns Creek could result in flooding if the new alignment is not designed to accommodate peak flows.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <p>The following measures are proposed as part of the project, as described in the Project Description and design study for the proposed creek realignment:</p> <ul style="list-style-type: none"> <li>• The channel must function as a natural corridor, require little or no maintenance once the vegetation is established, and should provide 100-year flood protection.</li> <li>• The channel slope and depth will be appropriate to the 100-year flood protection. The channel slope and depth are based on the invert elevations of the existing channel at the start and end of the new channel. The slope between these two points along this alignment is designed for 0.00055 ft/ ft which translates into a ground surface profile along the alignment a channel depth between 10 and 12 feet.</li> <li>• The appropriate responsible agencies must review and approve the updated April 2018 design for the relocation of the South Branch of South Littlejohns Creek.</li> </ul> <p>Implementation of these procedures would reduce the impact to a <i>less-than-significant</i> level.</p>	<p>Less than Significant</p>
<p>F.6. Adding significant new landfill volume could potentially contribute to the known VOC-contaminated plume and other groundwater contamination.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• Forward Landfill has agreed to a short-term and long-term mitigation of the offsite impacts of the existing VOC plume, to provide an alternative source of drinking water to those residents in the downgradient area who are using domestic water wells for drinking water and whose domestic wells may be adversely affected by the VOC plume. A long-term solution currently being investigated by Forward to assist those residents on Newcastle Road, who are already being provided with bottled drinking water by Forward, is for Forward to provide the property owners on Newcastle Road in the footprint of the downgradient plume with municipal piped water to replace the current use of the supply wells;</li> </ul>	<p>Less than Significant</p>

	<ul style="list-style-type: none"> <li>• The residences on Newcastle Road would continue to be supplied with bottled water until municipal piped water is provided;</li> <li>• Residents on Austin Road would continue to be supplied with bottled water from the City of Stockton until municipal piped water is provided.</li> <li>• Because of the potential for impact from the plume to the downgradient receptors determination of the sampling program frequency and any changes to it, along with the appropriate mitigation, is the responsibility of the RWQCB and must be carried out under their permit authorization; and</li> <li>• The groundwater capture and remediation system could be augmented to capture the current offsite plume to the satisfaction of the RWQCB based on their review of future source control reports.</li> </ul> <p>Implementation of these procedures and protections would reduce the impact to a <i>less-than-significant</i> level.</p>	
<p>F.7. Potential decreases in groundwater resources due to loss of recharge surface area.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• Continued recharge of extracted and treated groundwater. In the GeoLogic 2017 Corrective Action Monitoring Workplan the construction of a storage basin for treatment system effluent that would subsequently infiltrate and recharge the groundwater is proposed. Although the recharge program does not specifically address the loss of infiltration within the expansion area it is designed to generally meet the intent of the water district to minimize overdrafting.</li> </ul> <p>The impact from the loss of direct infiltration over the expansion area is considered to be <i>less than significant</i>.</p>	<p>Less than Significant</p>
<p>F.8. Increased sedimentation during the construction phase of the relocation of the South</p>	<p><b><u>Mitigation Measure F.8:</u></b> Implement the proposed Questa Engineering design specifications and standard construction BMPs during the construction phase of the South Branch of Sough Littlejohns Creek realignment. Construction of the realigned</p>	<p>Less than Significant</p>

<p>Branch of South Littlejohns Creek.</p>	<p>creek channel shall be implemented during the dry season.                  This would reduce potential impact of sedimentation from the proposed creek alignment to a <i>less-than-significant</i> level.</p>	
<p><b>G. SOILS AND GEOLOGY</b></p>		
<p>G.1. Seismic shaking could impair or otherwise compromise both the existing and proposed (for the new expansion areas) Class II liner and associated leachate collection system integrity, causing slope instability, damage to drainage features, or differential settlement of the landfill over the life of the project, or following closure.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>The project sponsor has prepared a seismicity study for the site, with details in Appendix D of the Geotechnical Investigation Report (Geo-Logic, 2008a, 2008b) and the Geosyntec (1999) report. If the potential maximum peak ground acceleration in the seismicity study is greater than that assumed in the preliminary design, the final project design analysis will make modifications needed to meet the factor of safety (determinations may be subject to the approval of the CalRecycle and/or RWQCB). Impacts to the new liner and drainage system installed will be monitored as appropriate based on any stipulations of the CalRecycle and/or RWQCB.</li> </ul>	<p>Less than Significant</p>
<p>G.2. Slope instability caused by an earthquake could result in damage to existing and proposed landfill administrative facilities, scale house, groundwater treatment system, composting</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>Overall reduction—or, in some cases, elimination or improvement—of slope instability at the project site can be achieved through the implementation of the seismic design measures designed to meet CCR Title 27.</li> </ul>	<p>Less than Significant</p>

<p>storage, and support facilities.</p>		
<p>G.3. Increased erosion and sedimentation could occur, particularly during the construction phases of the landfill, due to grading and borrow soil excavation and transport operations.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• The applicant’s Joint Technical Document (2018) references an erosion-control plan that delineates various actions to minimize erosion and sedimentation, including maintaining the effectiveness of the surface drainage control structures by keeping drainage ditches clear of debris and excessive vegetation and by making repairs, as necessary, to correct the effects of physical damage, erosion, settlement, or other events detrimental to effective operation of the drainage control system, and appropriate construction, landscaping, and maintenance of graded slopes and subsurface drainage systems. As part of that plan, grading operations would be scheduled to avoid the rainy season and be implemented by interim engineering control measures. Before grading is stopped, slopes would be directed to carry runoff to areas where erosion and sedimentation can be controlled. Truck beds would be hosed down to reduce soil spillage on paved roads and wind-blown dust. Relocation of Littlejohns Creek could lessen the sedimentation potential to the creek.</li> <li>• Completed cells will be stabilized by the planting and maintenance of drought-resistant grasses. This will inhibit wind and water erosion and maximize the fertility of the soil in order to facilitate revegetation.</li> <li>• Temporary plantings, geofabric drapes, and erosion-preventing diversions of surface water will be constructed as appropriate on temporary slopes.</li> <li>• Regular operational and post-closure monitoring of erosion control structures and plantings will be done for a minimum of five years.</li> </ul>	<p>Less than Significant</p>



<p><b>H. BIOLOGICAL RESOURCES<sup>4</sup></b></p>		
<p>H.1. Loss of wetland habitat.</p>	<p><i>Identified in this EIR</i></p> <p><b>Mitigation IV.H-1.</b> Prior to site grading, the project sponsor shall obtain re-verification of the jurisdictional delineation conducted for the project; this will ascertain the extent of jurisdictional waters and wetlands on the site, including the creek and potentially onsite storm control features (detention basins, dry ditches). The re-verified jurisdictional delineation will serve to confirm the acreage of wetlands to be impacted and for which mitigation will be provided. Prior to site grading, the project sponsor shall obtain permits under Sections 401 and 404 of the Clean Water Act and Section 1602 of the California Fish and Game Code for all impacts to jurisdictional resources; all permit conditions shall be implemented. At a minimum, an equivalent acreage of wetland habitat to be impacted shall be established within the relocated segment of the South Branch of the South Fork of Littlejohn’s Creek (1:1 in-kind replacement of wetlands impacted by the creek relocation), and if required by permit conditions, additional compensatory mitigation will be purchased from an USACE, RWQCB and/or CDFW-approved wetland mitigation bank. These mitigation components are discussed further below.</p> <p><b><u>Onsite Replacement of Wetland Habitat</u></b></p> <p>A Wetland Mitigation and Monitoring Plan shall be prepared and submitted for agency review to ensure a “no net loss” of wildlife value or acreage of wetlands. At a minimum, the Plan shall include the creation of the equivalent (in-kind) acreage of wetland habitat within the relocated segment of the South Branch of the South Fork of Littlejohn’s Creek. <u>The Concept Design Report (Questa 2017) indicates that approximately 1.87 acres of wetlands would be created in the longer, relocated creek</u></p>	<p>Less than Significant</p>

<sup>4</sup> Note – In this SEIR’s Biology Chapter, these impacts and mitigation measures are numbered “F. \_” for document organizational purposes.

channel, so an increase in wetland habitat (1.87 acres vs. 1.25 acres) is anticipated.  
The Project Sponsor shall ensure that the mitigation area, along with an appropriate upland buffer, are preserved in perpetuity via recordation of a conservation easement, or similar deed restriction.

The Wetland Mitigation and Monitoring Plan shall include the following details:

- The location(s) of mitigation areas, including the types and extent of each habitat type to be created.
- Mitigation for loss of existing wetlands shall at a minimum include the creation of equivalent acreage of wetland habitat present within the channel (as determined by the re-verified jurisdictional delineation). Mitigation wetlands shall replace the existing functions and services provided by the impacted channel.
- All graded areas within the habitat restoration area shall be seeded with appropriate mixes of California native grass and forb species, developed by a qualified restoration ecologist.
- The stated goal of the mitigation effort shall be to establish self-sustaining wetland vegetation that shall not require long-term irrigation or maintenance.
- The mitigation site shall include the establishment of a vegetated upland buffer no less than 50 feet wide on both sides of the recreated channel, where practicable.
- Provide grading details, location and quantities of all plant materials to be planted or seeded, native seed mixes to be used on all bare ground surfaces, monitoring procedures and schedules, identification of remedial measures, and performance criteria to be used by the agencies to assess success or failure of the mitigation effort.

- Long-term monitoring over a minimum of five years shall be funded by the Project Sponsor, subject to approval by the regulatory agencies.
- Annual monitoring reports shall be submitted to each permitting agency.
- A wetland delineation and habitat map shall be prepared during the final year of monitoring and included in the final annual report.
- Subject to review and modification by the regulatory agencies, specified success standards shall call for, at a minimum, 80% survival of any plantings and vegetation will be restored to the extent that it currently occurs as detailed in the most recent wetland delineation report, at the end of the monitoring period and after at least two consecutive years of no supplemental irrigation.

Off-Site Wetland Mitigation

In addition to the approximately 1.87 acres of wetlands to be created onsite, if required as a permit condition, additional mitigation credits may be purchased from a qualified wetland mitigation bank with a Service Area that covers the project site, or as otherwise approved in advance by the USACE and RWQCB. For example, the expanded Service Area of the Cosumnes Floodplain Mitigation Bank covers the project site. This mitigation bank sells Floodplain Mosaic Wetlands credits (404) credits that would appropriately mitigate impacts to wetlands. This, in combination of the onsite wetland mitigation, would provide opportunities (if needed) to comply with a higher permit-required replacement ratio for wetland impacts and also provide opportunities for riparian habitat mitigation.

In lieu of purchasing mitigation credits if additional wetland mitigation (greater than the 1.87 acres proposed as part of the project) is required as a permit condition, the Sacramento District of the USACE has an "In Lieu Fee Program" to which the project sponsor may make payment. The fee is based on a fee schedule for various wetland habitat types. The fee is payable to the National Fish and Wildlife

	<p>Foundation (NFWF) to be deposited in NFWF's Sacramento District Wetlands Conservation Fund.</p>	
<p>H.2 Loss of Chinook salmon and steelhead.</p>	<p><i>Identified in This EIR</i></p> <p><b>Mitigation Measure H.2-1.</b> To ensure that no aquatic vertebrates are stranded during abandonment of the existing South Branch of the South Fork of Littlejohn's Creek, the following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>• Channel abandonment shall be restricted to the dry season (i.e., between June 15 and October 15).</li> <li>• Channel abandonment shall occur only when the channel bottom has been dry for at least one week, that is, at least one week after the most recent release of water from Farmington Reservoir or any other sources.</li> <li>• Prior to initiation of any work within the abandoned channel (e.g., construction of coffer dams, filling, connecting to the realigned channel), a qualified biologist approved by the USFWS and CDFW shall inspect the entire length of the work area for any stranded aquatic vertebrates; any stranded aquatic vertebrates shall be captured and relocated to the nearest body of water in the same stream system.</li> <li>• Only a qualified biologist with all necessary federal and/or State permits may relocate fish and amphibians. Federally and State-listed species may only be relocated by biologist holding the appropriate federal or State permits. A record shall be maintained and submitted to the USFWS and CDFW of all fish and amphibians captured and relocated.</li> <li>• Any observed mortalities of species-status species shall be immediately reported to the USFWS and CDFW.</li> </ul> <p><b>Mitigation Measure H.2-2.</b> Water shall be released into the restored South Branch of the South Fork of Littlejohn's Creek gradually to avoid creating a sediment plume downstream that could attract and cause mortality to Chinook salmon or steelhead</p>	<p>Less than Significant</p>

	<p>from the San Joaquin River to enter the channel. After the relocation of the channel is completed and is ready to convey water, initial flows will be released at approximately 2 cubic feet/second (cfs), and shall be monitored to assure that water is released gradually through the channel for the first week after re-opening. This reduced flow would avoid causing a sediment plume. The restored channel shall not be opened prior to or during a significant rainfall event, and initial releases into the channel shall be coordinated with the Central San Joaquin Water Conservation District to insure no significant releases are scheduled during the initial opening of the channel.</p>	
<p>H.3. Potential "Take" of Giant Garter Snake.</p>	<p><i>Identified in This EIR:</i></p> <p><b>Mitigation Measure H-3.</b> Participation in the SJMSCP affords the project proponent Incidental Take authorization for giant garter snake pursuant to ESA, CESA and CEQA. Nonetheless, to minimize the potential for "incidental take" of giant garter snake, the following measures required by the SJMSCP (SJCOG 2000) shall be applied:</p> <p>A. A preconstruction survey for the species shall be conducted according to the requirements of the SJMSCP by a qualified biologist approved by the SJMSCP Technical Advisory Committee (TAC). If a giant garter snake is detected within the study area, the project will undertake Incidental Take Avoidance and Minimization Measures to protect the species as directed by the TAC. The project shall also comply with any mitigation requirements specified for giant garter snake habitat by the SJMSCP TAC (SJCOG 2000). Avoidance and minimization measures may include the following, as specified by the TAC:</p> <ol style="list-style-type: none"> <li>1. Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the SJMSCP Joint Powers Authority (JPA), with the concurrence of the Permitting Agencies' representatives on the TAC, shall determine if additional measures are necessary to minimize and avoid take.</li> </ol>	<p>Less than Significant</p>

	<ol style="list-style-type: none"><li>2. Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary.</li><li>3. Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.</li><li>4. Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.</li><li>5. In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:<ol style="list-style-type: none"><li>a. Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;</li><li>b. Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and</li><li>c. Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.</li></ol></li><li>6. If on-site wetlands, irrigation ditches, marshes, etc. are being relocated in the vicinity: the newly created aquatic habitat shall be created and filled with water prior to dewatering and destroying the pre-existing aquatic habitat. In addition, non-predatory fish species that exist in the aquatic habitat and which are to be relocated shall be seined and transported to the new aquatic habitat as the old site is dewatered.</li><li>7. If wetlands, irrigation ditches, marshes, etc. will not be relocated in the vicinity, then the aquatic habitat shall be dewatered at least two weeks prior to commencing construction.</li><li>8. Pre-construction surveys for the giant garter snake (conducted after</li></ol>	
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	<p>completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.</p> <p>9. Other provisions of the USFWS <i>Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat</i> shall be implemented (excluding programmatic mitigation ratios which are superseded by the SJMSCP's mitigation ratios).</p>	
<p>H-4. Potential "Take" of Western Pond Turtle.</p>	<p><b>Mitigation Measure H.4.</b> Participation in the SJMSCP affords the project proponent Incidental Take authorization for western pond turtle pursuant to ESA, CESA and CEQA. Nonetheless, to minimize the potential for incidental take of the species, preconstruction surveys for western pond turtles shall be conducted within the project study area by a qualified biologist approved by the SJMSCP TAC. If the species is detected, within the study area, the project shall undertake Incidental Take Avoidance and Minimization Measures to protect the species as directed by the TAC. Avoidance and minimization measures may include the following, as specified by the TAC:</p> <p>1) When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall be indicated by temporary fencing if construction has begun or will begin before nesting periods end (the period from egg laying to emergence of hatchlings is normally April to November). The buffer zones shall be maintained until the nesting season has ended.</p>	<p>Less than Significant</p>
<p>Impact H.5. Impacts to Special-status Bird Species</p>	<p><b>Mitigation Measure H.5a.</b> Participation in the SJMSCP affords the project proponent Incidental Take authorization for these species, both for direct impacts and loss of habitat. As specified in the SJMSCP, incidental take avoidance measures have been developed and must be implemented to conform to the SJMSCP; each species is discussed separately, below.</p>	<p>Less than Significant</p>

*Swainson's Hawk*

To conform to the SJMSCP in regards to protecting potentially occurring nearby active nests, the following measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (February 16 through August 31), preconstruction survey for Swainson's Hawk nests shall be performed by a qualified biologist.
- If an occupied Swainson's hawk nest is detected, a setback of 500 feet from the nesting area shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. The setback distance may be smaller, subject to CDFW approval. Setbacks shall be marked by brightly colored temporary fencing.
- If a nest tree becomes occupied during construction activities, then all construction activities shall remain a distance of two times the dripline of the tree, measured from the nest.

*Golden Eagle*

As outlined in the SJMSCP, when a site inspection indicates the presence of a nesting golden eagle, the following measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the nesting season (*i.e.*, normally approximately February 1 - June 30), preconstruction survey shall be performed by a qualified biologist.
- If an occupied golden eagle nest is detected, a setback of 500 feet from the nesting area shall be established and maintained during the nesting season



	<p>(i.e., normally approximately February 1 - June 30) for the period encompassing nest building and continuing until fledglings leave nests.</p> <ul style="list-style-type: none"><li>• This setback applies whenever construction or other ground disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied.</li><li>• Setbacks shall be marked by brightly colored temporary fencing.</li></ul> <p><i>White-tailed Kite</i></p> <p>The following Incidental Take Minimization Measures, as outlined in the SJMSCP, shall be followed:</p> <ul style="list-style-type: none"><li>• Prior to the initiation of tree removals/ pruning, ground clearing, grubbing, grading or excavation activities scheduled to occur during the nesting season (i.e., normally approximately February 15 – September 15), a preconstruction survey shall be performed by a qualified biologist.</li><li>• A setback of 100 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests.</li><li>• This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.</li></ul> <p><i>Burrowing Owl</i></p> <p>Consistent with the measures outlined in the SJMSCP and CDFG 2012, the following impact minimization measures shall be followed:</p> <ul style="list-style-type: none"><li>• Consistent with the protocols outlined by the CDFG (2012 Appendix D), a "Take Avoidance Survey" shall be performed by a qualified biologist (as</li></ul>	
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	<p>defined in CDFG 2012, page 5) no less than 14 days prior to the initiation of ground disturbance. A final survey shall be conducted 24 hours prior to ground disturbance.</p> <ul style="list-style-type: none"><li>• Ongoing rodent control measures at the landfill facility shall conform to the guidelines outlined in the SJMSCP (Appendix A) (see Impact H.10, below).</li><li>• The Project Proponent may plant new vegetation or retain existing vegetation entirely covering the site at a height of approximately 36" above the ground. Vegetation should be retained until construction begins; tall vegetation will discourage colonization of the site by burrowing owl.</li><li>• Alternatively, if burrowing owls are not known or suspected on a project site and the area is an unlikely occupation site for red-legged frog, San Joaquin kit fox or tiger salamander, the Project Proponent may disc or plow the entire project site to temporarily close ground squirrel burrows and render the construction site temporarily unusable by burrowing owls.</li><li>• During the breeding season (February 1 through August 31), occupied burrows shall not be disturbed in accordance with the following restrictions (CDFG 2012):<ul style="list-style-type: none"><li>○ Between 1 April and 15 August, minimum setbacks from occupied burrows shall be 200 m (656 ft) for low disturbance levels, and 500 m (1640 ft) for medium and high disturbance levels.</li><li>○ Between 16 August and 15 October, minimum setbacks from occupied burrows shall be 200 m (656 ft) for low and medium disturbance levels, and 500 m (1640 ft) for high disturbance levels.</li><li>○ Between 16 October and 31 March, minimum setbacks from occupied burrows shall be 50 m (164 ft) for low disturbance levels, 100 m (328 ft) for medium disturbance levels and 500 m (1640 ft) for high</li></ul></li></ul>	
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	<p>disturbance levels.</p> <ul style="list-style-type: none"><li>• Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls, or permanently exclude burrowing owls and close burrows after verifying burrows are empty by site monitoring and scoping. During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site may be evicted from the project site by passive relocation as described by the (CDFG (2012). Burrow exclusion and closure is not permitted during the breeding season.</li></ul> <p><b><i>Loggerhead Shrike</i></b></p> <p>Loggerhead shrike has been observed foraging in the project area. Participation in the SJMSCP affords the project proponent Incidental Take authorization for loggerhead shrike pursuant to ESA, CESA and CEQA. Although little suitable nesting habitat is present on site, as outlined in the SJMSCP<sup>5</sup>, the following incidental take avoidance measures shall be followed:</p> <ul style="list-style-type: none"><li>• Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (<i>i.e.</i>, February 1 - August 15), preconstruction survey shall be performed by a qualified biologist.</li><li>• A setback of 100 feet from loggerhead shrike nest sites shall be established and maintained during the nesting season (<i>i.e.</i>, February 1 to August 15) for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.</li></ul>	
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<sup>5</sup> SJMSCP Chapter 5.2.4.18

***Northern Harrier and California Horned Lark***

Although foraging northern harrier has been observed in the project vicinity and there is a potential for foraging by California horned lark, nesting by these species on site is considered unlikely. Participation in the SJMSCP affords the project proponent Incidental Take authorization for northern harrier and California horned lark pursuant to CESA and CEQA. Nonetheless, as outlined in the SJMSCP<sup>6</sup>, the following incidental take avoidance measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (*i.e.*, February 1 - August 31), preconstruction survey shall be performed by a qualified biologist.
- A setback of 500 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

**Mitigation Measure H.5b.** Any observations of Swainson's hawk, Golden eagle, white-tailed kite, burrowing owl, loggerhead shrike and/or California horned lark during the falconry program shall be recorded and monitored by the falconer. If any interactions (*i.e.* chasing) between the trained falcons and Swainson's hawks or other special status bird species are observed, this shall be documented and reported to the USFWS Migratory Bird Treaty Office and CDFW within 48 hours of occurrence. Appropriate additional measures to avoid impacts to special status birds shall be determined through consultation with the USFWS Migratory Bird Treaty Office and CDFW.

<sup>6</sup> SJMSCP Chapter 5.2.4.17

H.6. Impacts to Migratory Bird Species.	<b>Mitigation Measure H.6.</b> Preconstruction surveys, consistent with the MBTA and the SJMSCP, shall be conducted for nesting birds during the nesting season (i.e., Feb. 1 – September 1). Appropriate measures to avoid impacts to nesting birds shall be determined through consultation with the USFWS Migratory Bird Treaty Office and CDFW.	Less than Significant
H.7. Temporary Impacts to Foraging Special-status Bat Species.	<i>Less than significant.</i> None required.	Less than Significant
H.8. Loss of Agricultural Fields, Nonnative Annual Grassland and Ruderal Vegetation, and Freshwater Emergent Wetland.	<b>Mitigation Measure H.8.</b> The project shall comply with the SJMSCP mitigation requirements for the conversion of row and field crop lands (SJCOG 2000). Under the SJMSCP (2000), each acre of Swainson’s hawk habitat (i.e., Agricultural Habitat Lands) converted to non-open space uses would be mitigated by the establishment of 1 acre of Row and Field Crop/Riparian Preserve (a 1:1 mitigation ratio). This measure would apply to the 8.6 acres of land to be developed in the southern portion of the property.	Less than Significant
H.9. Increase in Existing levels of Night Lighting.	<i>Less than significant.</i> None required.	Less than Significant
H.10. Use of Rodenticides in the Capped Areas of Landfill Could Result in Adverse Impacts to Wildlife.	<b>Mitigation Measure H.10.</b> Rodenticides and methods of application used at the landfill shall be reviewed by a qualified biologist approved by the SJMSP TAC, to determine if they reflect the most effective and safe methods for controlling rodents. That biologist shall make recommendations for improvement if needed.	Less than Significant
H.11. Project Effects on Wildlife Corridors.	<i>Less than significant.</i> None required.	Less than Significant
H.12. Project Effects on	<i>Less than significant.</i> None required.	Less than

San Joaquin Kit Fox.		Significant
<b>I. PUBLIC SERVICES AND UTILITIES</b>		
I.1. The extended length of operations due to the proposed landfill expansion could adversely affect the ability of the San Joaquin County Sheriff's Department and California Highway Patrol to provide police protection.	<p><i>Proposed as Part of the Project:</i></p> <p>The Landfill would be managed in accordance with CCR Title 27 requirements, which include:</p> <ul style="list-style-type: none"> <li>• The landfill supervisor will be responsible for providing overall site security during normal working hours.</li> <li>• All areas and facilities, other than those expressly designated for use by haulers, will be considered restricted areas.</li> <li>• The landfill will have a perimeter barrier or topographic constraints designed to discourage unauthorized entry by persons or vehicles.</li> <li>• Areas within the site where hazardous or suspected hazardous materials are stored will be properly identified and secured.</li> <li>• The entrance to the site will have a lockable gate, which will be locked outside of the usual operating hours.</li> <li>• Salvaging and scavenging will be prohibited at the landfill, except for authorized materials recovery programs.</li> </ul>	Less than Significant
I.2. The extended length of operations due to the proposed expanded landfill could adversely affect the Manteca-Lathrop Fire District's ability to provide fire	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• At the proposed expanded landfill, the project sponsor will continue to provide fire suppression equipment and procedures that are equivalent in effectiveness to those currently employed at the existing Forward Landfill, as described in the Site Health and Safety Program. The project sponsor will furnish information regarding proposed disposal operations and fire</li> </ul>	Less than Significant

<p>protection.</p>	<p>suppression measures at the proposed expanded landfill to the Lathrop-Manteca Fire District.</p> <ul style="list-style-type: none"> <li>Existing fire protection facilities will be maintained (see also Impact/Mitigation E.1).</li> </ul>	
<p>I.3. The extended length of operations due to the proposed expanded landfill could adversely affect the Manteca-Lathrop Fire District's ability to provide emergency medical service.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>The project sponsor will continue to apply, to the entire consolidated landfill, the safety procedures currently employed at the existing Forward Landfill and described in the Workplace Injury and Illness Prevention Plan. The project sponsor will furnish information regarding proposed disposal operations and safety procedures at the Austin Road Landfill, and the proposed consolidated landfill, to the Manteca-Lathrop Fire District.</li> <li>Monthly inspections of all facilities for safety will be conducted in accordance with the Safety Checklist prepared by the National Solid Waste Management Association (NSWMA) or other checklist of equivalent scope and detail.</li> <li>Safety meetings with employees will be conducted to disseminate safety information, in accordance with procedures described in the JTD.</li> <li>Personal protective gear will be provided for the safe handling of solid waste, as described in the JTD.</li> </ul>	<p>Less than Significant</p>
<p>I.4. The proposed project could extend the time for leachate generation that, if disposed at the City of Stockton Regional Wastewater Control Facility, could adversely affect plant operation.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>If leachate is delivered to the City of Stockton Regional Wastewater Control Facility, the project sponsor will provide for independently corroborated test results to the City to demonstrate the chemical composition of the leachate extracted from the proposed consolidated landfill project. Monitoring and testing of landfill-generated leachate will meet the requirements of the City of Stockton Wastewater Ordinance and the City Municipal Utilities</li> </ul>	<p>Less than Significant</p>

	<p>Department.</p> <ul style="list-style-type: none"> <li>If leachate quality is not acceptable for disposal at the Regional Wastewater Control Facility, the project sponsor will either have the leachate collected and disposed off-site by a licensed Treatment and Disposal Facility, or will develop on-site leachate processing that will result in treated leachate that is acceptable for disposal at the wastewater treatment plant or acceptable to regulatory agencies for on-site use. The design and operation of any on-site leachate processing that is implemented will comply with all applicable laws and regulations.</li> </ul>	
<p>I.5. Potential adverse impacts to schools, parks, public facilities or storm water facilities.</p>	<p><i>No Impact.</i> None required.</p>	<p>No Impact.</p>
<p><b>J. CULTURAL RESOURCES</b></p>		
<p>J.1. Potential impacts on buried cultural resources.</p>	<p>Mitigation J.1. An archaeological monitor and a Native American monitor shall be retained to observe project-related ground disturbing activities in order to identify potentially buried resources. In the event that any of the archaeological site indicators described above are found, work should be halted within a zone established by the project archaeologist and Native American monitor until a plan for the evaluation of the resource under CEQA guidelines has been submitted to the appropriate permitting agency for approval.</p> <p>If any potential cultural resources are encountered during any ground disturbing activities, the following measures shall be implemented:</p>	<p>Less than Significant</p>



(a). If prehistoric archaeological resources are discovered during excavation and construction of the proposed project, the project sponsor along with a qualified archaeologist and Native American monitor shall suspend all work in the immediate vicinity of the find pending site investigation by a qualified archaeologist and a Native American monitor to assess the materials and determine their significance. If the qualified archaeologist and Native American monitor determine that the find has the potential to be a historical resource per California Register of Historical Resources (CRHR) criteria, the project sponsor shall provide funding and time to allow recovering an archaeological sample or to implement avoidance measures. Work could continue at other locations while archaeological mitigation takes place.

(b) Evaluative testing, normally consisting of limited hand excavation to retrieve information and materials from the archaeological site, would be needed to demonstrate the eligibility of the resource to be included on the CRHR. If eligibility is established, then a plan for mitigation of impacts to the resource should be submitted to the San Joaquin County Community Development Department for approval before any construction related earthmoving activities are allowed inside the zone designated as archaeologically sensitive by the project archaeologist and Native American monitor. The plan must result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research considerations, must be performed by qualified professionals, and must result in detailed technical reports. Mitigation can take the form of additional data retrieval through hand excavation coupled with archaeological and Native American monitoring of all soils from the archaeologically sensitive zone. Monitoring is aimed at identifying, recording and/or removing archaeological materials and information for analysis, and also serves to limit damage to human remains (non-destructive analysis), a typical component of both seasonal and year-round villages in the valley.

(c) The project sponsor shall allow only a qualified archaeologist, and a Native American monitor to collect any prehistoric cultural resources (except human remains and burial associated grave goods) discovered on the site. During a pre-

construction meeting the qualified archaeologist and Native American monitor would review with the construction crews the types of archaeological materials that could be present at the site, and that if any construction personnel observes any potential archaeological materials that they inform the archaeologist and Native American monitor of the location of the potential resource.

Should buried, unforeseen archaeological deposits be encountered during any project construction activity, work shall cease within a 50-foot radius of the discovery. The County shall ensure that a qualified professional archaeologist who meets the federal *Secretary of the Interior's Standards* in archaeology is retained to assess the significance of the find and recommend avoidance or treatment measures; work shall not resume until appropriate treatment has been completed. In the event that human remains or any associated funerary artifacts are discovered during construction, all work shall cease within 50 feet of the discovery and, in accordance with requirements of the California Environmental Quality Act (Public Resources Code Section 15064.5[e]), Public Resources Code Section 5097.98, and the California Health and Safety Code (Section 7050.5), the San Joaquin County Sheriff/Coroner shall be contacted immediately. If the remains are deemed to be Native American, the Sheriff/Coroner will notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the City and a qualified archaeologist to develop a plan for the proper treatment of the human remains and associated funerary objects. Construction activities shall not resume until treatment has been completed.

(d) In the event that human remains or any associated funerary artifacts are discovered during construction, all work shall cease within 50 feet of the discovery and, in accordance with requirements of the California Environmental Quality Act (Public Resources Code Section 15064.5[e]), Public Resources Code Section 5097.98, and the California Health and Safety Code (Section 7050.5), the San Joaquin County Sheriff/Coroner shall be contacted immediately. If the remains are deemed to be Native American, the Sheriff/Coroner will notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative.

	The MLD will work with the County and a qualified archaeologist to develop a plan for the proper treatment of the human remains and associated funerary objects. Construction activities shall not resume until treatment has been completed. If recommendations are made and not accepted, during the mediation period, the Native American Heritage Commission shall mediate the issue and the Human Remains shall remain in the possession of the MLD.	
<b>K. VISUAL QUALITY</b>		
K.1: Effects on scenic routes and vistas.	<i>No Impact.</i> None required.	No Impact
K.2: Effects of relocation of the South Branch of the South Fork of Littlejohns Creek.	<i>Less than Significant.</i> None required.	Less than Significant
K.3. The increase in height and mass of the proposed project would disrupt the physical pattern and scale of the surrounding agricultural landscape.	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• Native or drought-tolerant trees, shrubs, and grasses will be used in landscaping to conform to the natural vegetation of the area.</li> <li>• Working faces of the landfill will be minimized to reduce their visibility.</li> <li>• To the extent feasible, the top and side slopes of the landfill will be seeded with a mixture of native grasses and wildflowers that would visually blend with plants at the project site.</li> <li>• Upon closure, the top and side slopes of the landfill will be planted with native grasses to the extent feasible.</li> </ul> <p>Implementation of these procedures would reduce the visual effects of the project;</p>	<i>Significant and Unmitigable</i>

	<p>however, the increase in height and mass of the proposed project would remain a <i>significant unmitigable impact</i>.</p> <p>Measures to reduce this impact (listed above) are available and are proposed as part of the project; however, even with implementation of the above measures it would not be possible to reduce this impact to a less-than-significant level.</p>	
<p>Impact K.4. The proposed project would move ancillary facilities, which could generate visual impacts.</p>	<p><i>Less than Significant.</i> None required.</p>	<p>Less than Significant</p>
<p>K.5. The proposed project would move ancillary facilities, which could generate additional sources of light.</p>	<p><i>Proposed as Part of the Project:</i></p> <ul style="list-style-type: none"> <li>• The use of highly reflective surface materials in constructing structures on the site will be restricted.</li> <li>• Exterior building materials will be painted or otherwise treated with muted earthtone colors.</li> </ul> <p>Screening vegetation had been planted along the Austin Road boundary of the site at the time this DEIR was prepared. This fulfills part (b) of Mitigation Measure K.4 in the 2002 Final EIR for the existing landfill (San Joaquin County, 2002), which is a condition of the permits for the existing landfill. The remainder of Mitigation Measure K.4 (reproduced in full below) is also a condition of the existing permits.</p> <p>(a) Lighting for nighttime operations at the working face and other landfill facilities shall consist of sodium lamps with sharp cutoff angles and downward shielding and, to the extent feasible, shall be oriented in a direction that is not visible from off-site locations.</p> <p>(b) Dense screening vegetation shall be planted along the Austin Road</p>	<p>Less than Significant</p>

	<p>boundary of the site, with sufficient height and density at maturity to shield residents and motorists along Austin Road from views of landfill operations, including nighttime disposal operations.</p> <p>(c) For any future locations of the working face at which the screening vegetation in Mitigation Measure (b) above would not shield residents and motorists along Austin Road from night lighting, the project sponsor shall install temporary screens at the working face to block night lighting from residences and motorists along Austin Road.</p>	
<p>Impact K.6. The proposed project would extend the life of the landfill and the associated potential of debris and litter along access roads and at the site from transporting and handling of waste.</p>	<p><b><i>Proposed as Part of the Project:</i></b></p> <ul style="list-style-type: none"> <li>• Daily inspection will be conducted to control litter on- and off-site, including the North and South Branches of the South Fork of Little Johns Creek, approach roads, entrance facilities, the transfer station/ resource recovery facility, portable litter control fences, landfill perimeter fence, leachate impoundments, and storm water facilities including ditches, berms, and detention/ sedimentation basins.</li> <li>• All trucks will be tarped upon entering and exiting the facility. This policy will be strictly enforced. In accordance with San Joaquin County Ordinance No. 2887, adopted September 29, 1981 (Title 5 Health and Sanitation, Division 2. Solid Waste Collection and Disposal, Section 5-2502), tarps will be placed over open loads to avoid littering during transport of waste.</li> <li>• Management of the daily working fill face to the smallest practical area with immediate compaction to minimize the area and debris subject to the impacts of wind.</li> <li>• If possible, on windy days the daily fill face tipper location would be selected for its protection to minimize effects of wind (i.e., tipper facing into wind adjacent to the leeward sidewall, or sheltered by completed fill deposits).</li> <li>• Waste that is more susceptible to windblown distribution may, on windy days, be worked immediately into the fill face and covered with a layer of</li> </ul>	<p>Less than Significant</p>

	<p>daily cover, as needed, or the waste may be excluded from the site.</p> <ul style="list-style-type: none"><li>• Portable skid-mounted litter fences may be provided for deployment downwind as close as practical to the working area, as needed.</li><li>• Semi-permanent fencing may be provided around the fill area as an additional barrier to the migration of litter off-site when litter has not been contained by the portable litter fences. (Examples of additional barriers include but not limited to, a four-foot minimum temporary construction fence and/or a ten-foot or higher semi-permanent fence.) The utilization will be continually evaluated and the fence will be relocated or added as needed.</li><li>• Permanent fencing (ten-foot high with an additional three-foot kicker) may be constructed with possibility of placement on an eight-foot high berm.</li><li>• On very windy days when all other procedures are not successful in controlling blowing litter, the operator may apply cover material more frequently or immediately to the incoming waste load. As a last resort due to the facility's obligation to provide continued disposal service to its clientele, the operator may consider closing down the facility to incoming waste.</li><li>• Buffer zones resulting from required facility setbacks along the site's perimeter will provide some protection of adjacent properties.</li><li>• As a final control measure, personnel will be dispatched, as needed or daily if conditions require, to collect any litter that has escaped the above control measures. The personnel will collect litter from the facility and the facility access, as well as adjoining property, provided that the property owner allows access. If additional assistance is required beyond site personnel, temporary service agencies will be contacted.</li><li>• If litter is distributed by the wind into trees and bushes on facility property or adjoining properties, portable lifts may be employed to retrieve the litter.</li><li>• Portable litter vacuums may be used to collect litter that has accumulated on litter fences.</li></ul>	
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	<ul style="list-style-type: none"> <li>• The main highway leading to the site will be routinely inspected for litter. If the highway has litter associated with the trucks entering the facility, then the litter will be picked up on a routine basis. All necessary safety precautions will be followed.</li> <li>• Before and after photos of any litter removal effort may be taken in the event anyone questions the level of effort spent on litter collection.</li> <li>• Site management's cell phone numbers along with the office number may be provided to community / neighbors.</li> </ul>	
<p>K.7. Excavation, moving, and depositing soil for daily cover of the additional waste disposed under the proposed project could create visible dust and haze in the vicinity of the project.</p>	<p><i>Identified in This EIR:</i>                  Implement the fugitive dust control procedures and mitigation measures identified in Mitigation D.1.</p>	<p>Less than Significant</p>

## D. ALTERNATIVES

Alternatives in the 2013 EIR included a summary of the project objectives and described and evaluated the potential impacts of a full range of alternatives to the previously proposed project. That chapter also described alternatives considered but not studied further. Alternatives considered in the 2013 EIR included:

- Alternative 1: No Project Alternative
- Alternative 2A: Reduced Project Alternative
- Alternative 2B: Reduced-Size/Reduced Daily Operations Alternative
- Alternative 3: Expansion of North County Recycling Center and Sanitary Landfill

The currently proposed Expansion Project is another alternative to the project evaluated in the 2013 EIR. As described in this SEIR, the 2018 Expansion Project would have reduced impacts compared with all of the previously considered alternatives other than the no-project alternative.

However, alternatives to the implementation of the 2018 Expansion Project are available. These involve implementing only one of the two fill sites proposed under the Expansion Project and/or not increasing the daily truck trips beyond current levels. The impacts of these three alternatives are compared with the currently proposed project below.

### **Alternative 4: Northern Fill Area Only**

Under this Alternative, the Northern fill area would be filled with about 3.3 million cubic yards of wastes, about 41% of that proposed under the 2018 Expansion Project. Impacts of this alternative would be similar to those of the proposed project except for the following:

- No creek-relocation-related biological or water quality impacts would occur, however long-term ecological benefits of creek relocation would not be realized.
- Noise, air quality, traffic, and odors impacts would be reduced by three years, from 2036 to 2033.
- Health risk impacts associated with the expansion would be slightly reduced.
- There would be no visual impacts associated with the Southern fill area.

### **Alternative 5: Southern Fill Area Only**

Under this Alternative, the Southern fill area would be filled with about 4.8 million cubic yards of wastes, about 59% of that proposed under the 2018 Expansion Project. Impacts of this alternative would be similar to those of the expansion project except for the following:

- Noise, air quality, traffic, and odors impacts would be reduced by two years, from 2036 to 2034.
- Health risk impacts associated with the expansion would be slightly reduced.



- There would be no visual impacts associated with the Northern fill area.

#### **Alternative 6: Reduced Daily Operations Alternative**

This Alternative is similar to the 2018 Expansion Project but would include the existing permitted maximum truck trips (620/day) only through the end of the current permit (estimated at 2030). After that time, instead of using the maximum of 620 trucks/day, this alternative would revert to the existing 233 truck trips/day. At projected fill rates, this alternative would have a closure date of approximately 2038 or approximately 2 years later than the 2036 closure date of the expansion project.

Impacts of this alternative would be similar to those of the proposed project except for the following:

- Noise, air quality, traffic, health risk, and odors impacts would not be increased in intensity over existing conditions, but existing landfill traffic, noise, and air pollutant emissions would extend to 2038 instead of ending in 2036.

#### **Out-of-County Alternative**

An additional alternative, an out-of-county landfill, was requested to be considered in comments on the 2014 Draft SEIR. This alternative was rejected from further consideration in this SEIR because the County does not have jurisdiction to approve any landfill outside of its jurisdiction, therefore such an alternative would not be feasible for the lead agency to implement, which is one of CEQA's criteria for considering alternatives (per CEQA Guidelines Section 15126.6(f)(1)). In addition, even though much of the refuse accepted at Forward comes from outside of the County, given the distribution of Class II landfills in the region, the Forward facility may be the nearest facility for much of the out-of-county waste that it accepts. With a relocated, out of county landfill, some wastes would be hauled for shorter distances while other wastes would be hauled farther. Therefore, depending on its location, an out-of-county alternative may not significantly reduce traffic, noise, or air quality impacts compared with the proposed project.

#### **Environmentally Superior Alternative**

The 2013 FEIR concluded that Alternative 2B would be the Environmentally Superior Alternative. The proposed 2018 Expansion Project would, however be environmentally superior to Alternative 2B, with a much more limited footprint and shorter extension of landfill life. The 2014 Expansion Project, as detailed in this SEIR, would reduce most impacts compared with the previously proposed Project. Alternatives 4 and 5 would further reduce impacts compared to the Expansion Project. Of these, Alternative 4 would have the lowest impact, because it would not result in creek relocation impacts and would not affect the visual quality of the Southern parcel as viewed from Austin Road.

### **E. OTHER CEQA TOPICS AND IMPACT OVERVIEW**

### **Growth Inducing Impacts**

The 2018 Expansion Project, which would be smaller than the previously proposed expansion, involves neither the extension of public service, such as water or sewer lines, nor the creation of a land use that would stimulate adjacent development, therefore it is not likely to have growth-inducing impacts.

### **Significant Unavoidable Adverse Impacts**

After mitigation, project implementation would have the following unavoidable significant adverse impacts:

- Project traffic would contribute to unacceptable Levels of Service at the following intersections under 2035 cumulative conditions:
  - SR 99 SB On-off Ramps & E. French Camp Rd., (AM and PM peak hours)
  - SR 99 Urban Interchange & Arch Rd. (AM and PM peak hours)
  - SR 99 SB On-off Ramps & Mariposa Rd. (AM and PM peak hours)
  - SR 99 NB On-off Ramps & Mariposa Rd. (PM peak hour)

Because no mitigation would be feasible at these intersections, this impact would be significant and unavoidable.

- The project would contribute to a cumulatively significant increase in air pollutant emissions.
- The increase in extent and mass of the proposed project would constitute a significant visual impact (from 2013 FEIR).
- The project would result in significant and unavoidable project-generated traffic noise on Austin Road.
- The project's truck traffic would contribute to significant and unavoidable cumulative traffic noise on Austin Road.

### **III. PROJECT DESCRIPTION**

#### **A. BACKGROUND AND INTRODUCTION**

The existing Forward, Inc. Landfill (Forward Landfill) is an approximately 567-acre, privately owned, waste disposal and Resource Recovery Facility (RRF). The RRF consists of a transfer station, materials recovery facility (MRF), and composting facility. The landfill owner and operator, Forward, Inc. (Forward), also owns an adjacent 184-acre parcel, known as the "Brocchini" parcel, which is within the overall facility boundary but not permitted for solid waste handling activities. Therefore, the total acreage owned by Forward, Inc is 751 acres. The Forward Landfill is located seven miles southeast of the City of Stockton in San Joaquin County, California (see Figures III.C-1, III.C-2, and III.C-3). The landfill is not open to the general public and is a Class II facility. Class II facilities are designed and constructed to accept both MSW and designated wastes (such as contaminated soils or treated wood wastes). All customers are pre-screened and deliveries must be scheduled in advance. The Forward Landfill is the only Class II landfill in San Joaquin County.

The approximately 567-acre permitted Forward Landfill is a combination of the City of Stockton's former 410-acre Austin Road Sanitary Landfill (now the northern portion of the Forward Landfill) and the 157-acre original Forward Landfill (now the southern portion of the Forward Landfill). The original Forward Landfill was permitted in 1973 and converted to a Class II landfill in 1993. (For clarity, this part of the landfill is referred to as the "Original Forward Landfill" in this document). The Austin Road Sanitary Landfill began operations in the 1950s as an unlined Class III landfill and was sold by the City of Stockton to Forward. As part of the purchase agreement with the City of Stockton, the former Austin Road Landfill was transferred from City to County jurisdiction and Forward agreed to remediate the contaminated groundwater from the unlined portion of that landfill and continue the groundwater corrective action program in accordance with the requirements of the Regional Water Quality Control Board (RWQCB). The consolidation of the two landfills into an approximately 567-acre facility occurred in April 2003 via County approval of Use Permit Application UP-00-0007.

The current Forward Landfill site includes a Resource Recovery Facility (RRF) on the southeast portion of the site, which incorporates the transfer station and materials recovery facility (MRF). The RRF is operated by Forward under a separate Solid Waste Facilities Permit (SWFP). The Forward RRF includes a composting facility that is able to compost green waste, food waste, and other items included in its SWFP. In addition to composting, recycling activities at the transfer station/MRF include processing wood waste for diversion. At the time this SEIR was prepared, salvaging, volume reduction, and recycling activities were not conducted at the RRF, which was being used to only transfer source-separated recyclables, and for composting and other greenwaste-related operations.

A landfill gas-to-energy (LFGTE) plant, operated by Ameresco, is located in the northeast portion of the landfill site. The LFGTE converts landfill gas, a waste byproduct of landfill operations that would otherwise be flared to the atmosphere, into electrical energy. The LFGTE produces approximately 4.2 MW of energy, enough to power approximately 6,000 to 8,000 single family homes.

In 2012, Forward proposed an expansion of the landfill, which included a horizontal expansion of landfilling operations onto the adjoining 184-acre "Brocchini" parcel. This project entailed the following substantial modifications to previous landfill characteristics and procedures:

- Expand the Forward Landfill to contiguous parcels including an approximately 184-acre parcel to the southwest of the existing landfill site and an approximately 10-acre parcel in the northeast of the existing landfill. In addition, approximately 11 acres of currently permitted landfill disposal area in the southern portion of the Forward Landfill would be relocated within the currently permitted landfill boundary due to realignment of the South Fork of South Littlejohns Creek.
- Increase the remaining landfill capacity by approximately 32.0 million cubic yards (cy) to approximately 54.0 million cy. All of the increase would be Class II landfill space and would extend the landfill closure date to approximately 2039.<sup>1</sup>
- Relocate approximately 3,000 feet of the South Fork of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek will be approximately 3,400 feet in length.
- Allow cannery waste processing in areas of site that are not being used for disposal at the time.

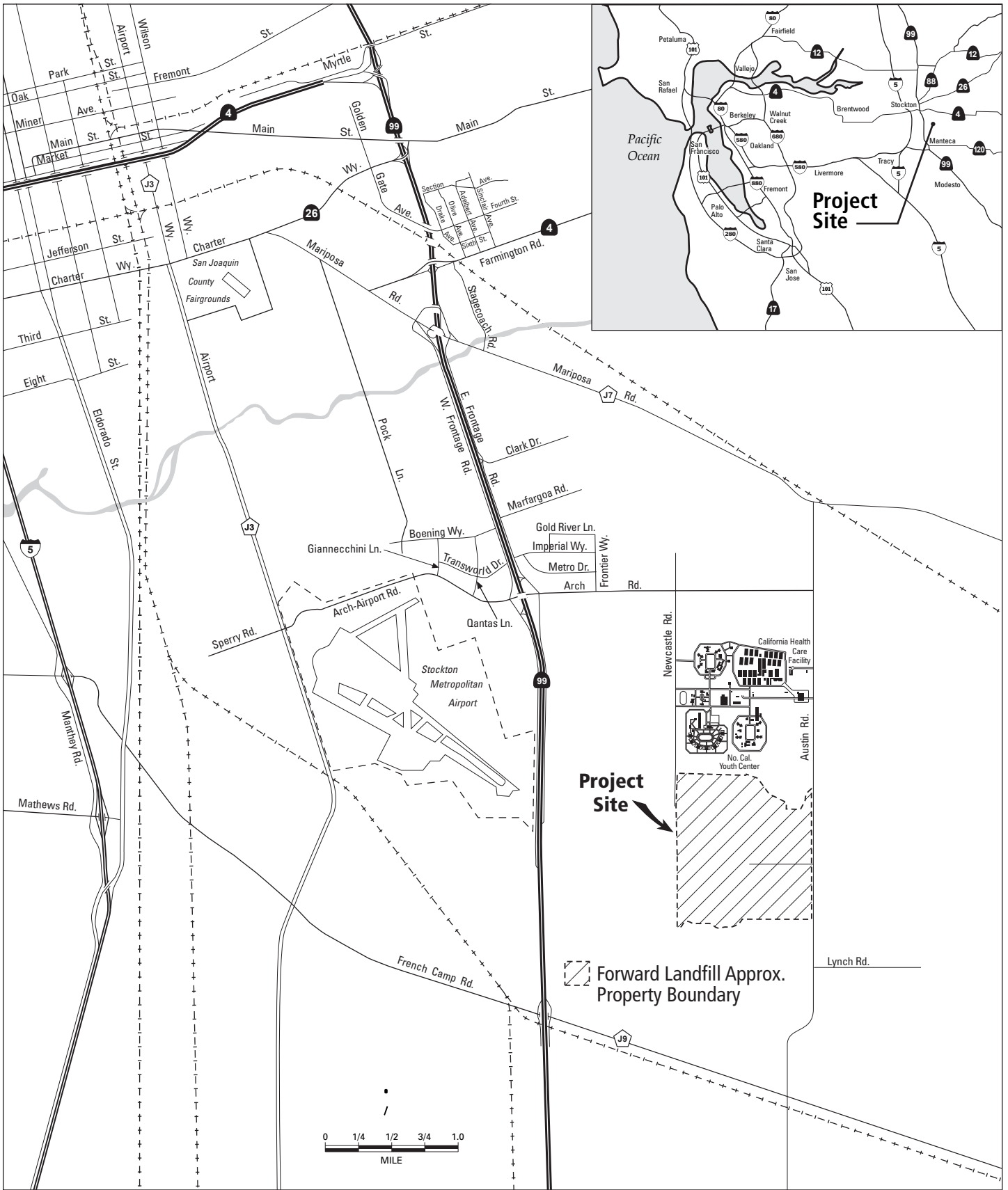
The proposed 2013 expansion project would have allowed landfilling activities within 10,000 feet of the end of the usable runway of the Stockton Metropolitan Airport, and required a four-fifths vote of the Board of Supervisors to override the County Airport Land Use Commission finding that this proposed expansion project was not in conformity with the 1993 San Joaquin County Airport Land Use Plan. This former project failed to achieve the required vote to override. However, the Board of Supervisors certified the *Forward Landfill Expansion Final Environmental Impact Report* (San Joaquin County, May 2013) ("FEIR") in compliance with the California Environmental Quality Act (CEQA).

In 2014, Forward proposed a smaller increase in permitted landfilling capacity that did not include the previously proposed expansion of landfilling operations on the 184-acre Brocchini parcel. This proposed increase in landfill acreage was entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002) approved by the Board of Supervisors on April 8, 2003. The 2014 Expansion Project included the following changes:

- Allow landfilling operations on an 8.7-acre portion of the 10-acre parcel (described in the 2013 EIR) that lies in the northeast portion of the site within the currently permitted landfill boundary. (The remaining 1.3 acres of the 10-acre parcel is occupied by a landfill gas-to-energy plant and is not proposed for landfill.) In addition, approximately 6.2 acres of landfill disposal area were proposed to be added to the currently permitted landfill

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<sup>1</sup> The 2013 FEIR estimated closure dates with and without that project of 2039 and 2021, respectively. However, 2014 estimated closure dates with and without the 2012 (previously proposed) project are 2045 and 2026, respectively.



**Figure III.C-1**

**Project Location**

Source: Grassetto Environmental

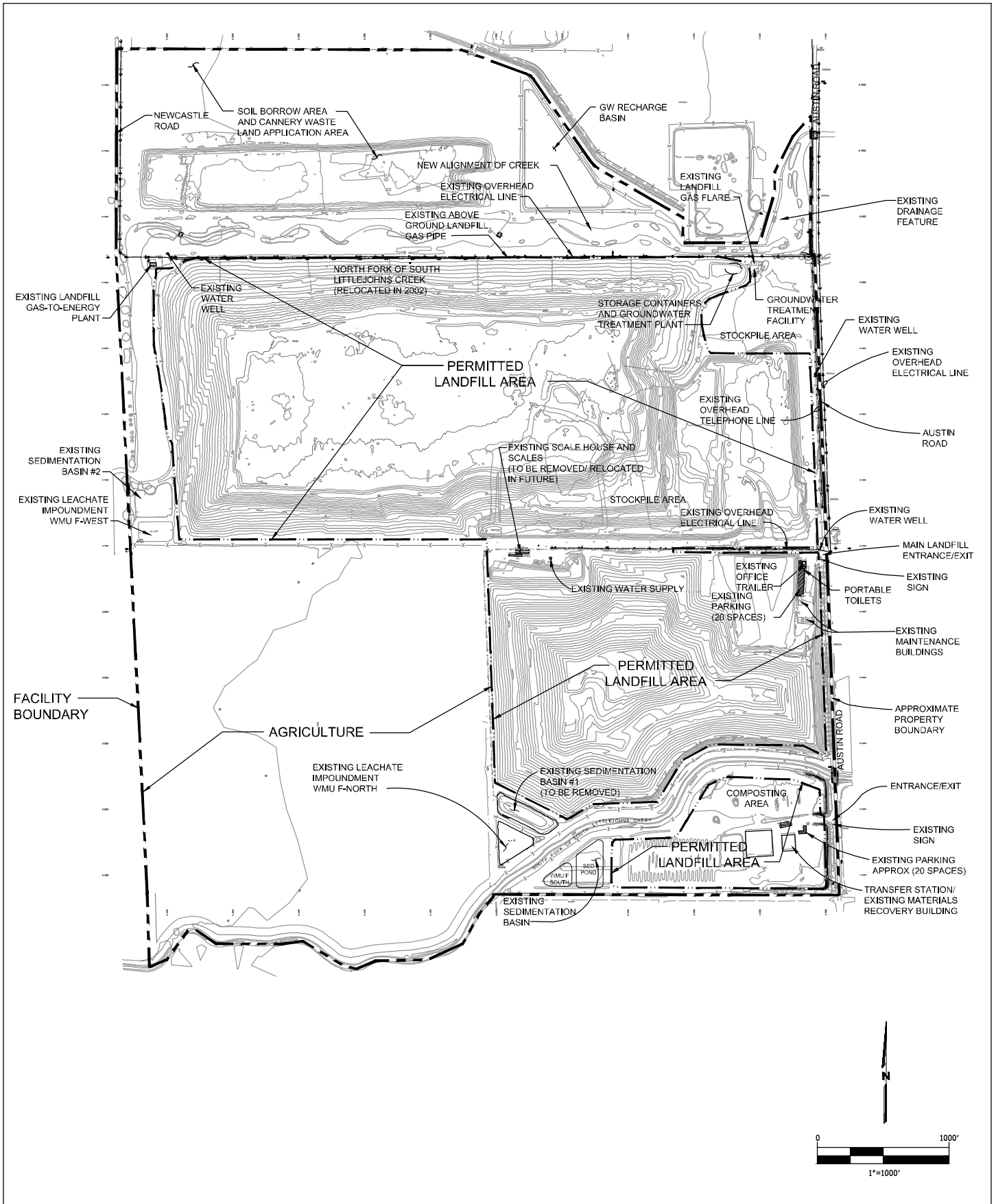
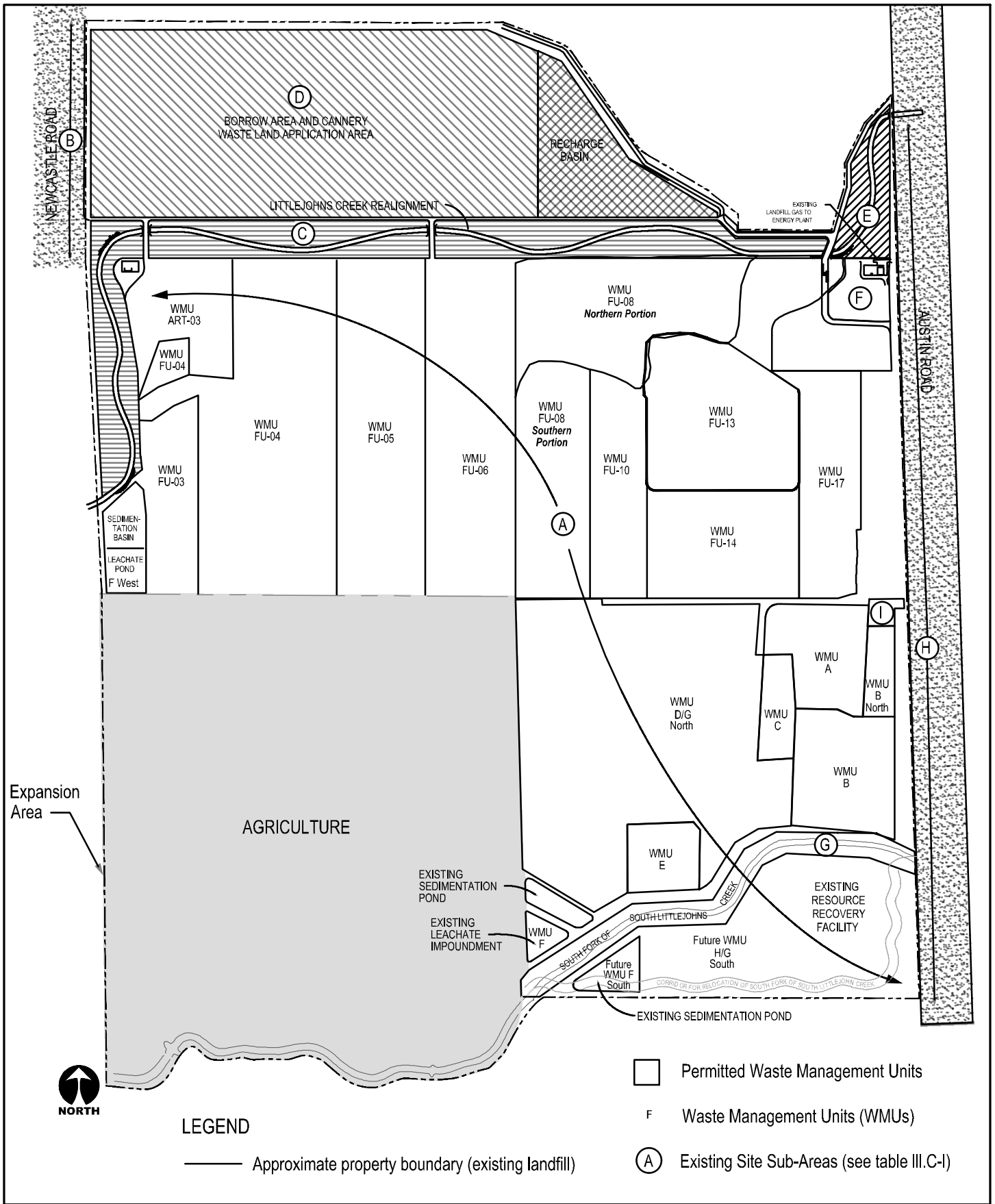


Figure III.C-2

Existing Permitted Uses and Site Facilities

Source: Tetra Tech/BAS, Inc.



**Figure III.C-3**

**Forward Landfill Sub-Areas and Waste Management Units**

footprint in the south area by shifting the existing disposal footprint to the north and realigning the South Fork of South Littlejohns Creek to the southern and eastern boundary of the site. Therefore, a total of approximately 14.9 acres of disposal footprint was proposed for addition to the landfill.

- The expansion of the disposal area would have increased total landfill capacity by approximately 8.0 million cubic yards beyond currently permitted levels, all of which would have been Class II landfill space.
- Relocate 3,000 feet of South Fork of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek would have been approximately 3,400 feet in length.

A Draft Supplemental EIR (DSEIR) was circulated for this proposed expansion in December 2014 and comments were received, but Forward abandoned the project before the Final Supplemental EIR was completed.

Forward is now proposing an expansion project (referred to herein as the 2018 Forward Expansion Project) similar to the 2014 Expansion Project described above. The additional proposed landfill acreage is entirely within the boundary of the 567-acres permitted under the current land use permit (UP-00-0007/ER-00-0002), approved by the Board of Supervisors on April 8, 2003. The 2018 Expansion Project would not entail putrescible waste (waste streams other than concrete, rock, asphalt, wood and yard waste) in the Outer Approach of the Stockton Metropolitan Airport, expansion of landfill footprint to within 10,000 feet of the end of the usable runway of the Stockton Metropolitan Airport, or expansion of landfilling operations on to any parcels of land under Williamson Act contract. The 2018 Expansion Project described in this Supplemental EIR does not include the 2012 Project's proposed horizontal expansion of landfilling operations on the 184-acre Brocchini parcel, nor any other changes to the current uses of that parcel.

The 2018 Expansion Project would make the following changes to the currently permitted landfill:

- Allow the construction of landfill disposal cells and landfilling operations within those cells on an 8.7-acre parcel that lies in the northeast portion of the site within the currently permitted landfill boundary. In addition, approximately 8.6 acres of landfill disposal area is proposed to be added in the south area by shifting the existing disposal footprint to the north and realigning the South Fork of South Littlejohns Creek to the southern and eastern boundary of the site (see Figures III.C-4 and III.C-5). Therefore, a total of approximately 17.3 acres of disposal footprint is proposed to be added. The western boundary of the footprint of these added cells would in all cases be consistent with applicable law and implementing advisories as detailed in Table 3A of the San Joaquin County Airport Land Use Compatibility Plan (ALUCP).
- The expansion of the disposal area would increase total landfill capacity by approximately 8.12 million cubic yards (cy) beyond currently permitted levels (see Figure III.C-6). This would increase the remaining landfill capacity from approximately 15.7 million cy



currently permitted to approximately 25 million cy. All of the increase would be Class II landfill space, to allow the expansion area to accept both Class II and Class III waste.

- Relocate approximately 3,000 feet of South Fork of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek would be approximately 3,400 feet in length. A permanent litter fence would be constructed along the landfill side of the relocated creek to reduce the amount of litter that may impact the creek. The litter fence would be approximately 10 feet high, with a high strength, UV-resistant netting and metal pipe used for the supports.
- Add a bridge crossing on the east side of the South Fork of South Littlejohn's Creek as shown on Figures III.C-5 and III.C-6.

The additional disposal area development would allow disposal at the landfill to continue until approximately 2036, a six-year increase from the current anticipated closure date of 2030.<sup>2</sup> It is important to note that closure dates for landfills are approximate because they are highly dependent on various factors such as the types of waste disposed at the landfill, the general economy, waste density, recycling rates, waste generation, and compaction of disposed waste, all of which are variable and subject to future change. At the Forward Landfill, incoming waste tonnage rose to a peak in 2006 and then continually declined until 2013.<sup>3</sup> Since 2013, disposal tonnage at the Forward Landfill has been relatively constant. The proposed 2013 project was based on planning that began in 2007, when it was assumed that the tonnage and airspace consumed would increase to the values that occurred prior to the 2007-2002 recession. However, actual tonnage disposed and annual airspace consumed were significantly less than the projections made for the 2013 project. At current disposal and airspace consumption rates, the landfill is anticipated to close in 2030.

Site operations would remain as described in the 2013 EIR for the previously proposed Forward Landfill expansion.

## **B. PROJECT OBJECTIVES**

CEQA Guidelines Section 15124(b) requires that the project description contain a clearly written statement of objectives, including the underlying purpose of the project. The proposed 2018 Forward Landfill Expansion Project would provide additional refuse capacity for the County of San Joaquin and the region. The objective of the 2018 Expansion Project is to meet both local and regional needs including the following specific objectives:

- Provide cost-effective, long term stable disposal capacity for municipal solid waste for existing and anticipated users of the Forward Landfill facility for that portion of the waste stream that cannot be recycled or diverted from landfilling, by the continued

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<sup>2</sup> Forward Landfill, computer spreadsheet entitled "*forward landfill expansion – site life 2017 8-16-17*", August 16, 2017.

<sup>3</sup> Sangeeta Lewis, Prinicipal, Lewis Engineering, *Letter report to Kevin Basso, General Manager, Forward, Inc., Subject: Forward, Inc. Landfill, Infill Development Project; Summary of Tonnage/Site Life/Waste Origin/Waste Type*, August 22, 2018.

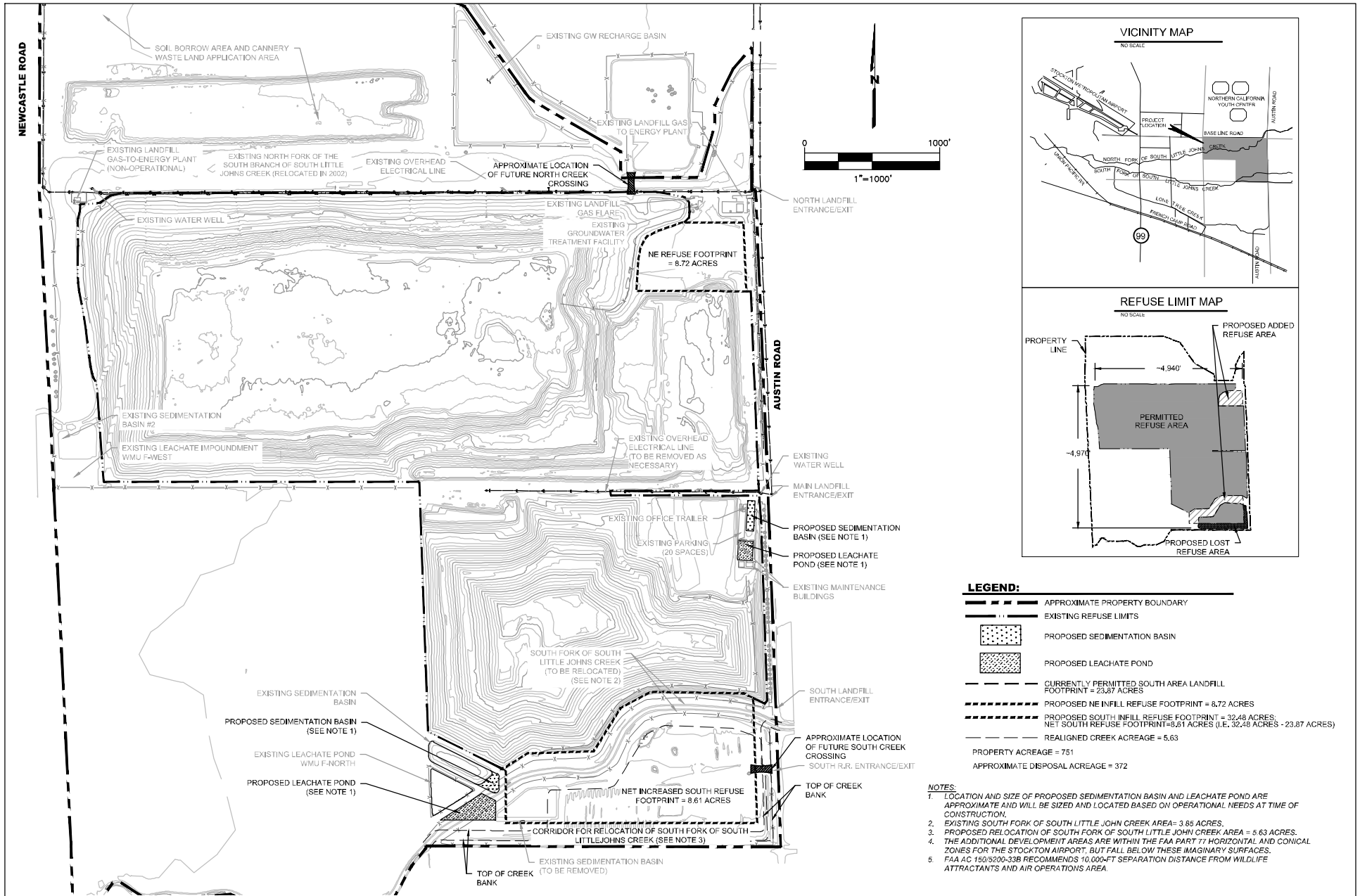


Figure III.C-4

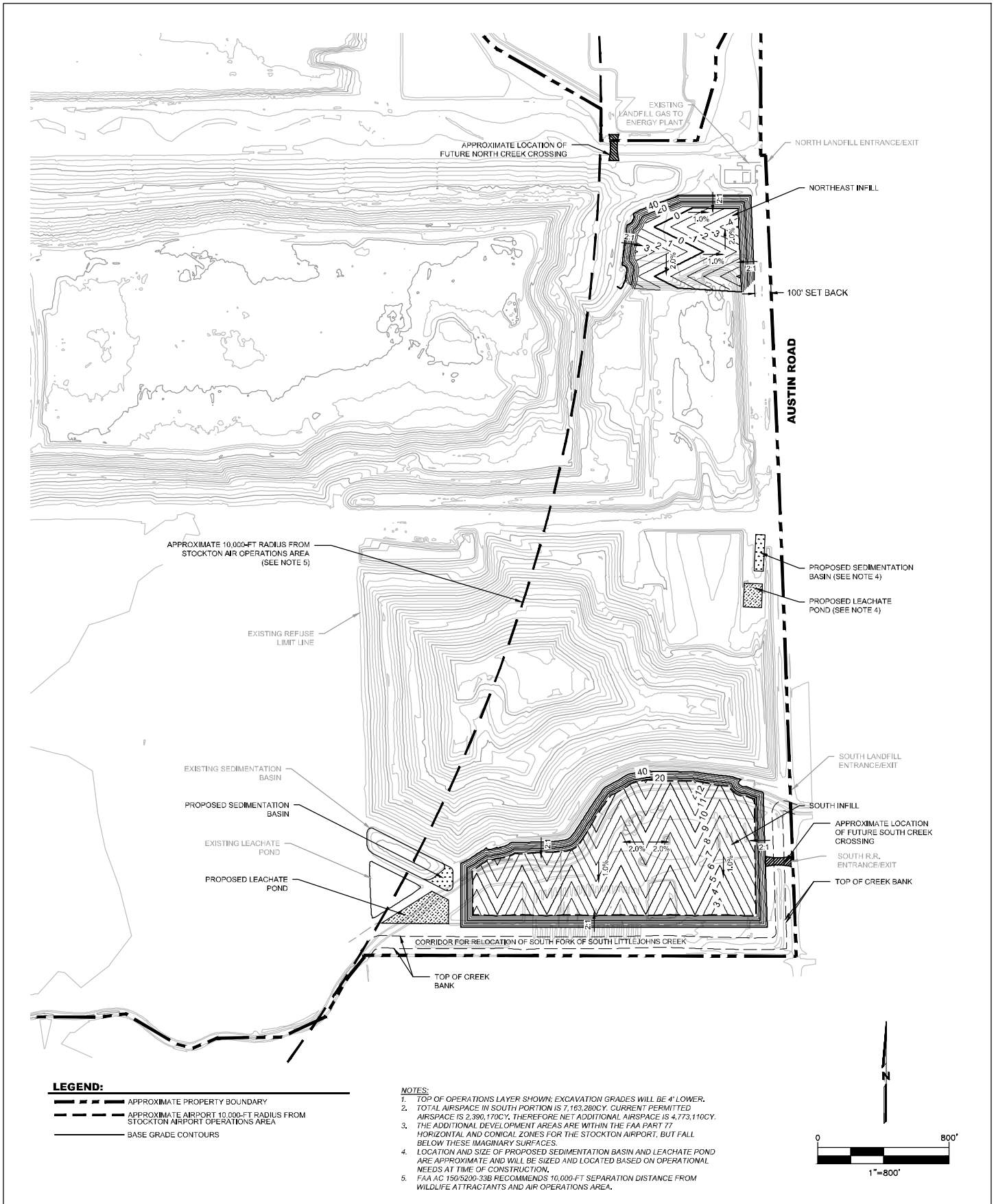


Figure III.C-5

Base Grading Plan

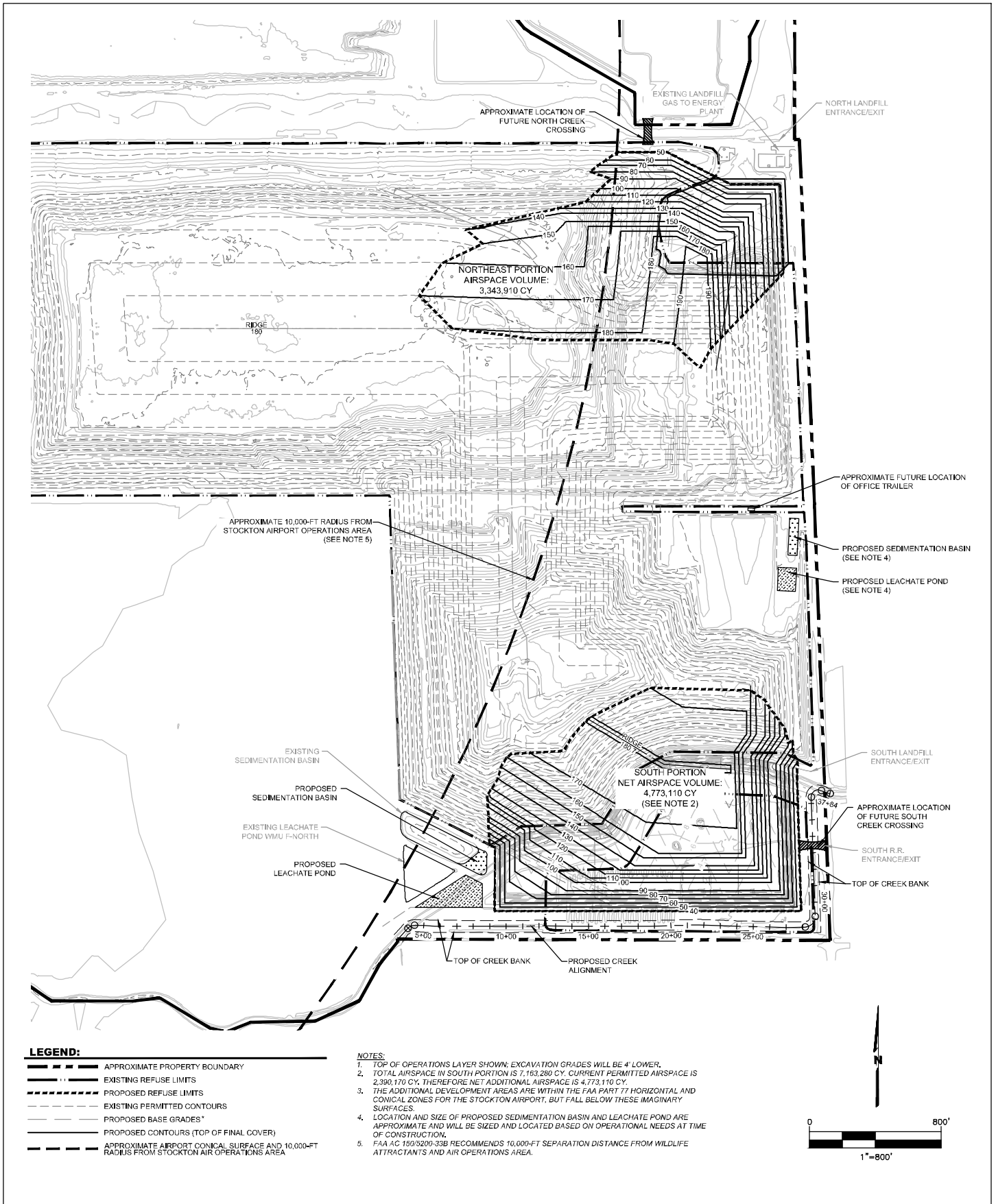


Figure III.C-6

Proposed Grading Plan

design, construction and operation of a centrally located and accessible, state-of-the-art, environmentally-safe sanitary landfill which meets or exceeds local, State and Federal standards.

- Support industrial and commercial growth in the County and surrounding communities by providing regional, centrally located and accessible Class II disposal capacity that no other currently permitted landfill in the County can provide. Class II disposal facilities provide for the environmentally safe containment of items such as contaminated soils, various types of construction and demolition wastes, ashes, and other materials that are critical to continued industrial and commercial growth and development in the County and surrounding regions.
- Assist the County and surrounding regions in meeting the current California state legislative mandate for recycling or beneficially reusing the non-hazardous waste stream and thus diverting from landfilling, and also assist these communities in meeting increased state recycling and beneficial reuse goals, by providing for the recycling and beneficial reuse of several categories of waste materials received at the facility, such as green waste, wood waste, construction and demolition debris, shredder wastes, shredded tires, and other consumer recyclables.
- Provide land area and facilities for an efficient, combined resource recovery and disposal operation to reduce or eliminate the need for solid waste to be delivered to multiple locations to achieve processing, beneficial re-use, and residuals disposal and thereby reduce green-house gas impacts and capital expenditures for improvements to roadways and associated infrastructure, such as transfer stations.
- Provide disposal capacity for disaster related debris, such as from fires, floods, and earthquakes.

### **C. SITE DESCRIPTION**

The existing Forward Landfill and surrounding land uses are described in III.C Site Description, pages III-3 to III-9 of the 2013 Forward Landfill Expansion Final Environmental Impact Report (FEIR) and reproduced and updated below. With the exception of two changes to nearby approved and proposed projects, which are discussed in Adjacent and Nearby Land Uses, below, and the installation of a larger Landfill Gas to Energy plant to replace the smaller plant described in the 2013 EIR, discussed under Existing Resource Recovery Facilities and Activities, below, there have been no changes to the site description in the 2013 EIR.

#### **Project Location and Access**

The existing Forward Landfill is located southeast of the City of Stockton at 9999 South Austin Road in Manteca, California (see Figure III.C-1).

Access to the site is from Austin Road, a rural two-lane, paved road oriented north/south connecting with Mariposa Road to the north and ultimately connecting with Highway 99. French Camp Road, Arch Road, Mariposa Road, Interstate 5, Highway 99, and Highway 120 provide access to Austin Road.

There are four entrances/exits to the site from Austin Road. The main entrance to the existing Forward Landfill is an approximately 65-foot wide gravel road that narrows to approximately 35 feet and extends approximately 2400 feet to the scalehouse. The main exit road parallels the entrance road and is paved for approximately 850-ft from the intersection at Austin road and is then gravel for another 1550 feet to the scalehouse. The portion of the exit road nearest Austin Road is approximately 50 feet wide and the road then narrows to approximately 35 feet wide. The main entrance is located approximately midway along the eastern boundary of the site. A second entrance/exit area is located in the northeast corner of the property and is used to access the northern portion of the landfill (the former Austin Road Sanitary Landfill). The entrance/exit to the transfer station/materials recovery facility is located south of the South Fork of South Littlejohns Creek. A 15-foot wide gravel access road is located directly north of the South Fork.

The entire area of the existing Forward Landfill is 567 acres (including easements but excluding the 184-acre "Broccchini" parcel). The various sub-areas of the site and their approximate acreage are summarized on Table III.C-1, and shown in Figures III.C-2 and III.C-3. The current permitted disposal footprint is approximately 355 acres, of which the current constructed Waste Management Unit (WMU) area is approximately 306 acres, and the remainder is used for other landfill activities such as soil borrow and storage until it is converted to WMUs. Ultimately, as identified on Table III.C-1, the landfill "footprint" will be a total of 388 total acres, including both existing and future permitted waste management units, access roads, and easements. The areas of the site that are designated as waste disposal areas but have not yet been constructed have been disturbed and are used for soil borrow or material recovery activities.

The terrain at the existing landfill and surrounding vicinity consists of a level plain with prominent landfill mounds. The North Fork of South Littlejohns Creek flows along the northern and northwestern boundaries of the project site.<sup>4</sup> The South Fork of South Littlejohns Creek traverses the southeast portion of the proposed project site. Both of these creeks generally flow from east to west. Original ground surface elevations range from 30 to 40 feet above mean sea level (MSL). The site is permitted to reach a maximum elevation of 210 feet MSL.

The project site includes the approximately 126-acre California Youth Authority (CYA) parcel north of the northernmost existing disposal area (sub-area D). The CYA parcel is part of the Forward Landfill site but is restricted by the terms of its acquisition to use as a borrow site or for composting and agricultural uses.

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<sup>4</sup> The North Fork traversed the project site until it was realigned following the consolidation of the former Austin Road and Original Forward Landfills. The realignment was approved as part of the permits for the former Austin Road Sanitary Landfill.

**Table III.C-1: Summary of Existing Site Sub-Areas**

<b>Location</b>	<b>Area (acres)</b>
A. Permitted Landfill Disposal Area (landfill footprint plus access roads and offsets from property lines and creeks)	388
B. Newcastle Road Right-of-Way (road easement)	2
C. North Fork of South Littlejohns Creek Easement	16
D. CYA Parcel	126
E. Triangular Parcel	11
F. Landfill Gas to Energy Plant, Potential Disposal Area	10
G. South Fork of South Littlejohns Creek Easement	11
H. Austin Road Right-of Way (road easement)	2
I. Forward Entrance Facilities	1
<b>Total</b>	<b>567</b>

Note: Letter designations A – I correspond to similar designations on Figure III.C-3  
 Source: Lewis Engineering, 2009

As summarized in Table III C-1, the project site includes the following:

- An approximately 11-acre triangular parcel located in the northeast corner between Austin Road and the entrance road to the northern area of the landfill (sub-area E on Figure III.C-3). This parcel is intended for use as floodplain containment.
- An approximately 10-acre parcel, located directly south of the triangular parcel, proposed to be filled with waste as part of the proposed project. The northern portion of this area contains the Ameresco Landfill Gas to Energy Plant (sub-area F on Figure III.C-3).
- An approximately 11-acre easement along the South Fork of South Littlejohns Creek (sub-area G on Figure III.C-3). This area is proposed to be filled with waste as part of the project and would be replaced by an approximately 11-acre easement for the realigned reach of the creek, located along the southern border of the landfill.
- An approximately 16-acre easement for the relocated North Fork of South Littlejohns Creek (sub-area C on Figure III.C-3). The North Fork previously traversed the northern portion of the existing landfill, but was relocated to the north boundary of the existing landfill, as part of the previously approved expansion of the former Austin Road Sanitary Landfill.
- Easements for Newcastle and Austin Roads of approximately 2 acres each, on land owned by Forward, Inc. (Sub-areas B and H, respectively, on Figure III.C-3.)

### **Adjacent and Nearby Land Uses**

Adjacent land uses include agricultural lands to the east, west, and south (See Figure IV.A-1 in the Land Use section). The O.H. Close Youth Correctional Center, a criminal detention facility, is located on Newcastle Road approximately 1,900 feet from the northernmost existing Forward Landfill disposal area and approximately 300 feet north of the soil borrow area in the CYA parcel. Two recently constructed facilities of the California Department of Corrections and Rehabilitation, the Northern California Re-Entry Facility and the California Health Care Facility, also are located north of the landfill, west of Austin Road and south of Arch Road, as discussed below. The nearest runway of the Stockton Metropolitan Airport is approximately one mile west of the current Forward Landfill site. The Burlington Northern and Santa Fe Intermodal Facility, a 470-acre train/truck cargo transfer and storage facility, is located approximately one mile northeast of the site, along the Burlington Northern and Santa Fe railroad line.

With the exception of the Department of Corrections and Rehabilitation facilities, the area surrounding the project site is mostly agricultural and sparsely populated. The nearest residence is located at 9690 Austin Road. It is located across Austin Road from the entrance facilities area and approximately 150 feet from the landfill entrance gate. This dwelling is currently rented by Forward and kept vacant. Two residences are located on Lynch Road, approximately 0.5 miles southeast of the site. In addition, two residences with surrounding ancillary structures are located on the east side of Austin Road, approximately one mile north of the main landfill entrance. Another residence with surrounding ancillary structures is located on Austin Road farther north of the site.

Within two miles of the project site, the 2013 EIR identified four projects that had been recently approved. As discussed below, two of these, the California Health Care Facility and Northern California Re-Entry Facility and renovation of the former Dewitt-Nelson Youth Correctional Facility, have been completed:

- Arch Road Industrial Project, located on the south side of Arch Road between Austin and Newcastle Roads, west of the Northern California Re-Entry Facility (discussed below). The project consists of light industrial and warehouse uses on a 63-acre site, and has not yet been constructed.
- Archtown Industrial Project, located on an approximately 70-acre site at the southwest corner of Arch and Newcastle Roads. The project consists of light industrial and warehouse uses, and has not yet been constructed.
- California Health Care Facility, located on a portion of the existing Northern California Youth Correctional Center west of Austin Road between the Forward Landfill and Arch Road, consisting of a 1,722-bed health care facility totaling approximately 1.2 million square feet, with housing clusters, diagnostic and treatment centers, armory, warehousing and support facilities, central plant, outdoor recreation fields, gatehouse, regional food service facility, staff training facilities, parking areas, and security fence and lighting. This facility was complete and in operation at the time this SEIR was prepared.
- Northern California Re-Entry Facility and renovation of the former Dewitt-Nelson Youth Correctional Facility, located adjacent to one another on the south side of Arch



Road between Austin and Newcastle Roads. The Northern California Re-Entry Facility, at the site of a former correctional officer training academy and Northern California Women's Facility, consists of construction of an approximately 16,000-square-foot medical building and renovation of existing buildings for facility program support services, dining and receiving, family visiting, academic and vocational education, and miscellaneous, with a capacity of 500 inmates and 381 staff. The adjacent Dewitt-Nelson Youth Correctional Facility (closed in 2008) was renovated and reused as a 1,133-bed adult correctional facility with a mental health treatment mission, currently known as the O.H. Close Youth Correctional Center. (It should be noted that the Dewitt-Nelson Youth Correctional Facility portion of this project was not specifically identified in the 2013 EIR.) At the time this SEIR was prepared, these facilities had been constructed.

Since the 2013 EIR was prepared, the following project was approved by the City of Stockton:

- Tidewater Crossing, located west of Highway 99 and north of French Camp Road. The project is an 878-acre residential development with 2,365 dwelling units.

Within one mile of the project site, the 2013 EIR identified one proposed project:

- Opus Logistics Center, located northwest of the intersection of Arch and Austin Roads, consisting of subdivision and development of 475 acres within the City of Stockton for industrial uses (Phase I), and rezoning and annexation to the City of Stockton of an adjacent 148 acres (currently within San Joaquin County) for industrial use (Phase II). (Funderburg, 2009; ESA, 2008)

Since the 2013 EIR was prepared, the Opus Logistics Center was renamed "NorCal Logistics Center", and Phase II (annexation to the City of Stockton of an adjacent 148 acres) was withdrawn from consideration. In 2015, the City of Stockton approved subdivision of approximately 325 acres of the 475-acre project area within the City of Stockton, with no change to the size or type of industrial development allowed on the property. Thus, the currently proposed project is smaller than the project identified in the 2013 EIR, and does not include new or different uses that were not described in the 2013 EIR. At the time this SEIR was prepared, construction was underway for a portion of the project (McDowell, 2018).

The Mariposa Lakes project, a 3,810-acre residential project with 10,514 dwelling units, located southeast of Stockton city limits, was approved by the City of Stockton, but the project site has not been annexed to the City. It is considered unlikely that this project would be constructed before the anticipated closure date of the proposed Forward Landfill expansion project.<sup>5</sup> Therefore, this project is not included in the cumulative projects evaluated in this EIR.

No other substantial changes to the existing landfill or nearby land uses have occurred since the 2013 FEIR was prepared.

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<sup>5</sup> Mike McDowell, Planning Manager, Planning & Engineering Division, Community Development Department, City of Stockton, email to Pang Ho, PHA Transportation Consultants, 10 April 2018.

## D. EXISTING LANDFILL CONDITIONS

Existing conditions at the Forward Landfill are described in III.D Existing Landfill Conditions, pages III-10 to III-16 of the 2013 Forward Landfill Expansion Final Environmental Impact Report (FEIR), and are reproduced below, along with a discussion of Waste Management Unit (WMU) FU-17, created since the 2013 EIR was prepared. With the exception of WMU FU-17 and application of cannery waste, discussed under Permitted Waste Stream and G. Recent Projects at the Forward Landfill, below, no substantial changes have occurred to existing conditions at the landfill since the 2013 FEIR was prepared (see Figures III.C-2 and III.C-3).

### Existing Waste Management Units and Facilities

The existing Forward Landfill consists of a number of Waste Management Units (WMUs), as shown on Figure III.C-3. The labeling of the WMUs has occurred in conjunction with site development. The existing Forward Landfill includes the approximately 123-acre original disposal area<sup>6</sup> of the former Austin Road Sanitary Landfill, which, unlike more recently constructed areas of the landfill, does not contain a base liner or leachate collection and removal system (LCRS). Figure III.C-7 shows typical cross-sections of the liner, the leachate collection trenches and pipes, and final cover.

The first WMU established at the original Forward Landfill was an approximately 8-acre Class I<sup>7</sup> disposal area labeled WMU A, located on the eastern side of the site, near the main entrance facility. Hazardous and designated wastes, consisting primarily of industrial plant process waste, were disposed of in WMU A from 1979 through 1984, and the unit was closed in 1989.

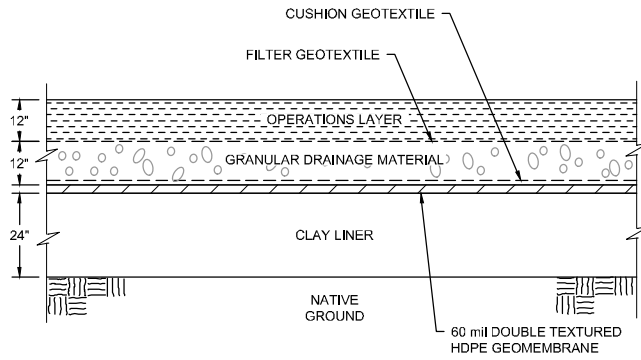
WMUs B and B-North are Class III units encompassing a combined area of approximately 15 acres. The waste in WMU B consists primarily of nonhazardous solid wastes, while WMU B-North contains inert wastes. WMUs B and B-North began operations in the late 1970s. WMU B-North is temporarily inactive and WMU B is near capacity.

WMU C, an approximately 4-acre Class III unit, overlies the south end of WMU A. Because WMU A is a Class I unit, a compacted clay dike was constructed in the north end to separate the hazardous WMU A wastes from the nonhazardous WMU C wastes. In 1994, the western portion of the waste in WMU C was overlain by a liner and LCRS, and municipal solid waste and designated wastes were placed over the liner. Only municipal solid waste and not designated wastes were placed over the portions not underlain by an interface liner and LCRS.

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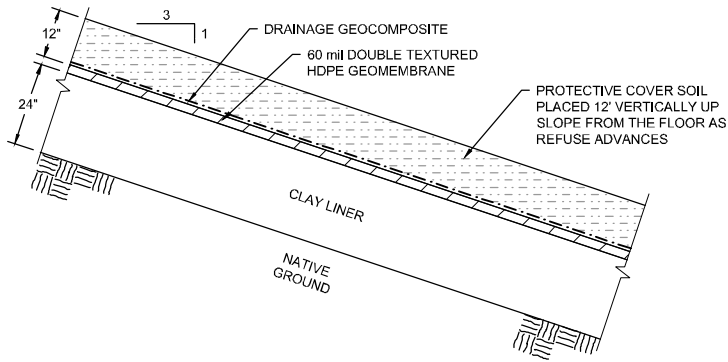
<sup>6</sup> The former City of Stockton's Austin Road Sanitary Landfill (now the northern portion of the current Forward Landfill) consisted of a total of 410 acres, as mentioned above. The 410 total acres included various non-disposal uses, as well as the original disposal area of 123 acres.

<sup>7</sup> Hazardous (Class I) wastes are defined by California law, and include wastes specifically listed because of their known hazardous natures, and wastes that show any of the characteristics of a hazardous waste (ignitability, corrosivity, reactivity, and toxicity). Designated (Class II) wastes are defined as nonhazardous wastes that contain pollutants that could be released in excess of water quality objectives or could cause degradation of waters, or hazardous wastes that have been granted a variance by the California Department of Toxic Substances Control (DTSC) to be disposed in a Class II unit. Class III waste is nonhazardous Municipal Solid Waste.



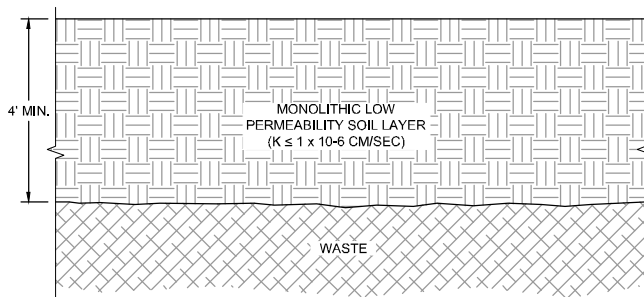
### BASE LINER SYSTEM

SCALE: NOT TO SCALE



### SLOPE LINER SYSTEM

SCALE: NOT TO SCALE



### FINAL COVER SYSTEM

SCALE: NOT TO SCALE

Figure III.C-7

WMU D comprises a significant portion of the area north of the South Fork of South Littlejohns Creek. Operating WMUs in this area are permitted to receive designated wastes, and were constructed to meet Class II regulatory requirements for base liners and LCRSs.

WMU E is an ash fill, also known as the Eastern Ash Disposal Pit, was constructed in 1987 at 4 acres and was expanded to 6 acres in 1992. A liner was placed over the northern, eastern, and western sides of WMU E in 1999 and 2000 to separate the ash from designated waste that would be placed above it. A final cover was placed on the south side in 1999.

WMU F North, constructed in 1999, is an approximately 1-acre leachate<sup>8</sup> impoundment located just north of the South Fork on the western side of the site. The leachate impoundment was sized based on actual leachate generation records from 1991 to 1997 and has a design capacity of approximately 3.5 million gallons. WMU F-West, constructed in 2003, is a leachate impoundment located west of WMU FU-03 and has a design capacity of 3.4 million gallons. Both leachate impoundments are classified as Class II impoundments and contain a double liner and leachate collection system.

Soil treatment and sludge drying is permitted in WMU G. WMU G is divided into G-North and G-South, located north and south of the South Fork of South Littlejohns Creek, respectively. The WMU G units occupy the same areas as WMUs D and Future H. The WMU D units have replaced WMU G-North. As currently permitted, WMU Future H will replace WMU G-South (currently the site of the materials recovery facility) to accommodate waste disposal.

The northern portion of Forward Landfill encompasses the former Austin Road Sanitary Landfill, which began accepting municipal solid waste in 1954 and which, as mentioned above, does not contain a base liner or LCRS. Forward purchased the former Austin Road Landfill from the City of Stockton in 2000. The former Austin Road Landfill was under a Regional Water Quality Control Board (RWQCB) corrective action program for volatile organic compound (VOC) contaminated groundwater at the time of the purchase. Forward is continuing to monitor and remediate the groundwater contamination from the former Austin Road Landfill.

The top of the former Austin Road Sanitary Landfill has been graded to drain to the south, and a final cover was placed on the top and on the entire northern slope. The northern portion of WMUs FU-03 to FU-08 overlies the top of the former Austin Road Sanitary Landfill. Only Class III waste is permitted for placement above the top of the former Austin Road Sanitary Landfill. The southern portion of these WMUs overlies the southern slope of the former Austin Road Landfill and the portion of the site that was known as the former Austin Road Landfill Expansion Area. The southern portion of the WMUs is constructed to meet Class II (designated waste) requirements for base liners and LCRSs and is permitted to receive designated wastes. Liners are placed to separate the Class II waste in the southern portion of WMUs FU-03 to FU-13 from the Class III waste located in the former Austin Road Sanitary Landfill.

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<sup>8</sup> Leachate varies in composition depending on the age of the landfill and the type of waste that it contains, but usually contains both dissolved and suspended material and may contain various contaminants.

Since the 2013 EIR was prepared, WMU FU-17 was constructed east of WMUs FU-13 and FU-14. WMU FU-17 was constructed to meet Class II (designated waste) requirements for base liners and LCRSs and is permitted to receive designated wastes.

The existing Forward Landfill facilities also include a transfer station/materials recovery/composting facility (described under Existing Resource Recovery Facilities and Activities, on page III-14), soil borrow areas, composting areas, storage and support areas, and land application areas for cannery waste (see Figures III.C-2 and III.C-3).

### **Permitted Waste Management Units (not yet constructed)**

As depicted in Figure III.C-3, future WMUs are currently permitted to the east of WMU FU-17 and in WMU Future H area (south of the South Fork), with liners and LCRSs similar to those presently used. As discussed above, WMU Future H will replace WMU G-South (currently the site of the materials recovery facility). WMU F South is currently permitted in the southwest corner of the existing Forward Landfill, south of the South Fork of Littlejohns Creek. WMU F South is permitted as a Class II impoundment. All of the areas that are permitted but have not yet been constructed as waste management units have been disturbed and used for purposes ancillary to landfill and recycling operations. Thus, these areas have been partially excavated for further cell development, or used for soil borrow, resource recovery, or ancillary facilities such as stormwater and sedimentation control.

### **Permitted Waste Stream**

The existing Forward Landfill is permitted and operated as a Class II (designated waste) and Class III (nonhazardous Municipal Solid Waste) landfill. The Forward Landfill's Solid Waste Facilities Permit (SWFP) allows a maximum inflow rate of 46,080 tons per week, not to exceed 8,668 tons per day, including some beneficial reuse materials and materials delivered to the RRF. The permitted vehicle limit is 620 trucks per day, however, in 2017 and the first quarter of 2018, the landfill has averaged 233 daily trucks. Both the tonnage and vehicle limits are combined limits for the Forward Landfill and Forward Resource Recovery Facility<sup>9</sup>.

The existing Forward Landfill may accept both nonhazardous municipal (Class III) and designated (Class II) wastes. It may also accept all wastes included in the Landfill's Joint Technical Document (JTD) such as wastes that meet the Class II and III criteria for waste disposal as specified in the Waste Discharge Requirements (WDRs)<sup>10</sup> issued by the Central Valley Regional Water Quality Control Board (CVRWQCB) for the site, wastes granted a variance to be disposed of in a Class III waste management area including, but not limited to, asbestos and preprocessed treated automobile shredder waste, and a variety of nonhazardous commercial and industrial wastes including but not limited to sewage sludge; water treatment sludge; grit/grease; holding tank pumpings; storm drain cleanings; dredge and fill materials; rubbish; fiberglass; soils contaminated with petroleum hydrocarbons, metals, nonpetroleum-based organics, and/or soluble solids; ash;

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<sup>9</sup> The Forward Resource Recovery Facility incorporates both the transfer and material recovery operations at the site. It is also known as the Forward Materials Recovery Facility (MRF).

<sup>10</sup> These Waste Discharge Requirements are on file with the Community Development Department.

treated infectious waste; metals-contaminated wastes; organic compound contaminated materials; chemical toilet waste; boiler blowdown water (in dry form only); construction and demolition waste; processed tires; septic tank pumpings; agricultural waste including cleansed pesticide containers and garden and landscaping material; inert waste; designated wastes compatible with surface impoundment liner; other industrial/commercial nonhazardous waste; small dead animals; and nonhazardous leachate.

Some of the materials accepted at Forward are used as alternative daily cover (ADC) and can be classified as beneficial reuse. Under the provisions of Chapter 978, Statutes of 1996 (AB 1647, Bustamante), alternative daily cover and other beneficial reuse of waste materials in the operation of a solid waste landfill were defined as constituting diversion through recycling (PRC Section 41781.3). In LEA Advisory 50, the California Department of Resources Recycling and Recovery (CalRecycle) states that municipal solid waste landfills represent a potential ideal location for waste diversion end uses. Disposal sites typically have ready access to waste materials amenable to diversion and the diversion facilities necessary to produce these materials.

Based on a review of Forward's 2016 waste acceptance summary, the majority of materials accepted at the Forward Landfill are from San Joaquin, Stanislaus and Sacramento counties. More than eighty-five percent of the material accepted at the Forward Landfill is from San Joaquin County and the directly adjacent counties. Less than 0.02 percent of the waste was from San Francisco and Santa Clara counties. Of the materials accepted at the Forward Landfill from counties that are not directly adjacent to San Joaquin, the majority are beneficial reuse materials.

The 2013 EIR described an approximately 7.5-acre pilot project for land application of cannery waste (see pages III-13 and III-14 of the 2013 EIR). As described under G. Recent Projects at the Forward Landfill, below, in February 2014 the Regional Water Quality Control Board issued new Waste Discharge Requirements for the Forward Landfill that included, among other modifications, the land application of cannery waste in the northern portion of the site (north of the North Fork of South Littlejohns Creek). The cannery wastes season is from June through October. The residuals handled are primarily from the processing of peaches and tomatoes. The waste consists of whole fruits and vines, pomace (the solid remains of fruit after pressing for juice), culls, leaves, and cannery rinsate water and mud. The cannery wastes are trucked to the site and dumped and spread evenly over native ground. The waste is allowed to dry and is then incorporated into the soil. Proper evaporation prevents anaerobic odors and interrupts the life cycle of flies. The solar drying of wet material within five days prevents fly development. Daily records are kept for the cannery waste disposal describing the loads received, location of disposal area, a log of unusual occurrences, and the removal of extraneous material. Potential unusual occurrences include precipitation in the late summer to early fall. The cannery waste area is surrounded by a berm; in the case of an unlikely precipitation event, the water would be disced into the soil and allowed to dry. Land discharge of cannery wastes as a soil amendment is considered a reuse of materials, which aids the County in achieving State-mandated waste diversion goals.

### **Waste Composition**

For the period 2013-2017, waste disposed at the Forward Landfill consisted of:<sup>11</sup>

Municipal solid waste	65.8%
Class II miscellaneous waste	13.0%
Cover Material	8.0%
Green waste	4.0%
Ash	3.8%
Class II soil	2.2%
Sludge	1.5%
Asbestos	0.8%
Treated Wood waste	0.5%
Construction and demolition waste	0.3%

### **Waste Origin**

For the period 1995-2017, waste disposed at the Forward Landfill originated from:<sup>12</sup>

San Joaquin County	31%
Sacramento County (adjacent)	33%
Stanislaus County (adjacent)	12%
Alameda County (adjacent)	5%
Santa Clara County	4%
El Dorado County	3%
All Other Counties Combined	12%

### **Existing Landfill Storage and Support Facilities**

Existing support facilities at the two landfills consist of an entrance facilities area, two scale houses and three scales, two water production wells, maintenance and storage areas, a transfer station/materials recovery building, a landfill gas-fired electrical generation plant, a groundwater extraction and treatment system, a landfill gas flare station, leachate evaporation basins, a tire wash, and sedimentation/detention ponds.

The main scale house is located at the center of the eastern boundary of the existing Forward Landfill site. A second scale house and scale are located in the southeastern portion of the landfill (to serve the resource recovery facility).

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<sup>11</sup> Sangeeta Lewis, Principal, Lewis Engineering, Letter report to Kevin Basso, General Manager, Forward, Inc., Subject: Forward, Inc. Landfill, Infill Development Project; Summary of Tonnage/Site Life/Waste Origin/Waste Type, August 22, 2018.

<sup>12</sup> Sangeeta Lewis, Principal, Lewis Engineering, Letter report to Kevin Basso, General Manager, Forward, Inc., Subject: Forward, Inc. Landfill, Infill Development Project; Summary of Tonnage/Site Life/Waste Origin/Waste Type, August 22, 2018.

A water production well that supplies a standpipe near the main entrance facility for the existing Forward Landfill produces approximately 1,500 gallons per minute (gpm). A second well at the existing Forward Landfill is located south of the South Fork and has a capacity of 500 gpm. There are additional wells used primarily for irrigation located in the northwest corner and the northeastern portion of the existing landfill.

The 2013 EIR described a landfill gas-to-energy plant operated by Forward, along with a field of extraction wells in the former Austin Road Sanitary Landfill in the northern portion of the site. Landfill gas was collected to produce up to 760 kilowatts (kW) of electrical power at an electrical generation plant (known as the Covanta plant) located in the northwest portion of the landfill. The power was sold to Pacific Gas and Electric Company (PG&E) under a long-term agreement. The amount of electrical power produced by the plant described in the 2013 EIR was sufficient to power approximately 350 to 400 homes. Additional gas extracted from the landfill was destroyed at the flare station in the northeast portion of the landfill. Since the 2013 EIR was prepared, the former landfill gas-to-energy plant described above (the Covanta plant) was replaced by a new, larger Ameresco Landfill Gas to Energy plant, as discussed in more detail under Air Quality Control, and G. Recent Projects at the Forward Landfill, below. This larger plant can produce approximately 4,000 kW, enough to power approximately 1,800 to 2,100 homes.

### **Existing Resource Recovery Facilities and Activities**

Salvaging, volume reduction, recycling, and composting activities are conducted at the Forward Resource Recovery Facility (RRF) located in the portion of the existing Forward Landfill south of the South Fork of South Littlejohns Creek. The RRF includes an in-ground scale, office trailer, and processing and composting pads.

The RRF is operated under a Solid Waste Facilities Permit (SWFP) that was issued in 2004. This permit is a separate permit from the Solid Waste Facility Permit for the remainder of the Forward Landfill operations. However, the tonnage and vehicles limits in the SWFP for the RRF are included within the total tonnage and vehicle limits in the most recent SWFP for the Forward Landfill that was issued in 2012. The Forward Landfill SWFP allows a maximum inflow rate of 46,080 tons per week, not to exceed 8,668 tons per day, including some beneficial reuse materials and materials delivered to the RRF. Therefore, these daily and weekly tonnage limits are the combined limit for the Forward Landfill and Forward Resource Recovery Facility. The composting operations are operated under waste discharge requirements issued by the RWQCB, in addition to the tonnage and vehicle limits set in the SWFP.

The RRF accepts materials such as source separated construction and demolition debris, consumer recyclables (such as plastic, cardboard, metal, wood, fabric, paper, and sheetrock), and green waste, as specified in the SWFP and Report of Composting Site Information, and the Waste Discharge Requirements (WDRs) and Joint Technical Document (JTD) for the landfill. Feedstock is received from sources throughout San Joaquin, Sacramento and Stanislaus Counties, including collection and transfer trucks, self-haulers, independent recycling haulers, and tree trimming/landscaping firms.



The RRF area is currently being used to transfer source-separated recyclables and for composting and other green-waste-related operations. The materials recovered from the RRF include plastic, glass, cardboard, newspapers and paper, ferrous and nonferrous metals, wood, and other nonhazardous, inert materials (such as foam).

The wood waste processing operation consists of chipping incoming wood, lumber, and bulk yard wastes as an alternative fuel source for cogeneration energy facilities and other reuses or recovery such as mulch or compost. Sorting bins and wood waste stockpiles are located near the 12,000-square-foot RRF building. The area of the RRF separation area expands and contracts depending upon the amount of materials sorted and stored, and the resale market.

Material received at the RRF for composting may include green waste, mixed paper, municipal solid waste (MSW), and food and agricultural waste. The end product of the composting process may be used as a topsoil amendment, mulch, or a soil conditioner for various applications. The composted material may also be used in the landfill as an alternative daily cover material.

The maximum capacity of the Compost Facility depends on the composting technology employed. Forward may operate with one or a combination of composting technologies, including compost windrows turned by front end loaders, and windrow composting using a windrow turning machine. A monthly average of 5,735 tons was composted in 2017.

Forward Landfill uses certain waste materials in its beneficial reuse program as described in the JTD (SWT Engineering, 2018). Subject to approval and supervision of the San Joaquin County Environmental Health Department (SJEHD), which acts as Local Enforcement Agency (LEA) for the California Department of Resources Recycling and Recovery (CalRecycle), materials such as preprocessed treated automobile shredder waste are substituted for "virgin" materials used as alternative daily cover (ADC). Inert materials such as concrete, rock, and asphalt are used for wet-weather roads and drainage improvements. Wood and yard waste may be processed and used for ADC.

## **E. EXISTING LANDFILL OPERATIONS**

Existing operations at the Forward Landfill are described in III.E Existing Landfill Operations, pages III-16 to III-26 of the 2013 Forward Landfill Expansion Final Environmental Impact Report (FEIR), and included below. No substantial changes to existing operations at the landfill have occurred since the 2013 FEIR was prepared, with the exception of installation of an improved tire washing system at the site's main driveway, discussed under Dust, below, the land application of cannery wastes, and the start of operation of the Ameresco Landfill Gas to Energy plant, described under Air Quality Control, below. In the 2013 EIR, the tire washing system was described as part of the previously proposed project, and the Ameresco Landfill Gas to Energy plant was described as permitted but not constructed.

## **Waste Handling and Screening Procedures**

### **Landfill Operation**

The existing Forward Landfill is constructed by the “area fill” method. Under this method, each lift of refuse is approximately 150 feet wide and up to 20 feet high. Waste placed during the day is covered with soil and/or an approved Alternative Daily cover (ADC), which is then compacted by a dozer or compactor to complete the cell. Forward Landfill uses synthetic tarps, preprocessed treated automobile shredder waste, processed green material, ash and cement kiln dust, and shredded tires as ADC.

As refuse is being unloaded, landfill staff inspects the loads for recyclable or prohibited materials. Unacceptable waste identified by landfill staff is separated for proper treatment and disposal, or rejected and returned to the customer. As appropriate, customers with recyclable or salvageable items are directed to the RRF.

To achieve adequate waste compaction, the active working face is sloped at approximately 3:1 (horizontal:vertical) or flatter. The working face is covered daily with at least 6 inches of cover soil or a permitted alternative daily cover material. The top surface and sides of the advancing lift are covered with a layer of soil at least one foot thick when wastes are not scheduled to be placed there within 180 days.

### **Land Treatment Units and Treatment of Contaminated Soil**

Contaminated soils accepted at the existing Forward Landfill are disposed directly into Class II WMUs as regulated by the RWQCB. The RWQCB sets parameters for the acceptance of contaminated soils, as articulated in the site’s Waste Discharge Requirements. The contaminated soils that can be accepted at the Forward Landfill are considered non-hazardous in accordance with state and federal regulations. All contaminated soils that are accepted at Forward have been approved prior to arriving at the site based on analytical testing documentation. In the past, Forward has implemented programs for treating both gasoline and nonvolatile petroleum hydrocarbon contaminated soil, as described below.

The contaminated soil treatment system consists of an area where appropriate fertilizers are added to the contaminated soil and the soil is mechanically aerated to accelerate biodegradation of hydrocarbons (bioremediation process). The objective of the treatment process is to biodegrade the hydrocarbons to levels appropriate for landfilling. After the contaminated soils have been adequately treated, the soil can be used for daily cover, intermediate cover, or foundation layer for the closure cap. If necessary, the treated soils can be disposed in a Class II or Class III WMU.

Although there are currently no Land Treatment Units (LTUs) at the site, LTUs have been constructed in the past and may be utilized in the future. A LTU is an area constructed with a liner, berm, stormwater collection system, and monitoring system, in which a layer of contaminated soil is placed for treatment. LTUs for contaminated soil are permitted within WMU G-North or G-South. These treatment units may also be used to treat other nonvolatile

organics that are suitable for bioremediation such as PNAs (polynuclear aromatic hydrocarbons).

Although Forward is not currently treating gasoline-contaminated soil, these soils have been treated in the past and may be treated in the future. Gasoline-contaminated soils would be treated in WMU G-North or G-South by a vapor extraction and thermal oxidation technique in accordance with San Joaquin Valley Air Pollution Control District regulations on uncontrolled air emissions. To verify that vacuum extraction has sufficiently reduced soil contaminant levels below the designated level for disposal, soil samples would be collected from the cell at the initiation of remediation and then monthly to monitor the remediation process. The samples would be analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, ethylbenzene, xylene (BTEX). Approval for final disposition of the material would be requested from San Joaquin County Environmental Health Department (SJCEHD). Upon verification that the soil in a cell has been adequately cleaned, the soil would be removed and disposed onsite in an appropriate waste cell or used as daily or intermediate cover. These treatment units may also be suited for other volatile organic compounds such as halogenated volatile aromatics, etc.

### **Sludge Treatment and Disposal**

Sludge treatment is allowed in WMU G. If treated, the sludges would be spread and dried on a one-foot thick clay pad and then transferred to a waste management unit for disposal.

### **Asbestos Disposal**

The existing Forward Landfill handles and disposes Asbestos-Containing Materials (ACM) in accordance with applicable federal and state regulations. All ACM delivered to the existing Forward Landfill must be scheduled in advance and accompanied by the proper documentation, which is checked by the scale-house attendant. All ACM is landfilled in an area separated from other waste types. Bagged ACM is dumped only onto the active working face of the asbestos disposal area and not onto the flat compacted landfill area. Bulldozers and front-end loaders cover the ACM on the working face with soil. Landfill equipment is not allowed to come in contact with ACM, to reduce the risk of contamination. At least six inches of soil covers the disposal cell within one hour of being disposed.

All employees involved in the handling and disposal of ACM are equipped with protective clothing. The employees receive annual training, and initial and annual medical examinations to comply with OSHA Standards.

### **Ash Disposal**

The existing Forward Landfill accepts ash for disposal, if proper documentation is submitted (consisting of analytical results from a state-certified laboratory, laboratory chain-of-custody forms, and/or a waste characterization form, signed by the generator). The ash is disposed directly in the appropriate WMUs, following the general landfill operation procedures discussed in Landfill Operation, above. Ash piles are spread within the WMUs with a bulldozer or a front-end loader.

Employees working within the ash disposal area consist of the dozer and water truck operators, who wear protective clothing and air purifying respirators.

### **Treated Wood Waste Disposal**

Disposal of treated wood waste requires pre-approval by Forward prior to acceptance, along with proper documentation (consisting of analytical results from a state-certified laboratory, laboratory chain-of-custody forms, and/or a waste characterization form, signed by the generator).

Acceptable treated wood wastes must be disposed of in a Class II WMU. No salvaging or recovery is permitted. If treated wood wastes are observed in the recycling area, they are separated and subjected to the pre-acceptance procedure.

### **Screening Program for Hazardous Wastes**

The hazardous waste screening program for the site is conducted in accordance with the Load Checking Program for the Forward Landfill, (Forward, Inc., December 1992). The load-checking program is designed to monitor that unacceptable waste is not discharged to any treatment or disposal WMU at the Forward Landfill. No hazardous wastes, designated wastes, or wastes exceeding moisture limitations are allowed to be discharged to any Class III WMU. No hazardous waste is to be discharged to any Class II WMU, with the exception of wastes granted a variance, such as ACM and automobile shredder wastes. The load-checking program describes how waste loads are inspected for hazardous wastes, designated wastes, and other unacceptable wastes that cannot be discharged to any treatment or disposal WMU at the landfill.

In general, the load-checking program consists of four basic components: waste characterization and certification forms, load inspection, training of on-site personnel, and signage.

#### *Waste Characterization*

The completed waste characterization form provides information regarding the waste generator and transporter, physical characteristics and chemical composition of the waste, generation, transportation, and type of waste stream to be disposed. The form must be completed by all waste generators and approved by Forward prior to waste disposal. At the scalehouse, the attendant checks the load and the appropriate paperwork and logs all of the appropriate information in the daily record.

#### *Load Inspection*

The next element of the load inspection program consists of load checking at the disposal area. The equipment operators check for disposal of hazardous or unacceptable waste at the working area of the landfill. All landfill personnel are experienced and trained in identifying potentially unacceptable wastes in the dumped loads. If unacceptable waste that is not hazardous is detected, the operator tells the customer to either remove the waste from the landfill himself or have the waste removed by an appropriate hauler to an appropriate facility. If hazardous waste is detected, the waste is hauled under manifest by a registered waste hauler to an approved facility.

Hazardous wastes that are found after the hauler has left the site are moved to the hazardous waste storage locker for temporary (less than 90 days) storage prior to proper offsite disposal. Incompatible wastes are stored in separate storage containers at the same location to avoid commingling. The storage locker is a special chemical storage building that is kept locked. Wastes are removed from the locker before any waste has been stored for 90 days, or once the locker reaches 90 percent of its capacity, whichever happens first. Containers of hazardous waste are labeled with the customer's name and the date and time of delivery.

Unacceptable wastes that are discovered after the hauler has left are moved away from the working area, contained or covered, and marked with the waste and generator information, if known. If the customer that hauled the hazardous or unacceptable waste is known, the landfill notifies them that the waste must be removed by an appropriate hauler and disposed of at an appropriately licensed site. If the customer refuses, the landfill contracts with a hazardous waste hauler to remove and dispose of the waste properly and bills the customer for the costs.

If hazardous materials are discovered that are not containerized such that reloading of the waste onto the vehicle is not possible, the area is marked off to limit access, and all employees evacuate the spill area. The San Joaquin County Environmental Health Department and other appropriate agencies are notified of the incident. The appropriate emergency agency would oversee the containment of the spill by site personnel or an appropriately licensed private contractor. A hazardous materials contractor would handle the cleanup, manifesting, and delivery of the spilled materials to an approved facility.

All hazardous waste disposal incidents are recorded on the landfill load-checking sheet and are reported to the DTSC, RWQCB, LEA, and the Governor's Office of Emergency Services Warning Center.

### *Training and Signage*

The load-checking program is explained in detail to all site personnel who are involved with load inspections including the scale-house attendant, load inspectors, transfer station workers, and equipment operators. These employees also attend the Cal OSHA Hazardous Waste and Emergency Response Course taught by the UC Berkeley Labor and Occupational Health Program through the School of Public Health. The course emphasizes familiarity with the types of containers and labels typically used for hazardous wastes and other hazardous materials. The course is repeated annually. All new employees are enrolled in the course at the earliest available class after their hire. In addition, landfill personnel are trained in cardiopulmonary resuscitation, first-aid, and respirator use. Highly visible signs, stating that no hazardous wastes are accepted, are located at the site entrance and office trailer.

### **Nuisance Control and Health and Safety**

#### **Litter**

Refuse is compacted and covered as soon as possible after deposition to reduce amounts of blowing litter. Whenever possible, the working face is oriented to the downwind side of prevailing

winds to help reduce litter. Forward implements an ongoing (minimum weekly) litter collection program to minimize litter in areas surrounding the site. Landfill personnel regularly patrol the landfill perimeter and pick up litter blown from the working area on a daily basis. Additionally, portable litter fences are placed downwind of the working area. Litter caught on the fences is removed daily or as necessary. All on-site containers are covered, tarps are placed over open truckloads, and the size of the active working area is minimized to reduce the potential for blowing litter as described in Forward's Litter Management Plan (Appendix C of the 2013 EIR).

## **Vectors and Birds**

The emergence of vectors and pests (i.e., flies) from waste is controlled by covering wastes with compacted soil and minimizing the work area over which refuse is spread. Rodents normally cannot survive because the compaction and covering of refuse with soil eliminates both habitat and food.

Site personnel frequently inspect the site for signs of rodent activity. If any rodent activity is observed, site personnel contact pest control specialist for professional advice and any services needed to prevent a vector nuisance. Rodent control employs rodenticides that are safe for raptors and other wildlife.

Because the landfill is located near the Stockton Metropolitan Airport, Forward has implemented an extensive bird control program. Gulls are the principal group of birds that are attracted to edible waste that is disposed of at municipal solid waste landfills. Gulls winter in the Stockton area with first arrivals appearing in late September or October. Gull numbers increase in November and December as migrants from further north arrive in the area. The gulls leave the area in the spring, typically in mid to late April.

The bird control program consists primarily of falconry but also uses bird flares, whistles, remote-controlled airplanes that resemble predatory birds, and other noisemakers, to discourage birds. Properly compacting and covering wastes at the end of each operating day further minimizes the potential for birds feeding at the site. Details of the bird monitoring and control program are provided in the *Demonstration of the Continued Effectiveness of the Bird Control Program at the Forward Landfill, Manteca, California – 2016-2017* (LGL, 2017).

As required by the FAA regulations this demonstration has been submitted to CalRecycle and has been placed in the landfill's operating record.

## **Fire**

To prevent fires in landfill equipment and vehicles, Forward workers frequently remove debris and dust from undercarriages and engine compartments, and check for and repair oil and fuel leaks. Portable fire extinguishers are provided on all landfill equipment. The entrance facilities and maintenance buildings are also equipped with fire extinguishers for extinguishing any minor fires. Any fire in a waste fill area would be extinguished by landfill personnel using appropriate landfill equipment, stockpiled soil cover, and when necessary, a water truck.

The on-site water wells and a water storage tank provide water for fire suppression. The well at the entrance facilities area has a 1,500-gpm pump that feeds four valved connection points along the northern perimeter of the existing Forward Landfill. The well at the transfer station/materials recovery facility has a 500-gallon-per-minute (gpm) pump that feeds a 20,000-gallon pressurized tank. Lines from the tank lead to various locations.

To reduce the risk of fire, preprocessed treated automobile shredder waste (PTASW) is disposed rather than stored for extended periods. If suppression of burning PTASW is needed, stockpiled soil would be used to cover and smother the burning PTASW.

### **Security**

All areas and facilities, other than those expressly designated for use by haulers, are considered restricted areas. Security fences surrounding the site limit landfill access by unauthorized persons. Gatehouse personnel control access through the landfill entrance. The entrance to the site has a lockable gate and is locked outside of usual operating hours.

### **Closure and Postclosure**

A Preliminary Closure and Postclosure Maintenance Plan has been prepared for the currently permitted Forward Landfill. The anticipated closure date for the existing Forward Landfill is in 2030. The current post-closure land use for the landfill is non-irrigated open space.

### **Environmental Control and Monitoring Program**

#### **Surface Water and Erosion Control**

The surface water control plan for the existing Forward Landfill consists of an integrated system of bench ditches, perimeter channels, and storm water retention basins. The final landfill is designed so that surface water would run off via sheet flow until it is intercepted by a bench ditch. Bench ditches subsequently drain toward downdrains, which discharge to perimeter channels. Finally, the perimeter channels drain to the sedimentation/detention basin.

As required by the site's Waste Discharge Requirements (WDRs) issued by the Central Valley Regional Water Quality Control Board, permanent storm water runoff and drainage control facilities for the existing Forward Landfill have been designed to convey peak discharge resulting from 1,000-year, 24-hour storm event runoff volumes. The storm water and drainage facilities of the proposed landfill expansion would be designed for the 1,000-year storm event. The drainage network for the completed landfill is designed to carry storm water at velocities that would minimize ditch erosion.

Currently, all landfill surface water is routed to one of three sedimentation/detention basins. Two sedimentation basins are located in the southwest corner of the site, on either side of the South Fork. The basin located north of the South Fork collects runoff from the landfill area in the southern portion of the site, and the basin located south of the South Fork collects runoff from the

RRF area. A third sedimentation/detention basin, located on the northwest side of the existing landfill, directly west of WMU FU-03, collects runoff from the northern portion of the landfill.

For purposes of the 2018 Expansion Project, the sedimentation basins currently located in the southern portion of the site would be relocated. Closure and relocation of the sedimentation basin would be conducted in accordance with applicable regulations and as approved by the regulatory agencies. An additional sedimentation pond and leachate collection pond may be added in the area of the existing administrative offices, if necessary.

The erosion control measures incorporated in the site design include the following:

- Collection and control of runoff, diverting it away from highly erodible areas
- Construction of intermediate and final landfill slopes with drainage benches at intervals designed to control slope runoff velocities and volumes
- Hydroseeding with fast germinating drought-tolerant grass seed on intermediate surfaces that would be exposed for more than 180 days and all surfaces once they reach final grade. Seeded surfaces would be watered until growth is well established.

Soil erosion from the proposed landfill slopes was calculated to be less than the maximum allowed by the EPA for landfill final covers. The vegetative layer of the final soil cover would be seeded with native grasses to protect the upper layer of soil, and to minimize erosion.

### **Surface Water and Erosion Maintenance and Monitoring**

Water collected in the three sedimentation basins (on the northwest side of the existing landfill, and in the southwest corner of the site, on either side of the South Fork) is sampled quarterly in accordance with the site's Storm Water Pollution Prevention Plan (SWPPP), WDRs, and Mitigation Monitoring and Reporting Program (MMRP).

### **Leachate Control and Recovery Systems**

As discussed in Existing Permitted Waste Management Units and Facilities, above, the majority of the existing WMUs at the existing Forward Landfill contain blanket Leachate Collection and Recovery Systems (LCRSs). There is no LCRS underlying the northern portion of the landfill (the former Austin Road Sanitary Landfill), and portions of the eastern part of the site (original Forward Landfill). However, there is a LCRS located above the top of the former Austin Road Landfill to drain leachate from WMUs FU-03 to FU-08 that overlie the former Austin Road Landfill top deck.

The LCRS design utilizes two configurations to account for the two types of slopes encountered; base grades and side slopes. On the base of the WMUs the LCRS consists of a 1-foot thick layer of granular material sloped towards a system of perforated HDPE leachate collection header pipes. The LCRS collection header pipes slope at a minimum of one percent toward the sumps. The piping and drainage layer is directly underlain by the composite lining system. A geotextile is used under all pipes to protect the HDPE geomembrane liner from potential abrasion caused by



the pipes. The drainage layer is separated from the operations layer above by a nonwoven geotextile to prevent migration of fine-grained material into the LCRS.

The LCRS design for slopes greater than 15 percent consists of a geocomposite drainage net (GDN). GDN is used due to construction and stability concerns associated with placement of granular materials on steep slopes. No collection pipes are required on the side slopes because any leachate occurring on the slope would naturally flow down slope.

Leachate collected in the LCRS would flow through the drainage layer to the pipes and subsequently into leachate collection sumps. Submersible pumps located in each sump would pump leachate from the LCRS to lined surface ponds, from which the leachate evaporates.

Three leachate evaporation impoundments are permitted at the site, of which two are constructed and are currently in use. WMU F North is located in the southwest region of the existing Forward Landfill, just north of the South Fork. It was constructed in 1999 and provides containment for leachate from the active portions of the southern WMUs. The leachate impoundment was sized based on actual leachate generation records from 1991 to 1997 and has a design capacity of approximately 3.5 million gallons. WMU F West is located in the northern portion of the site, directly west of WMU FU-03. It was constructed in 2003 with a design capacity of 3.4 million gallons and receives leachate from the northern waste management units. A third impoundment, WMU F South, has not yet been constructed as no waste has yet been landfilled south of the South Fork. WMU F South would replace the existing WMU F North leachate impoundment.

If, during the service life of the landfill, the demand on the leachate impoundment exceeds capacity, Forward would implement an alternative leachate management plan. Leachate in excess of the impoundment's capacity would either be pumped to temporary onsite tanks, trucked for off-site disposal at the City of Stockton Municipal Utility Department wastewater treatment plant located at 2500 North Navy Drive in Stockton, or trucked to another off-site licensed Treatment and Disposal Facility. Leachate stored in the temporary on-site tanks may be released back into the impoundment at a later date.

### **Leachate Monitoring**

To monitor the LCRSs, Forward, Inc. conducts a leachate monitoring and sampling program in compliance with WDR Order No. R5-2014-0006. Quarterly and annual reports of the monitoring results are submitted to the DTSC, RWQCB, and the San Joaquin County Environmental Health Department, which is the Local Enforcement Agency (LEA).

A leak detection system is also located under the sumps in the WMUs and the leachate impoundments. The leak detection system currently consists of suction cup lysimeters and pan lysimeters installed in all the Subtitle D lined WMUs with permanent sumps (i.e. WMU D-93, D-01, D-02, FU-03, FU-04, FU-05, and FU-06), as well as WMU-17. A suction lysimeter is a device that measures the soil pore water in the unsaturated zone, while a pan lysimeter measures the water that percolates down from below the sump. The lysimeters are sampled and tested in accordance with the site's WDRs. The former Austin Road Landfill unit has no leachate collection system and therefore no lysimeters.

## **Groundwater Monitoring**

The groundwater-monitoring system at the existing Forward Landfill is designed to detect the presence of contaminants in groundwater by analyzing groundwater chemistry at point-of-compliance wells. The monitoring system consists of 20 Detection Monitoring Program (DMP) wells and 40 Evaluation Monitoring Plan/Corrective Action Program (EMP/CAP) wells. The DMP wells are designed to detect a potential release from the landfill at point-of-compliance, while the EMP/CAP wells are used to evaluate changes in water quality and the effectiveness of the current corrective action measures. The 40 EMP/CAP wells were constructed as part of an on-going investigation. Figure IV.F-1 of the 2013 EIR shows the location of the monitoring wells. Groundwater monitoring is described in detail in the Hydrology and Water Quality Chapter of the 2013 EIR. After the 2013 EIR was prepared, Forward received approval from the Department of Toxic Substances Control and Regional Water Quality Control Board to install two replacement wells. Approval is still pending to abandon the three existing wells, all located along the main access road in an area that has been permitted to allow construction of a new waste management unit.

## **Groundwater Control**

Two groundwater extraction wells with a combined design capacity of 305 gallons per minute (gpm) were originally installed to extract polluted groundwater at the Austin Unit. Three additional two groundwater-extraction wells were installed in 2009, however one of the groundwater extraction wells was not sufficiently deep for sustained pumping and is not currently in use. In addition, eleven offsite EMP/CAP wells have been constructed in 2017/2018. VOCs are removed using granular activated carbon (GAC) from the extracted water and the treated water is discharged to a recharge basin north of the North Fork of South Littlejohns Creek, where it recharges the underlying aquifer. The groundwater treatment system and discharge are regulated by the RWQCB under WDRs.

## **Air Quality Control**

### *Landfill Gas*

The current landfill gas control system consists of a series of collection wells interconnected by above-ground laterals and a main header pipe connected to a flare station and electric generation plant.

Until 2012, there were two active landfill gas (LFG) collection and conveyance systems (GCCS) at the Forward Landfill. One system consisted of 18 vertical extraction wells with three horizontal collectors and provided control for parts of the northern portion of the site (the former Austin Road Sanitary Landfill). Landfill gas from this 18-well system was conveyed to the formerly operating Covanta/Republic electric generation plant located at the northwest corner of the site (see Existing Landfill Storage and Support Facilities, above). The Covanta/Republic plant is no longer operational. The second GCCS encompassed the majority of the site, and consisted primarily of vertical gas wells, horizontal collectors and leachate collection risers. These two

GCCSs have since been combined into a single system. Currently, there are 164 active wells on the Austin Road side of the landfill and 31 on the Forward side. Landfill gas is collected through a main perimeter 18-inch gas collection header with associated lateral pipelines connected to the extraction wells. The LFG is then combusted at the flare station located at the northeast corner of the site or the adjacent Ameresco Landfill Gas to Energy Facility (LFGTE). The flare station consists of two enclosed ground flares located at the northeast corner of the landfill, with a combined permitted capacity of 5,400 standard cubic feet per minute (cfm). Currently, the LFG flares combust approximately 2,500 cfm, and the Ameresco LFGTE facility utilizes up to approximately 1,400 cfm for electrical generation. It is anticipated that the newly operational Ameresco Landfill Gas to Energy plant (see G. Recent and Proposed Projects at the Forward Landfill, below) will eventually use most or all of the gas from the combined collection system. Any remaining gas will be flared as needed to maintain compliance.

#### *Dust*

Dust is controlled at the landfill by (1) maintenance of haul roads (paving, grading, and watering); (2) application of fine water spray (minimum of twice daily) on the active soil-covered work areas, soil excavation areas, and soil stockpile areas where conditions may result in fugitive dust; (3) application of organic dust suppressant, and (4) limiting the speed of all on-site vehicles to less than those that would cause visible dust emissions behind the vehicle. For dust control purposes, surface-water runoff or on-site well water is applied to all main access and haul roads and unpaved equipment-parking areas at least once per day. All-weather surfacing is applied to any unpaved road segment that carries 50 or more vehicle trips per day continuously for more than thirty days.

The track-out of mud and dirt onto Austin Road is limited by having an approximately 850-foot long paved exit road that allows mud and dirt to drop off before exiting the site, removing the mud and dirt from the interior paved road and Austin Road on a daily basis, and use of a wheel washer. After the 2013 EIR was prepared, the existing tire wash system at the site's main driveway for vehicles exiting the site was replaced by an improved system to remove sediment from tires and undercarriages, and to prevent sediment from being transported onto public roadways. The new truck wash system is similar to the "Entrance/Outlet Tire Wash TC-3" described in the California Department of Transportation, "Caltrans Storm Water Quality Handbooks Construction Site Best Management Practices Manual", Section 6, dated March 1, 2003. In the 2013 EIR, this tire washing system was described as part of the previously proposed project.

#### *Odor*

Odor is controlled at the landfill by (1) timely placement of daily, intermediate and final soil cover over the refuse fill; and (2) planting and maintenance of a vegetated cover on completed fill slopes.

## **Air Quality Monitoring**

### *Landfill Gas Monitoring*

Landfill gas monitoring is performed on a quarterly basis at the existing Forward Landfill. Twenty-five landfill-gas probes incorporating 74 sampling points<sup>13</sup> are in the compliance monitoring system and are located around the perimeter of the existing landfill and the “Brochini” parcel to the southwest of the existing landfill site. In 2017, nine additional perimeter monitoring probes were installed generating an additional 26 sampling points. These monitoring probes were installed per the Cleanup and Abatement Order from the Central Valley Regional Water Quality Control Board and are not sampled and reported as part of the Title 27 monitoring program. The main office trailer and maintenance yard are also monitored to assess potential gas accumulations at the foundations.

### *EPA Consent Decree*

On May 2, 2012, Forward, the U.S. EPA and the San Joaquin Valley Air Pollution Control District (District) entered into a stipulated consent decree which was approved by the U.S. District Court for the Eastern District of California, under which Forward will modify the operation of its gas collection and control system with respect to extraction well oxygen levels and temperature, complete Phase II of the planned and ongoing improvement of Forward’s landfill gas extraction system, apply for a new Title V air permit from the District that would limit oxygen levels in the landfill gas extraction wells, relocate Forward’s perimeter gas probes to the boundary line of the expansion area, and provide for other air quality protection measures. On September 2, 2014, U.S. District Court Magistrate Judge Edmund Brennan issued an order terminating the Consent Decree on the basis that Forward, USEPA and the District all confirmed that Forward had fully complied with all requirements of the Consent Decree.

## **F. PROPOSED PROJECT MODIFICATIONS**

The proposed physical and operational changes are described below.

### **Development of Additional Landfill Disposal Cells Within Permitted Landfill Boundary**

Development of additional landfill cells would increase the disposal footprint from approximately 355 acres to 372 acres. The proposed additional development area includes two areas within the currently permitted landfill boundary as shown on Figure III.C-4; approximately 8.72 acres in the northeast corner of the site and approximately 8.61 acres in the south area. (The western boundary of the footprint of the added cells would in all cases be consistent with applicable law and implementing advisories as detailed in Table 3A of the San Joaquin County Airport Land Use Compatibility Plan.) The acreage added in the south area would be gained by shifting the existing disposal footprint north and realigning the creek to the southern and eastern boundaries of the site. The acreage added in the northern area was formerly part of the 100-year flood plain for the North Fork of South LittleJohns Creek and was not permitted for waste disposal; however, after the North Fork of the creek was realigned, this area is no longer in the 100-year floodplain and can be

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<sup>13</sup> Each landfill gas probe can contain multiple sampling points.

developed as landfill. The maximum elevation of refuse fill in the additional development areas would be approximately 190 feet above mean sea level (MSL), lower than the permitted maximum height of 210 feet MSL for the existing Forward Landfill. The footprint of the refuse fill would be set back a minimum of 100 feet from the east property boundary.

The additional development areas would have a base liner and Leachate Collection and Recovery System (LCRS) consistent with currently constructed modules and in compliance with pertinent regulatory requirements. The proposed landfill expansion refuse fill grades meet both State and Federal regulatory criteria under both static and seismic conditions.<sup>14</sup>

The Title 27 regulations governing landfills and Forward's WDRs require a minimum five-foot separation between wastes or leachates and the highest anticipated elevation of underlying groundwater (including the capillary fringe) or the installation of an engineered alternative, such as a subdrain. The regional groundwater in the greater Stockton area, including the vicinity of the Forward Landfill, has been overdrawn for many years and has shown a clear pattern of decreasing groundwater levels. Current groundwater levels at the landfill are approximately 14 to 30 feet below mean sea level (MSL). Based on a review of historic groundwater records, the maximum high groundwater elevation underlying the southern and northeastern development area is approximately four feet and ten feet below MSL, respectively. The minimum base grades for the proposed landfill development area have been developed to provide for the required 5-foot separation between historic high groundwater and refuse.

The projected total remaining airspace for the Forward Landfill, as of January 2018, was approximately 15.7 million cubic yards (mcy). The proposed expansion would add approximately 8.12 mcy of disposal airspace, which would allow disposal at the Forward Landfill to extend to 2036, from the current anticipated closure date of 2030. While all of the proposed expansion would be Class II landfill space, it is anticipated that Class III waste would be disposed in the expansion areas along with Class II waste.

The proposed 2018 Expansion Project would add 8.12 million cy of landfill capacity, compared to the 32 million cy in the previously proposed (2013) project. The projected landfill closure date under the 2018 Expansion Project is 2036, compared to 2039<sup>15</sup> for the previously proposed project.

The 2018 Expansion Project would not entail putrescible waste (waste streams other than concrete, rock, asphalt, wood and yard waste) in the Outer Approach of the Stockton Metropolitan Airport, expansion of landfilling operations to within 10,000 feet of the end of the usable runway of the Stockton Metropolitan Airport, or expansion of landfilling operations on to any parcels of land under Williamson Act contract.

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<sup>14</sup> GLA, Inc., *Geotechnical Investigation Report, Forward Landfill Expansion*, February 2008.

<sup>15</sup> The 2013 FEIR estimated closure dates with and without that project of 2039 and 2021, respectively. It should be noted that landfill closure dates are approximate and can vary greatly based on many factors such as the economy and density of wastes being disposed.

### **Relocate South Fork of South Littlejohns Creek**

To create a contiguous disposal area and optimize landfill airspace, an approximately 3,000-foot reach of the South Fork of South Littlejohns Creek would be relocated to a new 3,400-foot long reach to be constructed along the eastern and southern boundaries of the landfill (see Figures III.C-4, III.C-5, and III.C-6). The existing creek traversing the landfill is generally a trapezoidal channel with 10- to 12-foot banks and a 10- to 15-foot bottom width. The channel measures, on average, 60 feet from bank top to bank top. This equates to a 4.13-acre creek zone. According to the wetland delineation<sup>16</sup> approximately 1.25 acres of jurisdictional wetlands exists within the existing channel. The existing creek performs relatively well in terms of flood control.<sup>17</sup>

The creek relocation is intended to: (1) provide adequate flood control (i.e., to have capacity to carry the 100-year flow within its banks), and (2) provide a stable channel design that meets or exceeds the functions and values of the existing creek. Under the proposed relocation, the existing channel would be moved approximately 1,000 feet to the south to accommodate the further development of the Forward Landfill (see Figures III.C-4, III.C-5, and III.C-6). The relocated creek would be approximately 3,400 feet in length and would have greater flood control ability than the existing channel. The new channel would be approximately 50 to 60 feet wide.

The proposed relocation would create 1.87 acres of USCOE jurisdictional areas that are inundated at a regular basis.<sup>18</sup> To address Federal Aviation Administration (FAA) concerns regarding creation of bird habitat, riparian habitat is proposed to be restored and/or created offsite rather than being incorporated within the relocated creek channel. Potential offsite mitigation sites include Westervelt Environmental Services' Bullocks Bend Mitigation Bank and Wildlands' Fremont Landing Conservation Bank, both in Yolo County, and the National Fish and Wildlife Foundation's Sacramento District California In-Lieu Fee Program.

Constructing the channel would require moving approximately 40,000 cubic yards of material. The creek relocation would use design and construction techniques similar to those used in the successful relocation of the North Fork of South Littlejohns Creek in 2002. Litter control in the relocated creek would follow established litter control practices at the site. A combination of monitored litter fences, screening, and litter pickers would be used.

A new two-lane bridge ("South Bridge") would cross the relocated creek from Austin Road, consisting of a clear span with engineered concrete footings located in the creek embankment. The bridge would be a concrete slab bridge or similar type construction. The bridge would be approximately 63 feet long by 28 feet wide, and allow for two twelve-foot-wide lanes with a two-foot shoulder. There would be one foot of freeboard between the 100-year water surface and the bridge soffit.

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<sup>16</sup> Monk & Associates, *Environmental Consultants, Letter report to William H. Guthrie, U.S. Army Corps of Engineers, Sacramento District, June 22, 2018*(Monk & Associates, 2018)

<sup>17</sup> *Project Description for Land Use Permit Application, Forward Landfill* (Bryan A. Stirrat & Associates, 2008).

<sup>18</sup> *Concept Design Report, South Branch of the South Fork of Little John Creek Relocation Project* (Questa Engineering Corp, 2017)

A permanent litter fence would be constructed along the landfill side of the relocated creek to reduce the amount of litter that may impact the creek. The litter fence would be approximately 10 feet high, with a high strength, UV-resistant netting and metal pipe used for the supports.

### **Construct Ancillary Facilities**

It is currently anticipated that refuse filling would continue on the northern portion of the site in the valley between the former Austin Road Landfill and the original Forward Landfill. Development of the south infill would occur after realignment of the South Fork. Depending on when the relocation of the South Fork is completed, refuse filling would occur in either in the south infill area or the northeast infill area. The easternmost cell in the north area of the existing permitted landfill would be reserved for operations soil management until the remainder of the landfill is constructed, and would be the last area filled with refuse.

The office trailer, as shown on Figure III.C-2, would remain in this location until the easternmost cell that parallels Austin Road is constructed. At that time the office trailer would be relocated just north of WMU A, so that a sedimentation pond can be constructed in its place. The main entrance would remain in its current location, except for periods of time when refuse filling is occurring in the northeast or south infill. At these times the entrance/exit may be relocated to the north or south landfill entrance/exit. The scales would be relocated depending on the entrance/exit being used and would be sited in a location that allows sufficient space for queuing within the facility boundary.

Once the South Fork is relocated, the existing permitted leachate/compost pond, WMU F South, would be relocated adjacent to the existing leachate pond, WMU F-North (see Figure III.C-3). The existing permitted sedimentation basin would be combined with the existing sedimentation basin located directly north of the existing leachate pond, WMU F-North (see Figure III.C-3). Closure and relocation of the leachate and sedimentation basin would be in accordance with applicable regulations and as approved by the regulatory agencies.

### **Continue Current Procedures and Activities**

Under the 2018 Expansion Project, other current Forward procedures and activities at the existing Forward Landfill, would be continued without change. In general, procedures at the existing Forward Landfill that are appropriate to the Class II wastes currently disposed would be expanded to encompass the expanded landfill to allow disposal of Class II wastes in the entire landfill development area.

## **G. OTHER RECENT AND PROPOSED PROJECTS AT THE FORWARD LANDFILL**

The 2013 EIR described three “recent and associated projects” of the proposed expansion: the facility boundary revision; the Landfill Gas to Energy (LFGTE) Project; and the Revision of Waste Discharge Requirements. The facility boundary revision, approved January 6, 2011, added the 184 acres in the southwest portion of the site to the Forward Landfill facility boundary, but did not allow any landfill related activities on this parcel. The LFGTE Plant was

constructed in 2013 in the northeast portion of the landfill site, and is currently operated by Ameresco.

In February 2014 the Regional Water Quality Control Board issued new Waste Discharge Requirements (WDRs) R5-2014-0006 for the Forward Landfill which included, among other modifications, lowering of base grades to the regulatory limit of five feet above the historical high groundwater level and the land application of cannery waste in the northern portion of the site (north of the North Fork of South Littlejohns Creek).

Since the 2013 EIR was prepared, two additional associated projects were proposed, as described below.

Forward is proposing a bridge crossing on the North Fork of South Littlejohns Creek. The bridge crossing is to allow access to the existing permitted borrow area and to the cannery waste land application area, both of which are located north of the creek. The operational need for the north bridge is independent of the proposed expansion.

Ameresco is proposing an upgrade to the existing LFGTE facility at the Forward Landfill to meet PG&E's Rule 21 pipeline quality requirements for renewable natural gas from landfill gas. The process would treat gas that is compressed to around 100 to 200 psig. The process would remove CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> and other trace constituents to increase the quality of the landfill gas. It is currently anticipated that the equipment required for this upgrade process would be located in the region of the former Covanta LFGTE plant, which was located near the western property boundary just south of the realigned north creek. The LFGTE upgrade also would involve a buried pipeline extending west of the landfill site to connect with an existing PG&E gas pipeline. The operational need for the LFGTE upgrade is independent of the proposed landfill expansion. The on-landfill LFGTE plant upgrade and mostly off-landfill pipeline would be subject to separate CEQA review by the County.

## **H. APPLICABLE REGULATIONS AND PERMITS**

The existing Forward Landfill operates under a variety of permits issued by local, state, and federal governing agencies. These permits are identified in Table III.C-2 of the 2013 EIR (reproduced below), and have not changed since the 2013 EIR was prepared.

The 2018 Expansion Project would require modifications to the following permits, which are described on pages III-34 and III-35 of the 2013 EIR:

- Solid Waste Facilities Permits (SWFPs) for the landfill and the resource recovery facility (RRF) issued by the California Department of Resources Recycling and Recovery (CalRecycle) and San Joaquin County Environmental Health Department<sup>19</sup>;

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<sup>19</sup> On April 26, 2012, Forward entered into a stipulated Settlement Agreement, Consent Judgment and Injunction with the San Joaquin County District Attorney whereby Forward agreed: (a) to report to the Local Enforcement Agency—the San Joaquin County Health Department (LEA) all tons of solid waste received at the Forward facility, (b) to inform the LEA if any haulers refused to advise the Forward scalehouse of the origin of their waste loads, (c) to not accept untreated medical waste, (d) to maintain its landfill gas monitoring program, and (e) to not exceed the vehicle limits in its Solid Waste Facilities Permit. A copy of this Settlement Agreement is available at the San Joaquin County Superior Court Clerk's office under Case No. CV034764.



- NPDES permit and Waste Discharge Requirements (WDRs) for landfill operation and land application of treated groundwater issued by the Central Valley Regional Water Quality Control Board (RWQCB);
- Permit to Operate issued by the San Joaquin County Unified Valley Air Pollution Control District (SJCUVAPCD);
- Land Use Permit issued by San Joaquin County; and,
- Manteca-Lathrop Fire Department general permit.

Relocation of the South Fork of South Littlejohns Creek would require compliance with state and federal regulations, and would require approvals from the California Department of Fish and Wildlife, the Central Valley Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (USACE) for compliance with Section 404 of the Clean Water Act, the Central Valley Flood Protection Board, the San Joaquin County Flood Control and Water Conservation District, and the San Joaquin County Department of Public Works.

Prior to any physical alteration or relocation of the South Fork of South Littlejohns Creek and prior to approving any grading permit or start of any work, a Conditional Letter of Map Revision (CLOMR) shall be prepared per Code of Federal Regulations, Title 44, Sections 65.3 and 65.7 requirements and approved by the Federal Emergency Management Agency. And, within six (6) months of project completion, the applicant/owner shall apply to FEMA for a Letter of Map Revision (LOMR). LOMR officially revises the current FIRM to show changes to floodplains, floodways, or flood elevations.

**Table III.C-2: Existing Landfill Permits**

Type of Permit	Permitting Agency
Land Use Permit	San Joaquin County
Waste Discharge Requirements (landfill operation)	Central Valley Regional Water Quality Control Board (RWQCB)
Waste Discharge Requirements (land application of treated groundwater)	Central Valley RWQCB
General Industrial Storm Water Permit (NPDES)	Central Valley RWQCB
Waiver of Waste Discharge Requirements for Composting	Central Valley RWQCB
Solid Waste Facilities Permit for Landfill	Issued by San Joaquin County Environmental Health Department (SJEHD), with concurrence by California Department of Resources Recycling and Recovery (CalRecycle)
Solid Waste Facilities Permit for resource recovery facility (RRF)	Issued by SJEHD, with concurrence by CalRecycle

Authority to Construct/Permit to Operate	San Joaquin Valley Air Pollution Control District (SJVAPCD)
Permit to Operate: Power Generation (landfill gas-to-energy plant operated by Ameresco)	SJVAPCD
Hazardous Waste Facility Postclosure Permit	California Department of Toxic Substances Control (DTSC)
RCRA Hazardous Waste Facility Postclosure Permit	Environmental Protection Agency (EPA)
General Permit, Fire Permit	Manteca-Lathrop Fire Department
Depredation Permit (seagulls)	U.S. Fish and Wildlife Service

## **IV. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

### **IV.A. LAND USE AND AGRICULTURAL RESOURCES**

This section updates the 2013 Forward Landfill Expansion Project EIR's environmental setting and impacts analyses to assess the proposed changes to the project described in this Supplemental EIR. It addresses potential conflicts with surrounding land uses; conformity with San Joaquin County's General Plan, zoning regulations, Integrated Waste Management Plan and Airport Land Use Plan; state and federal airspace plans and policies; habitat conservation plans (with additional discussion in Biological Resources chapter); and loss of agricultural land. Most of those discussions remain current and, if unchanged, are repeated in this Supplemental EIR. The impacts and mitigations in this section replace those in Section IV.A of the 2013 EIR.

#### **Setting**

##### **Surrounding and Nearby Land Uses**

The 2013 EIR discussed surrounding and nearby land uses, shown in Figure III.C-1. The Northern California Youth Correctional Center, a criminal detention facility with approximately 2,000 male inmates, is located approximately 1,900 feet north of the existing Forward Landfill disposal area and approximately 300 feet north of the soil borrow area in the CYA parcel. A former women's prison, the Northern California Women's Facility, is located farther north of the project site, at the southwest corner of Arch and Austin Roads. The women's prison closed in 2003 and does not house any inmates.

The California Health Care Facility (a state prison hospital) is located adjacent to the Forward landfill on a portion of the existing Northern California Youth Correctional Center west of Austin Road between the Forward Landfill and Arch Road. It consists of a 1,722-bed health care facility totaling approximately 1.2 million square feet, with housing clusters, diagnostic and treatment centers, armory, warehousing and support facilities, central plant, outdoor recreation fields, gatehouse, regional food service facility, staff training facilities, parking areas, and security fence and lighting. This facility was under construction at the time the 2013 EIR was prepared and is now complete and occupied.

Adjacent land uses to the west, south, and east of the landfill consist of agriculture and scattered residences. A single-family residence (9690 Austin Road) is located approximately 500 feet from the landfill, on the east side of Austin Road across from the landfill's main entrance. This house is rented by Forward Landfill and kept vacant (Basso, pers. com.). There are two single-family residences (9606 and 9820 Lynch Road) east of Austin Road on Lynch Road, approximately 0.5 miles southeast of the site. In addition, two residences with surrounding ancillary structures are located on the east side of Austin Road, approximately one mile north of the main landfill entrance. Another residence with surrounding ancillary structures is located on Austin Road farther north of the site.

The Burlington Northern and Santa Fe Intermodal Facility, a 470-acre train/truck cargo transfer

and storage facility, is located approximately one mile northeast of the site, along the Burlington Northern and Santa Fe railroad main line.

The nearest runway of the Stockton Metropolitan Airport is approximately one mile west of the existing Forward Landfill.

### **Approved Projects**

The 2013 EIR identified four projects in the vicinity of the project site that had been approved but not yet developed at that time:

- Arch Road Industrial Project, located on the south side of Arch Road between Austin and Newcastle Roads. The project consists of light industrial and warehouse uses on a 63-acre site.
- Archtown Industrial Project, located on an approximately 70-acre site at the southwest corner of Arch and Newcastle Roads. The project consists of light industrial and warehouse uses.
- California Health Care Facility, located on a portion of the existing Northern California Youth Correctional Center west of Austin Road between the Forward Landfill and Arch Road, consisting of a 1,722-bed health care facility totaling approximately 1.2 million square feet, with housing clusters, diagnostic and treatment centers, armory, warehousing and support facilities, central plant, outdoor recreation fields, gatehouse, regional food service facility, staff training facilities, parking areas, and security fence and lighting. This facility was complete and in operation at the time this SEIR was prepared.
- Northern California Re-Entry Facility and renovation of the former Dewitt-Nelson Youth Correctional Facility, located adjacent to one another east of the Arch Road Industrial Project on the south side of Arch Road between Austin and Newcastle Roads. The Northern California Re-Entry Facility, at the site of a former correctional officer training academy and Northern California Women's Facility, consists of an approximately 16,000-square-foot medical building and renovation of existing buildings for facility program support services, dining and receiving, family visiting, academic and vocational education, and miscellaneous, with a capacity of 500 inmates and 381 staff. The adjacent Dewitt-Nelson Youth Correctional Facility (closed in 2008) will be renovated and reused as a 1,133-bed adult correctional facility with a mental health treatment mission. (It should be noted that the Dewitt-Nelson Youth Correctional Facility portion of this project was not specifically identified in the 2013 EIR.) At the time this SEIR was prepared, the Northern California Re-Entry Facility had been approved but not constructed, and the N.A. Chaderjian Youth Correctional Facility and the O.H. Close Youth Correctional Facility had been constructed and were in use.

Since the 2013 EIR was prepared, the following project was approved by the City of Stockton:

- Tidewater Crossing, located west of Highway 99 and north of French Camp Road, an 878-acre residential development with 2,365 dwelling units.

## **Proposed Projects**

The 2013 EIR identified one proposed development project in the vicinity of the project site:

- Opus Logistics Center, located northwest of the intersection of Arch and Austin Roads, consisting of subdivision and development of 475 acres within the City of Stockton for industrial uses (Phase I), and rezoning and annexation to the City of Stockton of an adjacent 148 acres (currently within San Joaquin County) for industrial use (Phase II) (Funderburg, 2009; ESA, 2008).

After the 2013 EIR was prepared, the Opus Logistics Center was renamed "NorCal Logistics Center", and Phase II of the project (annexation to the City of Stockton of an adjacent 148 acres) was withdrawn from consideration. In 2015, the City of Stockton approved subdivision of approximately 325 acres of the 475-acre Phase I project area within the City of Stockton, with no change to the size or change the industrial development already allowed on the property. Thus, the currently proposed project (Phase I only) is smaller than the project identified in the 2013 EIR (Phases I and II), and does not include new or different uses that were not described in the 2013 EIR. At the time this SEIR was prepared, construction was underway for a portion of the project<sup>1</sup>.

As discussed in III. Project Description, Adjacent and Nearby Land Uses, the Mariposa Lakes project, a 3,810-acre residential project with 10,514 dwelling units, located southeast of Stockton city limits, is considered unlikely to be constructed before the anticipated closure date of the proposed Forward Landfill expansion project.<sup>2</sup>

### **County of San Joaquin 2035 General Plan**

The General Plan was in the process of being updated at the time the 2013 EIR was prepared. The new San Joaquin County 2035 General Plan was adopted in December 2016 (San Joaquin County, 2016) and now serves as the planning document governing the project. The land use designations and policies discussed below replace those of the San Joaquin County General Plan 2010 that was in force when the 2013 EIR was prepared.

### **2035 General Plan Designations**

The land use designation map of the San Joaquin County General Plan (adopted December 2016) designates the northern portion of the existing Forward Landfill (north of the original alignment of the North Fork of South Littlejohns Creek) as A/UR (Agriculture -- Urban Reserve), and the southern portion of the existing Landfill as A/G (Agricultural, General) (see Figure IV.A-1). (The North Fork of South Littlejohns Creek, currently passing along the

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<sup>1</sup> Michael McDowell, Planning Manager, Planning & Engineering Division, Community Development Department, City of Stockton, email to Pang Ho of PHA Transportation Consultants, April 9, 2018.

<sup>2</sup> Mike McDowell, Planning Manager, Planning & Engineering Division, Community Development Department, City of Stockton, email to Pang Ho, PHA Transportation Consultants, 10 April 2018.

northern and western edge of the existing Forward Landfill disposal area, was realigned in the early 2000s.) The corridors of both the North and South Forks of South Littlejohns Creek are designated OS/RC (Resource Conservation). The Agriculture -- Urban Reserve land use designation "provides a reserve for urban development, but is not necessary to accommodate development projected during the planning period of the General Plan (i.e., 2035)." Allowed uses include "Compatible public, quasi-public, and special uses (e.g., parks)".

The General Agriculture land use designation "provides for large-scale agricultural production and associated processing, sales, and support uses." Allowed uses include "Compatible public, quasi-public, and special uses".

### **General Plan Policies**

The San Joaquin County General Plan Background Report Section 9.4, Solid Waste and Hazardous Waste describes existing solid waste practices within the County. Solid waste handling operations are critical to the health and safety of County residents.. Part 4 Administration and Implementation of the General Plan Policy Document contains one program relating to solid waste:

*Program IS-J: Mandatory Collection Ordinance. The County shall develop and adopt an ordinance requiring solid waste collection, including recycling, from all Urban and Rural communities. (RDR)*

The County of San Joaquin County General Plan Resource Element contains the following objective and implementation measures regarding the loss of agricultural land:

*Objective 1. To protect agricultural lands needed for the continuation of commercial agricultural enterprises, small-scale farming operations and the preservation of open space.*

*Implementation 3. Mechanisms for Preservation of Agricultural Land*

*(a) The County shall support mechanisms for the preservation of agricultural land, such as agricultural trusts. (Board of Supervisors)*

*(b) The County shall investigate the establishment of financial mechanisms to preserve agricultural lands. (County Administrator, Planning)*

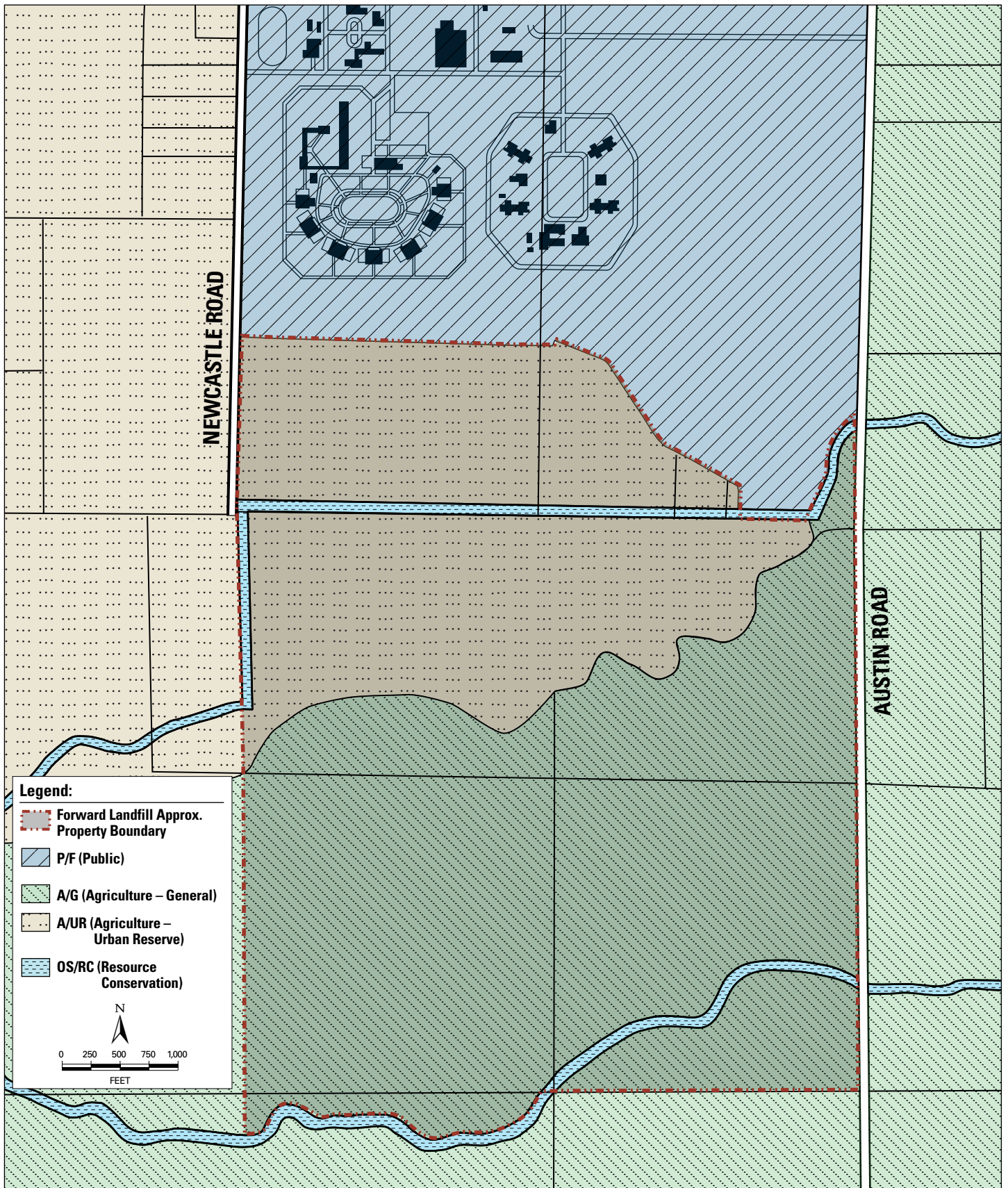
*...[parts (c) and (d) are not applicable]...*

*(e) The County shall study the feasibility of establishing mitigation fees to be paid when lands are converted from agriculture and/or open space to an urban use. Such fees could be used for programs such as purchasing development rights or fee titles to property. (Planning)*

The San Joaquin County General Plan Public Health and Safety Element contains the following goal and policies regarding Fire Safety:

*GOAL PHS-4. To minimize the risk of wildland and urban fire hazards.*

*PHS-4.1 Community Wildfire Protection Plan. The County shall maintain and implement the Community Wildfire Protection Plan as a mechanism for community input and identification of areas with high fire hazard risk. (PSP)*



**Figure IV.A-1**

General Plan Designations

Source: San Joaquin County Community Development Dept.

*PHS-4.6 Fire Protection Coordination. The County shall encourage well-organized and efficient coordination among fire agencies, CalFire, and the County. (IGC)*

The County of San Joaquin County General Plan Public Health and Safety Element contains the following goal and policies regarding Hazardous Materials and Wastes:

*GOAL PHS-7. To protect County residents, visitors, and property from hazardous materials and wastes.*

*PHS-7.2 Avoid Contamination of Resources. The County shall strive to ensure that hazardous materials and wastes do not contaminate air, water, or soil resources. (RDR/PSP)*

*PHS-7.3 Control Hazardous Materials. The County shall require the use, storage, and disposal of hazardous materials and wastes to comply with local, State, and Federal safety standards. (RDR)*

*PHS-7.5 Locate Hazardous Materials Away from Populated Areas. To the extent feasible, the County shall require proposed activities and land uses that use, store, or dispose of hazardous materials or wastes to be located away from existing and planned populated areas. (RDR/PSP)*

*PHS-7.9 Require Disclosure of Hazardous Materials and Waste. The County shall require public disclosure of hazardous materials and wastes for existing and proposed businesses. (RDR)*

The San Joaquin County General Plan Public Health and Safety Element contains the following goal and policies regarding Airport Safety

*GOAL PHS-8. To promote the safe operation of public and private airports and protect the safety of County residents.*

*PHS-8.1 Land Use Compatibility. The County shall prohibit land uses within unincorporated areas that interfere with the safe operation of aircraft or that would expose people to hazards from the operation of aircraft. (RDR)*

*PHS-8.2 Coordination with San Joaquin County ALUC. The County shall coordinate with the San Joaquin County Airport Land Use Commission (ALUC) on land use planning around airports and submit development proposals for land within the airport area of influence for review by the ALUC for consistency with the Airport Land Use Compatibility Plan. (RDR/PSP/IGC)*

*PHS-8.4 Compliance with Federal Aviation Administration (FAA) Regulations. The County shall require development within airport approach and departure zones to be in compliance with FAA Regulations that address objects affecting navigable airspace. (RDR)*

During the preparation of the General Plan that was adopted in 2016, a comment letter on the draft San Joaquin County General Plan and EIR from the San Joaquin Council of Governments, acting as the Airport Land Use Commission (ALUC), did not identify any inconsistencies between the General Plan and the ALUP (Ripperda, 2018).



### **City of Stockton General Plan 2035**

The Stockton General Plan 2035 (adopted December 11, 2007) established the following Public Facility Services (PFS) policies:

*PFS-5.1 Solid Waste Reduction-The City shall promote the maximum feasible use of solid waste reduction, recycling, and composting of wastes and strive to reduce commercial and industrial waste on an annual basis.*

*PFS-5.2 Recycling Programs-The City shall continue to require recycling in public and private operations to reduce demand for solid waste disposal capacity.*

*PFS-5.5 Recycling of Hazardous Materials-The City shall require the proper disposal and recycling of hazardous materials.*

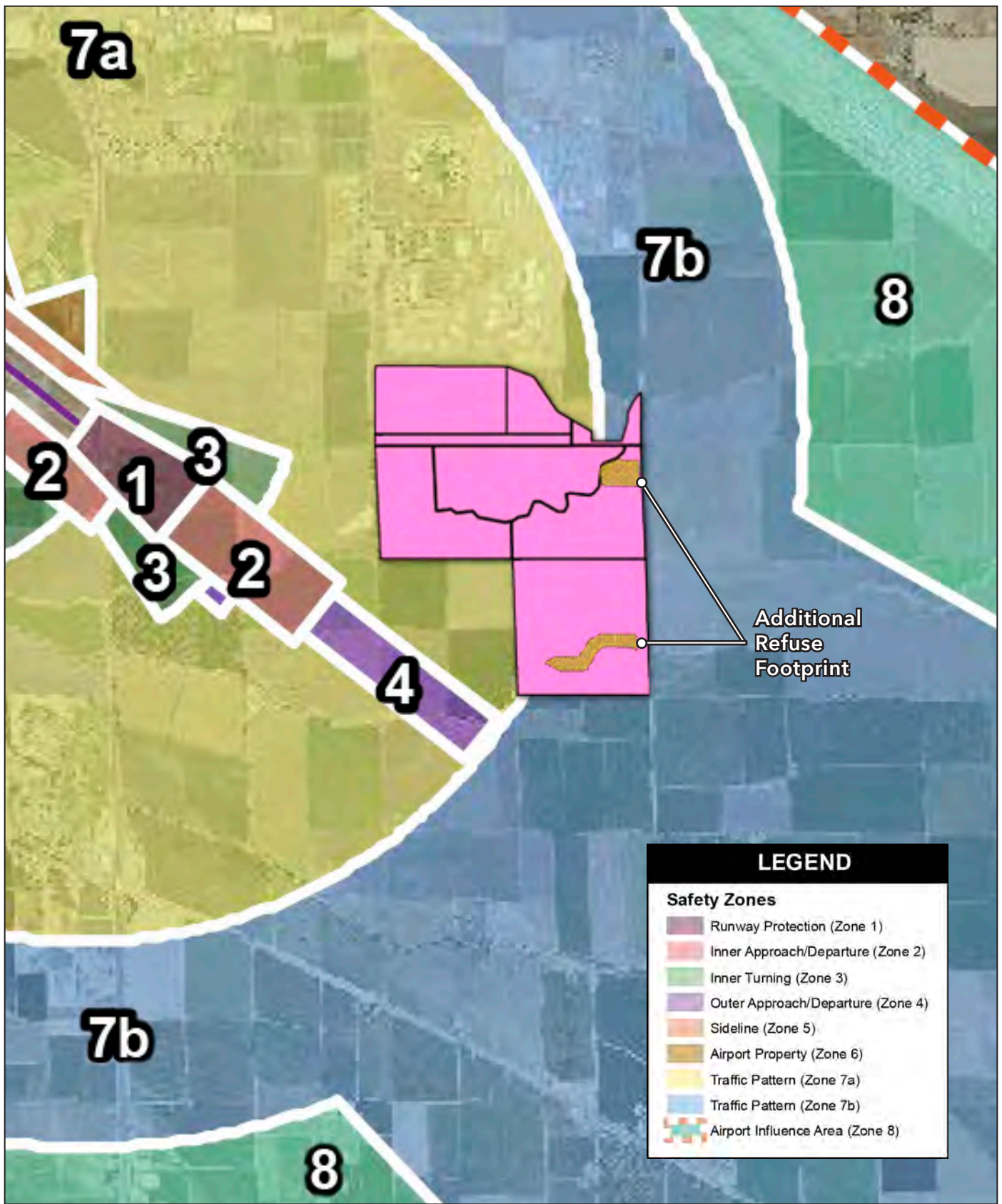
*PFS-5.6 Recycling of Construction Materials-The City shall require the recycling of construction debris.*

### **Zoning Classification**

The San Joaquin County Zoning Map designates the existing landfill site (including the creek corridors) and the proposed 2018 Expansion Project areas as AG-40, General Agriculture, 40-acre minimum. Uses permitted in AG zones include agricultural and certain residential, agricultural commercial, agricultural processing, communication, educational, utility, religious, recreation, and Major Impact Services uses. In the AG-40 zone, the minimum size for new parcels is 40.0 acres. The San Joaquin County Development Title specifies that the Major Impact Services use classification is a conditionally permitted use in AG-40 zone, subject to an approved Use Permit application. Major Impact Services use types include sanitary landfills, which are defined as land intensive activities that must be located away from residences or concentrations of people due to the nature of the operation's impacts. The existing Forward Landfill is classified under the Major Impact Services use type and currently permitted under San Joaquin County Land Use Permit No. UP-00-0007, granted by the Board of Supervisors in April 2003.

### **Airport Land Use Commission (ALUC) and 2016 Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport (ALUP)**

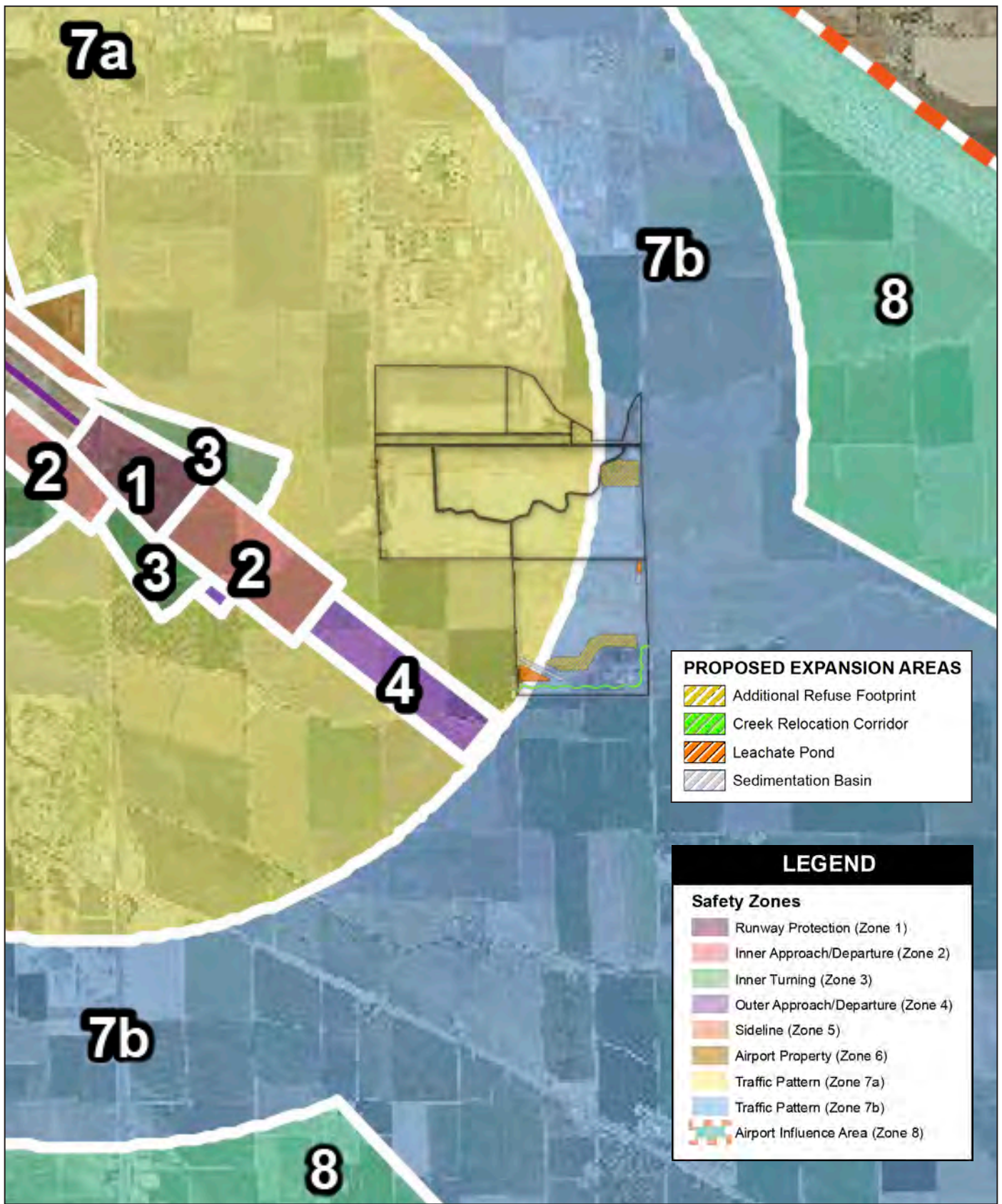
San Joaquin County has designated the San Joaquin Council of Governments (SJCOG) to serve as the County Airport Land Use Commission (ALUC) in accordance with the Public Utilities Code (PUC section 21670.1). Under State law, each Commission must formulate an Airport Land Use Compatibility Plan (ALUP) that provides for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the Commission, and safeguard the welfare of the inhabitants within the vicinity of the airport and the public in general (PUC section 21675 (a)). In formulating an ALUP, the ALUC may develop height restrictions on buildings, specify use of land, and determine building standards, including soundproofing adjacent to airports, within the Airport Influence Area. ALUP preparation shall be guided by the criteria set forth in the Airport Land Use Planning Handbook published by the California Division of Aeronautics of the Department of Transportation as well as by applicable



**Figure IV.A-2A**

Stockton Metropolitan Airport  
Land Use Safety Zones

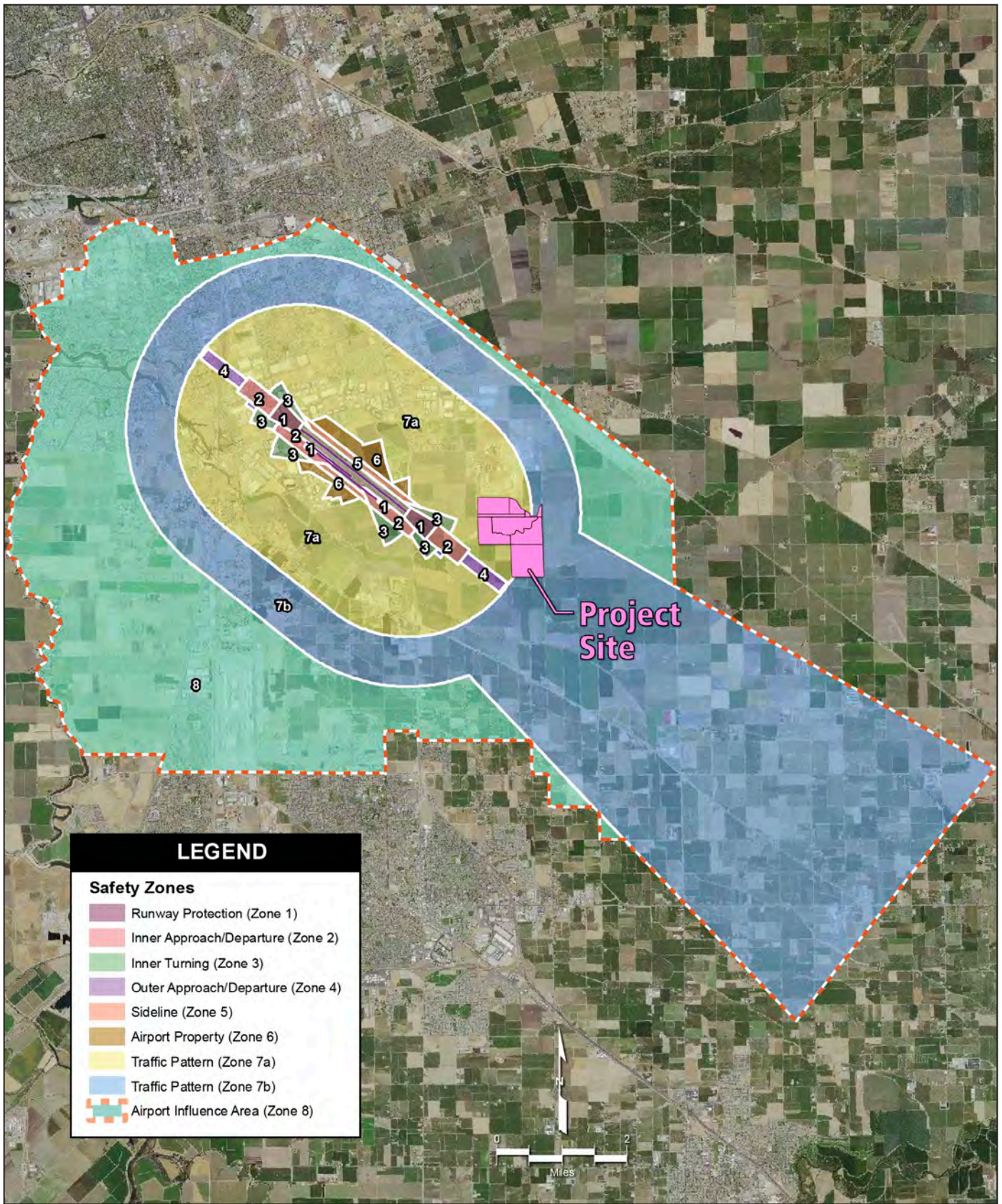
Source: Coffman Associates, Inc.



**Figure IV.A-2B**

Stockton Metropolitan Airport  
Land Use Safety Zones

Source: Coffman Associates, Inc.



**Figure IV.A-2C**

Stockton Metropolitan Airport  
Land Use Safety Zones

Source: Coffman Associates, Inc.

federal aviation regulations, including part 77 of the Title 14 of the Code of Federal Regulations, which establish height limits for structures near airports. The ALUP shall be reviewed as often as necessary in order to accomplish its purposes (PUC section 21675 (a)).

An Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport was adopted by the County in May 2016 (Coffman Associates, 2016). This document replaces the Stockton Metropolitan Airport portion of the 1993 Airport Land Use Plan for San Joaquin County, which was in effect at the time the 2013 EIR was prepared. The ALUP designates an Airport Influence Area for the Stockton Metropolitan Airport. The two proposed expansion areas are located within the Airport Influence Area.

The project expansion areas are within the Safety Zone designated as Traffic Pattern (Zone 7b) for the Stockton Metropolitan Airport (see Figures IV.A-2A, IV.A-2B, and IV.A-2C: Stockton Metropolitan Airport Land Use Safety Zones). “Hazards to flight” are prohibited land uses in Zone 7b, applicable to the two proposed expansion areas. Hazards to flight include “*physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds or other wildlife hazards to increase is also prohibited. Such uses (e.g. stormwater management facilities, other waterways, golf courses) are further detailed in FAA Advisory Circular 150/5200-33B or subsequent advisory (Hazardous Wildlife Attractants On or Near Airports)*”.

Land use restrictions in Zone 7b also state “*New dumps or landfills and the expansion of existing dumps or landfills are subject to FAA notification and review and are further subject to restrictions and conditions outlined in U.S. Code Title 49, Subtitle VII, Part A, Subpart iii, Chapter 447, Section 44718; 40 CFR Section 258.10; FAA Advisory Circular 150/5200-34A or subsequent advisory (Construction or Establishment of Landfills Near Public Airports); FAA Advisory Circular 150/5200-33B or subsequent advisory, (Hazardous Wildlife Attractants on or Near Airports).*”<sup>3</sup>

#### *San Joaquin County General Plan*

The Public Facilities and Services Element of the San Joaquin County General Plan Policy Document (adopted in December 2016) contains the following goal and policies:

*GOAL TM-8. To ensure that the air transportation system accommodates the growth of air commerce and general aviation needs within the parameters of compatible surrounding uses.*

*TM-8.5 Compatible Land Uses. The County shall require that only compatible land uses be permitted near airports, in accordance with the Airport Land Use Plan. (RDR)*<sup>4</sup>

*TM-8.6 Airport Operations. The County shall ensure that airport operations are protected from:*

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<sup>3</sup> Coffman Associates, Inc., *Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport*, May 2016, page 3-28.

<sup>4</sup> RDR: Regulation and Development Review.

- *projections of structures into navigable airspace;*
- *light and glare;*
- *emissions affecting visibility;*
- *interference with communications; and*
- *bird hazards, such as from ponds and landfills. (RDR)*

#### *EPA and FAA Regulations*

A U.S. EPA regulation, found at 40 Code of Federal Regulations section 258.10, requires that any landfill operator proposing expansion of an existing landfill within 10,000 feet of any runway used by turbojet aircraft or within 5,000 feet of any runway used only by piston-type aircraft must demonstrate that the landfill expansion will not pose a bird hazard to aircraft. The landfill operator must place this demonstration in the operating record of the landfill and notify the Federal Aviation Administration that this demonstration has been placed in the landfill operating record.

The Stockton Metropolitan Airport (SMA) serves both turbo-jet and piston type aircraft. Therefore, this EPA regulation applied to the previously proposed expansion project, which was located within 10,000 feet of the SMA runway. (Hunt, 2010.) The 2018 Expansion Project is not located within 10,000 feet of the SMA runway, and is not subject to this EPA regulation. In any case, the Forward Landfill has prepared this demonstration (Davis, 2011), and had placed this demonstration in the Landfill operating record and so notified U.S. EPA. (Basso, 2011)

EPA regulation (40 Code of Federal Regulations section 258.10) also requires that the operator of an existing landfill proposing a lateral expansion of that landfill within 5 miles of an airport runway must provide notice of the proposed expansion to the director of the lead state agency responsible for implementing the state permit program under 40 CFR part 257, subpart B and 40 CFR part 258 for facilities regulations under these regulations -- in California, it is the Director of the California Department of Resources Recycling and Recovery or "Cal Recycle". This notification was provided to CalRecycle. (Basso 2018d, 2018e.)

Title 14 of the Code of Federal Regulations, Part 77 contains the Federal Aviation Administration's regulations that establish standards for determining obstructions to navigable airspace and the effects of such obstructions on the safe use of airspace. 14 Code of Federal Regulations, Section 77.7 prescribes the form of notice that must be given to the FAA regarding proposed landfill expansions.

Forward, Inc. submitted preliminary plans (consistent with the project evaluated in this EIR) to the Federal Aviation Administration and received a "Determination of No Hazard to Air Navigation" on October 12, 2017, consisting of seven letters stating that the various portions of the proposed project "not exceed obstruction standards and would not be a hazard to air navigation". (McDonald, 2017a; McDonald, 2017b; McDonald, 2017c; McDonald, 2017d; McDonald, 2017e; McDonald, 2017f; McDonald, 2017g.)

## **Countywide Integrated Waste Management Plan**

State law (AB 939) requires counties to prepare a Countywide Integrated Waste Management Plan (CIWMP), containing a Source Reduction and Recycling Element (SRRE), a Household Hazardous Waste Element (HHWE), a Nondisposal Facility Element (NDFE), and a Siting Element. The Siting Element specifies the location of solid waste disposal and transformation facilities needed to provide capacity for the implementation of the CIWMP. The Siting Element also requires identification of future projects including expansions of existing sites. (Reno, 2009). The Siting Element of the San Joaquin County CIWMP, April 1996, identifies the existing Forward Landfill, and the former Austin Road Sanitary Landfill, as designated disposal facilities. As required by AB 939, the Siting Element of the CIWMP also presents remaining disposal capacity for the 15-year planning period beginning in January 1995. The discussion of remaining capacity includes the two then-existing landfills (the original Forward Landfill and the former Austin Road Sanitary Landfill) and the Austin Road Sanitary Landfill expansion. Based on landfills active at that time, including the then-existing Austin Road and original Forward Landfills, the North County Recycling Center and Sanitary Landfill, and the Foothill Sanitary Landfill, San Joaquin County had disposal capacity sufficient to last until the year 2041. This is more than 15 years of capacity.

San Joaquin County has local regulatory and monitoring responsibilities for the existing Forward Landfill, under Title 27 of the California Code of Regulations. These are fulfilled by the County Department of Public Works, Solid Waste Division. The role of Local Enforcement Agency (LEA) for the Department of Resources Recycling and Recovery (CalRecycle) is fulfilled by the San Joaquin County Environmental Health Department.

The San Joaquin County Planning Commission has authority to approve project plans and specifications. Decisions of the Planning Commission may be appealed to the Board of Supervisors.

## **Agricultural Land**

The currently proposed new landfill areas (approximately 8.6 acres in the southeast of the existing landfill and approximately 8.7 acres in the northeast of the existing landfill) are not currently in agricultural use and are not considered Prime agricultural land, as defined by the State of California (Government Code Section 51201).

Prime agricultural land in the project vicinity is shown in Figure IV.A-3. Prime agricultural land is defined by Government Code Section 51201 as any of the following:

- Land qualifying for a Storie Index rating of 80-100;
- Land qualifying for a Natural Resource Conservation Service land use capability Class I or Class II rating;
- Grazing land capable of supporting at least one animal unit per acre;
- Agricultural land that has returned at least \$200/acre for three of the past five years, or will normally return at least \$200/acre.

The expansion area in the southeast of the existing landfill consists of creek channel and existing permitted landfill operations (including the composting facility), does not provide viable grazing land because of its small size and isolation from other grazing land, and has not been used for agriculture for many years. The approximately 8.7 acres in the northeast of the existing landfill is classified as Urban on the Prime Agricultural Land and Important Farmland Map, and is not viable as grazing land because of its small size and isolation from other grazing land, and has not been used for agriculture for many years.

The 2013 expansion project included approximately 184 acres of agricultural land located south and west of the current permitted landfill areas. This area is not part of the currently proposed Project. The 126-acre CYA parcel in the northeast portion of the existing Forward Landfill contains approximately 59.4 acres of agricultural land. The agricultural land in the CYA parcel would not be affected by the proposed 2018 Expansion Project.

### **Williamson Act**

The 2013 EIR discussed Land Conservation (Williamson) Act contracts, and procedures for non-renewal and cancellation for Williamson Act contracts. The 2018 Expansion Project is not on land subject to a Williamson Act contract.

### **Multi-Species Conservation and Open Space Plan**

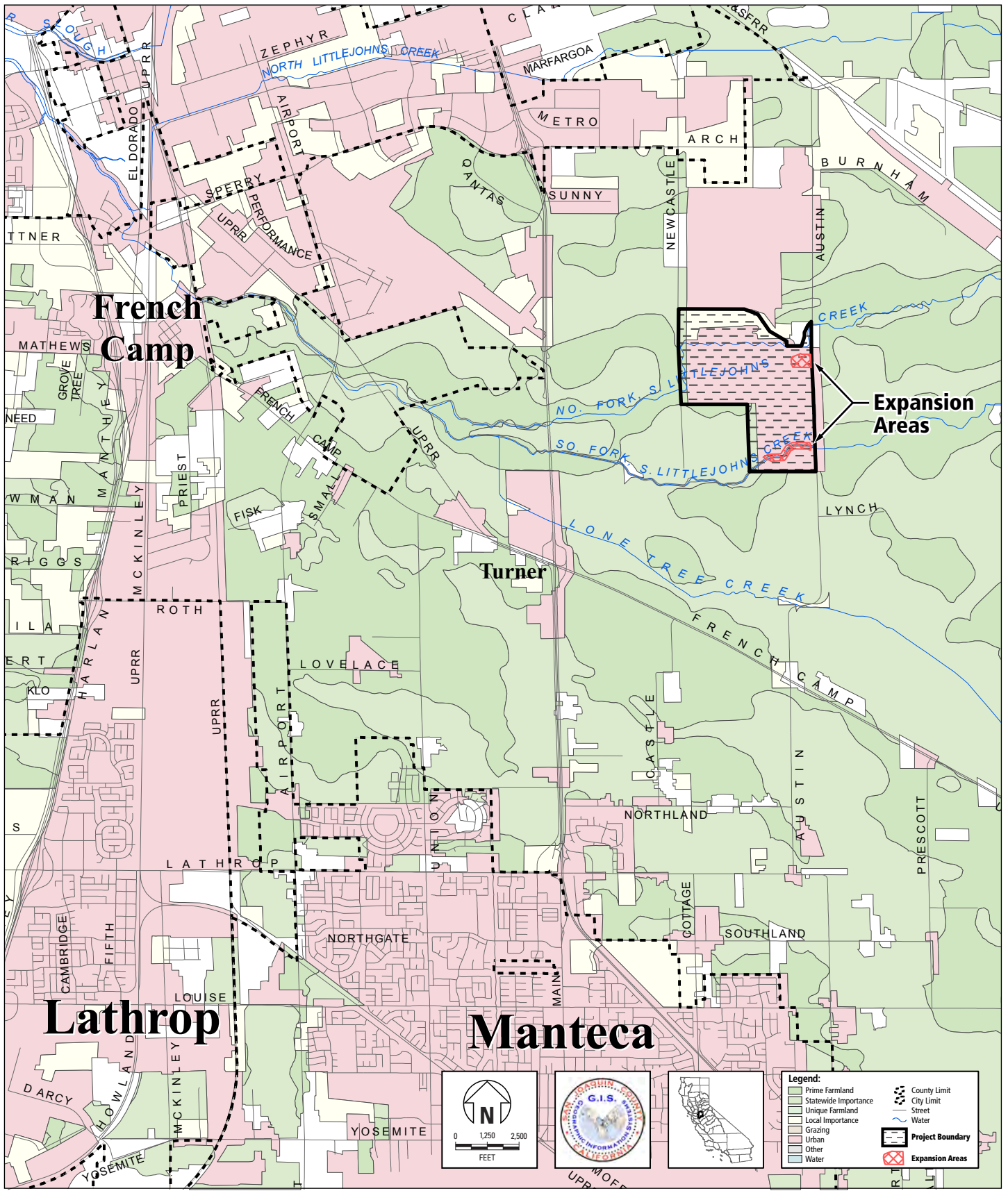
San Joaquin County adopted the *San Joaquin Multi-Species Conservation and Open Space Plan* (SJMSCP) in February 2001. The SJMSCP serves as comprehensive mitigation for impacts to threatened, endangered, rare, and other unlisted SJMSCP Covered Species. Participation in the SJMSCP is voluntary. Forward, Inc. is currently participating in the SJMSCP for the existing landfill.

### **Airport Land Use Conflicts - Bird Strikes and Gull Survey Evaluations**

The 2013 EIR discussed available information on bird strikes. The following paragraph updates that discussion with new information available at the time this SEIR was prepared (Davis, 2017, see Appendix D for a copy of this report). The Federal Aviation Administration (FAA) began tracking bird/ aircraft collisions nationwide, including at the Stockton Airport (SCK) in 1990.

The FAA database documenting bird/ aircraft collisions contained records of 62 bird and mammal strikes associated with the Stockton Airport, as of April 30, 2016 (Davis, 2017). One of the 62 reported strikes involved a black-tailed jackrabbit. Of the 61 strike reports from Stockton Airport that involved birds, one involved a gull (carcass only) and four others might have involved gulls. Even allowing for significant under-reporting of bird strikes, five strikes at SCK in over 27 years with no damage reported indicates that the Forward Landfill has not posed a significant threat to aircraft using the Stockton Metropolitan Airport. Thirty-eight of the reported bird strikes at SCK occurred since the gull control program was instituted at Forward Landfill in the winter of 2010-2011. These strikes involved Barn Owls (4), a Burrowing Owl, a White-tailed Kite, Red-tailed Hawks (3), Swainson's Hawks (4), a Turkey Vulture, an American Kestrel, Horned Larks (4), Western Meadowlarks (3), Killdeers (2), an American Pipit, a Rock





**Figure IV.A-3**

Prime Agricultural Land and Important Farmland

Source: San Joaquin County GIS

Pigeon, a European Starling, unidentified small birds (4), and two unidentified birds. No gulls were involved and none of the birds struck were attracted to the area by the landfill (Davis 2017).

The project applicant has a program to survey gull populations in the vicinity of the landfill. Forward Landfill safety procedures include monitoring bird populations at the site. Prior to the implementation of the bird control program at the landfill, bird surveys (conducted over a period of at least 1.5 hours on a single day) observed 500 gulls on February 23, 2005, 661 gulls in January 2007, 75 gulls on January 14, 2009, and 400 gulls on February 10, 2010 (Schneider, 2005; Stagnaro, 2009).

At the Forward Landfill, a pilot gull control program, using falconers with trained falcons to lure and chase gulls, was conducted between March 9, 2010 and April 14, 2010 (Davis, 2013; See Appendix D of the 2013 FEIR for a copy of this report). The pilot program was successful in reducing gulls at the landfill site; one gull was observed on March 10, 2010 by a consulting biologist who is independent of both the gull control consultant and the project sponsor. (Stagnaro, 2010; See Appendix D of the 2013 FEIR). After the end of the pilot gull control program, 44 and 65 gulls were observed on September 22 and 23, 2010, respectively, by the independent third-party consulting biologist. (Stagnaro, 2011; See Appendix D of the 2013 EIR).

As a result of the success of the pilot gull control, a permanent gull control program was initiated by Forward Landfill on September 27, 2010. This program consists primarily of falconry, and expanded on the pilot program discussed in the previous paragraph to include use of bird flares, remote-controlled airplanes that resemble predatory birds, whistles, and other noisemakers to discourage birds. The program employs falcons directed by a falconer, supplemented by pyrotechnics to frighten gulls away when weather conditions make use of falcons difficult (e.g., foggy and stormy conditions). During an observation on December 2, 2010 by an independent third-party consulting biologist, 18 gulls were observed approaching at a high elevation; the falconer flew one of his birds and the gulls left the area. Later on the same day, one gull scouted the area but left. The use of falcons is reported to have been fully effective; no gulls landed on or approach within close proximity to the site during a survey by an independent biologist conducted in December 2010. (Stagnaro, 2011; see Appendix D of the 2013 EIR). During the 2011-2012 winter season, no gulls were observed at the landfill during a survey conducted in April 2012. (Yakich, 2012; see Appendix D of the 2013 EIR). No gulls were observed at the landfill in four surveys conducted since the preparation of the 2013 EIR, in April 2013, April 2014, June 19, 2015; and June 7, 2017 respectively. (Yakich, 2013, Yakich, 2014; Valcarel, 2015; and Teichman, 2017; see Appendix D).

In addition to the biologist's surveys described above, observations are made by an independent observer as part of the bird control program, to provide added oversight. The independent observer noted two cases on Thursday, February 7, 2013 where gulls began feeding at the active face. In both cases, the gulls were able to begin feeding but were deterred by the control program prior to reaching the site-specific failure criteria. Forward staff was notified regarding the gull incidents. Based on discussions with landfill staff, it appears that the position of the active face may have prevented the controllers from observing the gull landings. The controller was notified of this incident. Measures taken to deter future gull landing and

feeding included requiring the controller to monitor areas that may be screened with the support of landfill staff in constructing additional access roads. During surveys of gulls at the Forward Landfill from fall of 2010 to spring of 2013, other species of birds have been recorded. (Davis, 2014). There are four species of raptors that generally occur in the area: Turkey Vulture, Red-tailed Hawk, Swainson's Hawk, and American Kestrel. Each of these species occupies large home ranges of which the landfill is only a small, non-essential part. The species do not feed at the landfill and would still occur in the same areas even if the landfill were not present (Davis 2014). The landfill sometimes attracts small numbers of European Starlings and Brown-headed Cowbirds. These birds may attempt to feed at the waste disposal area, but the numbers remain low because they are deterred by the falcons used in the gull control program. The closed, vegetated parts of the landfill attract the same species in the same numbers as the surrounding agricultural areas, and the airport property itself. (Davis, 2014). No gulls were observed during surveys by an independent biologist on April 30, 2013; April 30, 2014; June 19, 2015; or June 7, 2017 (Yakich, 2013; Yakich, 2014; Valcarel, 2015; Teichman, 2017). During the winters of 2015-2016 and 2016-2017, no gulls were observed feeding at the landfill by the falconer (Davis, 2016 and Davis 2017). The absence of gulls since 2013 was attributed to the gull control program, employed by the landfill.

The bird survey results through 2017, summarized above, have shown that, through monitoring, evaluations, and implementation of the gull program, the landfill has continued to not create a bird hazard to aircraft at the Stockton Airport.

## **Impacts and Mitigation Measures**

### **Standards of Significance**

The proposed project would have a significant impact with regard to land use, planning, and agricultural land<sup>5</sup> if it would:

- Physically divide an established community,
- Conflict with applicable land use plans, policies, or regulation of an agency with jurisdiction over the project (including, but not limited to, the *General Plan*, specific plans, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect,
- Conflict with an applicable habitat conservation plan or natural community conservation plan, or
- Convert farmland to non-agricultural use.

This section updates the impacts and mitigations considered in the 2013 EIR, to account for changes in the proposed project. To facilitate review of the section and comparison of analyses between the 2013 EIR and this document, the heading for each impact or mitigation measure reflects whether that impact is the same, revised, or replaced. For example, the heading for

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<sup>5</sup> Source: California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387 and Appendices A-K, "Guidelines for the Implementation of the California Environmental Quality Act", Appendix G, Environmental Checklist Form.

Impact A.1 is “Impact A.1: Compliance with County Plans and Policies. (Revises 2013 EIR Impact A.1)”; the heading for Impact A.5 is “Impact A.5 Night lighting at the proposed project could interfere with airport landing lights. (Same As 2013 EIR Impact A.5)”.

**Impact A.1: Compliance with County Plans and Policies. (Revises 2013 EIR Impact A.1)**

Project-related policy conflicts and inconsistencies do not, in and of themselves, constitute a significant environmental impact and are considered to be environmental impacts only when they would result in direct physical effects, which this EIR identifies pursuant to CEQA. All associated physical impacts of the proposed project are discussed in this EIR in specific topical sections of the following Chapter IV Environmental Setting, Impacts, and Mitigation Measures.

***Zoning Classification***

The entire project site has a zone classification of AG-40. As discussed in Setting, County of San Joaquin General Plan and Zoning, Zone Classification, above, landfills are a conditionally permitted use in AG-40 zone subject to a Use Permit. Thus, the proposed project would be consistent with the County of San Joaquin AG-40 zone classification, if a new or revised Use Permit is granted.

***General Plan Land Use Designations***

As discussed in Setting, above, the General Plan designates the northern portion of the existing Forward Landfill (north of the original alignment of the North Fork of South Littlejohns Creek) as A/UR (Agriculture - Urban Reserve), and the southern portion of the existing Landfill as A/G (Agricultural, General). The proposed realignment of the South Fork of South Littlejohns Creek would require compliance with state and federal regulations, including approvals from the California Department of Fish and Game (CDFG), the RWQCB, the U.S. Army Corps of Engineers (USACE) for compliance with Section 404 of the Clean Water Act, the Central Valley Flood Protection Board, the San Joaquin County Flood Control and Water Conservation District, and the California Department of Water Resources. (See F. Vegetation and Wildlife, Impact F-1. Filling of Waters of the U.S./Waters of the State, for additional discussion of these approvals.)

As part of the approval process, California Public Resource Code Section 50000 requires the County to make a finding that a proposed facility is consistent with the County General Plan and its objectives, policies and implementation measures. This finding can be made because the proposed landfill modifications are consistent with the A/G (Agricultural, General) and A/UR (Agriculture -- Urban Reserve) designations of the site. The project is consistent with the Program of the General Plan relative to solid waste (see Setting, General Plan Policies, above). The project is consistent with the General Plan Objective and Implementation Program relative to Agricultural Land. The project is consistent with General Plan Fire Safety Goal and Policies. The project is consistent with General Plan Airport Safety Goal and Policies. The project is consistent with the General Plan’s Hazardous Materials and Wastes Goal and Policies. The project is also consistent with the Countywide Integrated Waste Management Plan and the San Joaquin Multiple Species Conservation and Open Space Plan (Funderburg, pers. com. 2018).

As discussed under “San Joaquin County Zone Classification”, above, the proposed project would be consistent with the site’s AG-40 zoning. The proposed relocation of the South Fork of South Littlejohns Creek would relocate, without substantially altering, the open space and riparian habitat values of the existing alignment of the South Fork. In addition, by purchasing off-site mitigation, the project would enhance open space and riparian habitat at the mitigation site, as discussed in Section F. Biological Resources. For these reasons, the proposed project would not conflict with goals, policies, and implementation measures of the General Plan.

#### ***General Plan Solid Waste Disposal Policies***

The proposed project would not conflict with Implementation Program IS-J of the San Joaquin County General Plan, which calls for mandatory waste collection and recycling.

#### ***General Plan Agricultural Land Policies***

The proposed project’s consistency with agricultural land policies is discussed in Impact A.2, below.

#### ***General Plan Fire Safety and Law Enforcement Policies***

The proposed project would not conflict with the Fire Safety goal and policies of the General Plan Public Health and Safety Element, including Policy PHS-4.1, which calls for a Community Wildfire Protection Plan, and Policy PHS-4.6, which advocates coordination among fire prevention agencies.

As discussed in I. Public Services and Utilities, Setting, Fire Protection and Emergency Medical Services, and Impacts I.1, I.2, and I.3, the proposed project would be located within 4.0 miles of a fire station (Policy 4) and, incorporating mitigation measures identified in this SEIR, would provide adequate access and water supply (Policies 2 and 5).

#### ***General Plan Hazardous Materials and Wastes Policies***

As discussed in E. Public Health and Safety, the proposed project, including mitigation measures identified in this SEIR, would not conflict with the Hazardous Materials and Wastes goal and policies of the General Plan Public Health and Safety Element, including Policy PHS-7.2, which calls for avoidance of environmental contamination from hazardous materials; Policy PHS-7.3, which calls for appropriate use, storage, and disposal of hazardous materials; Policy PHS-7.5, which calls for safe location of hazardous material use, storage, and disposal; and Policy PHS-7.9, which requires public disclosure of hazardous materials and wastes.

As discussed in E. Public Health and Safety and G. Hydrology and Water Quality, the proposed project would include mitigation measures to address air, water, and soil contamination issues (Policy 7.2), and would be located away from population centers (Policy 7.5). The project would comply with hazardous waste laws and regulations (Policies 7.3 and 7.9).

### ***Countywide Integrated Waste Management Plan***

Public Resource Code Section 50001 requires that the County make a finding that the proposed facility is identified in the most recent Countywide Integrated Waste Management Plan. The former Austin Road and original Forward Landfills at the project site are currently identified as disposal facilities in the Siting Element of the Countywide Integrated Waste Management Plan (CIWMP).

As discussed in Setting, above, the County has disposal capacity estimated to last until approximately 2041. The Proposed Project would add approximately 8.12 million cubic yards to countywide disposal capacity, and the former Austin Road and original Forward Landfills at the project site are currently identified as disposal facilities in the Siting Element of the CIWMP. The Project would increase the capacity of the existing facilities identified in the Siting Element. While expanding the estimated remaining life of the landfill in the Siting Element would not be a substantial change, it would require formal approval by the Integrated Waste Management Plan Task Force and the County Board of Supervisors. As of August 2018, the Siting Element had not been revised to account for the additional capacity of the proposed project. If the proposed landfill infill project is approved, the Siting Element would be amended to ensure consistency with Public Resources Code Section 50001.

### ***Multi-Species Conservation and Open Space Plan***

As discussed in Setting, above, the *San Joaquin Multi-Species Conservation and Open Space Plan* (SJMSCP) is a voluntary program. The project sponsor will participate in the SJMSCP. The proposed project would be consistent with the SJMSCP as amended. Mitigation measures to reduce impacts to species of concern, in addition to participation in the SJMSCP, are discussed in F. Vegetation and Wildlife, Impacts and Mitigation Measures.

### ***Airport Land Use Plan Consistency and General Plan Aviation Policies***

As discussed under the Airport Land Use Commission (ALUC) and 2016 Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport (ALUP) section, above, the 2018 Expansion Project is located within the Airport Influence Area of the Stockton Metropolitan Airport (SMA), which is divided into various land use zones, as shown in Figure IV.A-2. Different land use standards, conditions, and restrictions apply in each subarea. As discussed in more detail in Airport Land Use Commission (ALUC) and 2016 Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport (ALUP), above, the 2018 Expansion Project is within the Traffic Pattern (Zone 7b).

The 2016 Airport Land Use Compatibility Plan Update for Stockton Metropolitan Airport, "Hazards to flight" includes prohibited land uses in Traffic Pattern (Zone 7b) applicable to the two proposed expansion areas, which include "physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds or other wildlife hazards to increase is also prohibited. Such uses (e.g. stormwater management facilities, other waterways, golf courses) are further detailed in FAA Advisory Circular

150/5200-33B or subsequent advisory (Hazardous Wildlife Attractants On or Near Airports)”. FAA Advisory Circular 150/5200-33B recommends a separation distance of 10,000 feet between wildlife attractants and the airport operations area (AOA). The AOA is defined as any area of the airport used or intended to be used for landing, take-off, or maneuvering of aircraft.

Both proposed landfill expansion areas are more than 10,000 feet from the end of the nearest runway (11L/29R) and airport operations area. In addition, creek restoration has been limited such that birds are not attracted to the creek, and off-site habitat restoration is included, away from the airport flight zones.

U.S. Code Title 49, Subtitle VII, Part A, Subpart iii, Chapter 447, Section 4471 requires adequate public notice for the construction, alteration, establishment, or expansion, or the proposed construction, alteration, establishment, or expansion, of a sanitary landfill that could affect air safety. 40 Code of Federal Regulations (CFR) Section 258.10, among other requirements, stipulates that landfills within five miles of an airport must notify the affected airport and the FAA.

As discussed under EPA and FAA Regulations, above, the project applicant submitted preliminary plans (consistent with the project evaluated in this EIR) to the Federal Aviation Administration and received a “Determination of No Hazard to Air Navigation” on October 12, 2017, indicating that the project does not constitute a “hazard to flight” in the view of the FAA. As described under Bird Strikes and Gull Survey Evaluations, in the Setting section of this chapter, the potential for bird strikes associated with the landfill is no longer a substantial hazard due to the extensive bird control program that has been implemented by Forward over the past 10 years. With the adopted and existing land use measures in place to prevent potential bird strikes, the gull control program continues to be successful, therefore ensuring compatibility of existing landfill operations and the proposed expansion areas for land uses located within the Conical Surface Zone for the Stockton Airport.

The San Joaquin Council of Governments, acting as the ALUC, considered the compatibility of the proposed project with the ALUP in a letter submitted to the County in response to the NOP for this SEIR. They concluded that:

- *The FAA notification and review has occurred*
- *The FAA issues a “Determination of No Hazard to Air Navigation”, indicating that the project does not constitute a “hazard to flight” in the view of the FAA.*
- *Forward, Inc’s plans appear to be consistent with FAA Advisory Circular 150/5200-33B. Specifically, all expansions of landfill operations are located more than 10,000 feet from the AOA.*

*In light of the above observations, SJCOG’s determination is that the Forward Infill Project is compatible with conditions with the adopted Stockton Metropolitan Airport ALUCP. Conditions of approval include, but are not limited to:*

- *Submit finalized plans to the FAA and Caltrans Division of Aeronautics for review upon filing a development application with San Joaquin County.*
- *Comply with all applicable law and implementing advisories as indicated in the ALUCP.*

These conditions are included as part of the proposed project (See Impact A.4, below). Therefore, the project would not conflict with ALUP and FAA policies applicable to safety at the Stockton Airport, and no mitigation is required.

**Impact A.2 (Revises 2013 EIR Impact A.2): The proposed project could convert agricultural land to industrial use.** The 8.6-acre expansion area in the southeast consists of the existing channel of the South Fork of South Littlejohns Creek and existing permitted landfill operations (including the composting facility); therefore, it is not considered agricultural land. The 8.7-acre expansion area in the northeast of the site is small in terms of agricultural land, isolated from other agricultural land, and, as discussed in Setting, Agricultural Land, above, is classified as Urban on the Prime Agricultural Land and Important Farmland Map. For these reasons, 8.7-acre expansion area in the northeast is not considered to be viable agricultural land. Because both expansion areas would be within the currently permitted Forward Landfill, the proposed project would not constitute “leap-frog” expansion of isolated, non-contiguous industrial uses into an area of agricultural preserve. Therefore, the 2018 Expansion Project would not conflict with the County’s goals of preserving agricultural land, or contribute to the cumulative loss of agricultural land in San Joaquin County and the Central Valley. The project would have *no impact* to agricultural lands and no mitigation is required.

**Impact A.3: The proposed project could exceed FAA height limits for structures near airports. (Revises 2013 EIR Impact A.3)** As discussed above, the nearest runway of the Stockton Metropolitan Airport is approximately one mile west of the existing Forward Landfill boundary, and nearly two miles from the proposed infill areas. For purposes of aircraft safety, Federal Aviation Administration (FAA) regulations (Federal Aviation Regulation (FAR) Part 77) establish height limits for structures near airports. The regulations include airport imaginary surfaces, which are three-dimensional boundaries that extend outward and upward from airport runways. An analysis of the proposed expansion’s conformity with FAR height limitations was conducted by an independent consultant retained by the applicant, and summarized below. (Williams Aviation Consultants, 2018).

FAR Part 77 Obstruction Criteria identify Mean Sea Level (AMSL) heights for Stockton Metropolitan Airport (SCK), consisting of a horizontal imaginary surface that extends 10,000 feet from a point 200 feet beyond the end of the nearest runway, and is 150 feet above the published airport elevation (33 feet at Stockton), or 183 feet msl. Beyond the horizontal imaginary surface, the conical imaginary surface extends upward from the horizontal surface at 20:1 for an additional 4,000 feet. Thus, obstructions greater than a height of 183 feet msl would exceed the horizontal imaginary surface limits within the horizontal area for the Stockton Metropolitan Airport. Outside the 10,000-foot limit of the horizontal surface, obstructions into the conical imaginary surface would exceed the conical imaginary surface limits. Both portions of the 2018 Expansion Project would not penetrate into either the horizontal or the conical imaginary surfaces.

An analysis of the Terminal Instrument Procedures (TERPS) criteria was completed to determine the maximum elevation to which a structure could be erected without impacting SCK instrument approach and departure procedures. Penetration of the Obstacle Clearance Surfaces (OCS) by a proposed structure would result in the need to increase the procedure’s



Minimum Descent Altitude (MDA) (the lowest altitude that a pilot can descend on an approach) and would likely receive a Hazard Determination from the FAA. The elevation of the lowest OCS is approximately 210 to 230 feet Above Mean Sea Level (AMSL) over the project area. Therefore the proposed 180.7' AMSL South Infill and 190' AMSL Northeast Infill would not penetrate this OCS, and therefore would not have an adverse impact on arrival procedures at SCK.

Each instrument approach procedure to SCK contains a Circle-to-Land option. The circle-to-land portion of the procedure allows a pilot to approach the airport in instrument conditions then, when the airport environment is in sight, the pilot can maneuver the aircraft to the opposite end of the runway to land. A pilot would execute this type of instrument approach procedure if the winds were not favorable for landing on the primary runway for which the procedure was designed. The surfaces which protect the Circle-to-Land consist of horizontal circular surfaces that extend from the end of each runway. The radius of each circle is dependent on the category of aircraft utilizing the Circle-to-Land approach. A project would not impact the Circle-to-Land protected airspace if it does not penetrate the OCS described above. The proposed expansion project would not penetrate the OCS and, therefore, would not have an adverse impact on Circle-to-Land procedures at SCK.

The Initial Climb Area (ICA) associated with SCK's departure procedures was analyzed, using SCK's standard Climb Gradient of 200 feet per Nautical Mile (NM) for aircraft departing Runway 11L. Neither portion of the proposed project would penetrate this ICA or have an adverse impact on departure procedures at SCK.

An analysis of SCK's Visual Flight Rule (VFR) Traffic Pattern Airspace was completed to determine the maximum elevation to which a landfill could be erected without impacting aircraft operating in visual conditions at SCK. Neither portion of the proposed project would penetrate the VFR Traffic Pattern for SCK.

In summary, the proposed final grades of the 2018 Expansion Project would not (a) penetrate obstruction criteria for Stockton Metropolitan Airport (SCK), (b) penetrate Obstacle Clearance Surfaces (OCS) or Circle-to-Land Obstacle Clearance Surfaces (OCS), or have an adverse impact on arrival procedures at SCK, (c) have an adverse impact on departure procedures at SCK, or (d) penetrate the Visual Flight Rule (VFR) Traffic Pattern for SCK. (Williams Aviation Consultants, 2017). Therefore, the final grades of the proposed expansion project would have a *less-than-significant* impact on safety due to conflict with FAR height limits or the airport imaginary space.

However, when the two expansion areas have been filled to an elevation near their permitted heights, equipment operating on top of the landfill could temporarily intrude into the conical space. Forward would continue its procedure of submitting a Notice of Proposed Construction or Alteration (FAA Form 7460-1) at least 45 days prior to operation of any equipment that could temporarily intrude into the imaginary surface, as required by the Federal Aviation Administration (FAA) for all proposed construction or alterations that could intrude into the airport imaginary surface. The FAA would then issue a Notice to Airmen (NOTAM) notifying pilots of the temporary intrusion into the airspace. This would reduce the impact of operating

equipment on the conical space to a *less-than-significant* level.

The impact of the 2018 Expansion Project on FAA height limits would be *less than significant* and no mitigation is required.

**Impact A.4: The proposed project could increase bird hazards at the Stockton Metropolitan Airport (Revises 2013 EIR Impact A.4).**

The maximum elevation of the expansion area would be approximately 190 feet above mean sea level (MSL), lower than the permitted maximum height of 210 feet MSL for the existing Forward Landfill. As discussed above, the proposed expansion would not conflict with FAR height limits. However, both portions of the 2018 Expansion Project would have higher surfaces that could increase the flying altitude of any birds attracted to the landfill, and thus could create a hazard to aircraft.

Large flocking birds (i.e. gulls, geese) are the species most associated with bird airstrikes.<sup>6</sup> Gulls are not present in the Stockton area during the summer period (May to late September), and gull control at the landfill is not required then, but migrating and wintering gulls return to major feeding areas, such as landfills, when they migrate to the area in the fall. As discussed in Surrounding and Nearby Land Uses, above, a bird control program was instituted at the landfill during the winter of 2010-2011. As discussed in Bird Strikes and Gull Control, in the Setting section above, the existing landfill has not generated significant bird strike hazards for the Stockton Metropolitan Airport from gulls or other bird species, since the implementation of the bird control program. The proposed Project would continue to employ current bird control measures including properly compacting and covering wastes at the end of each day, and use of falcons, bird flares, whistles, and bombs. The bird control program was shown to be effective at preventing gulls from feeding at, or otherwise using, the Forward Landfill. (Davis, 2017).

The proposed relocation of Littlejohns Creek would not result in a net increase in area of habitat for those bird species most associated with bird strike hazards for aircraft. Bird species such as gulls and geese that pose the greatest risk for aviation at the landfill are the focus of the existing bird control program. As discussed in III. Project Description, Relocate South Fork of South Littlejohns Creek, riparian habitat is proposed to be restored and/or created offsite rather than being created within the relocated creek channel, to address Federal Aviation Administration (FAA) concerns regarding creation of bird habitat. This would address the USDA Wildlife Services recommendations for review of new landscaping/development plans for wildlife hazards, water management to eliminate standing water from the landfill whenever possible, and vegetation management to eliminate brushy areas along ditches and streams.

In addition to large flocking birds, raptors (birds of prey), which include special-status bird species, may also be present in the project vicinity. Based on records of bird strikes, raptors are much less likely to be involved in aircraft strikes than flocking birds such as gulls. The project site is surrounded by agricultural land, which provides extensive habitat for the prey base (e.g., rodents) of raptors. An abundant supply of prey would therefore be available whether or not the proposed relocation of Littlejohns Creek is implemented, or whether or not prey is eliminated

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<sup>6</sup> Mike Wood, Biologist, Wood Biological Consulting, Inc., personal communication, September 12, 2011.

from the landfill.<sup>7</sup> The proposed creek relocation would not substantially change the availability of prey for raptors in the vicinity of the airport. Thus, relocation of the South Fork of South Littlejohns Creek, and continuation of current levels of prey at the landfill, would not substantially enhance the habitat for raptors, which, in any case, do not pose a substantial threat to aircraft safety at the Stockton Metropolitan Airport.

The following procedures are proposed as part of the project:

- Existing measures to discourage birds from the landfill will be continued. Surface area of ponds will be limited to the extent feasible.
- The project sponsor will continue to monitor bird populations. If follow-up surveys show an increase in bird populations, the project sponsor will increase mitigation measures such as covering the fill areas as soon as possible and using noise-makers and other measures as necessary to discourage birds from the site, until bird population levels return to the level found in pre-project surveys. Use of noise-makers would be limited to daylight hours.
- As required by California Code of Regulation Title 27, Section 20270(b), Airport Safety, the owner or operators proposing to site new solid waste facility units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the FAA. Forward notified the Stockton Metropolitan Airport and FAA by letter on July 6, 2018. (Basso, 2018a).
- As required by California Code of Regulation Title 27, Section 20270(c), Airport Safety, the owner or operator must place the demonstration in the operating record that the site will not pose a bird hazard to aircraft, and notify the Department of Resources Recycling and Recovery (CalRecycle) that it has been placed in the operating record. Forward notified CalRecycle that the demonstration was placed in the operating record by letter on July 6, 2018. (Basso, 2018d, 2018e).
- The project sponsor shall comply with the requirements applicable to existing landfills contained in Federal Aviation Administration (FAA) Advisory Circulars 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, and 150/5200-34A, *Construction or Establishment of Landfills Near Public Airports*. Requirements in Advisory Circular 150/5200-33B applicable to the proposed project include notification of the FAA and airport, and a demonstration that the landfill is designed and operated so it does not pose a bird hazard to aircraft. Forward notified the Stockton Metropolitan Airport and FAA by letter on July 6, 2018. (Basso, 2018a). The effectiveness of the gull control program at the existing landfill in avoiding bird hazards to aircraft is discussed under Surrounding and Nearby Land Uses, above, and the demonstration that the site will not pose a bird hazard to aircraft was placed in the operating record by letter on July 6, 2018. (Basso, 2018b). Advisory Circular 150/5200-34A applies only to establishment of new landfills near airports, and does not apply to the proposed project.
- In addition to the procedures proposed as part of the project identified above, the project sponsor will abide by any additional reasonable and feasible measures designated by

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<sup>7</sup> Ibid.

the Stockton Metropolitan Airport or the FAA to mitigate bird population impacts that could be caused by the proposed project.

A biologist from the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services visited the project site to evaluate aviation-related wildlife hazards and current management practices, including the bird control program discussed above. After the visit, USDA Wildlife Services made recommendations for wildlife management at the landfill. (Odell, 2011). In addition to compliance with FAA rules and regulations, the recommendations include:

- Review of all new landscaping/development plans for wildlife hazards
- Water management to eliminate standing water from the landfill whenever possible
- Vegetation management to eliminate brushy areas along ditches and streams
- Operation of wildlife hazard management patrols
- Continuation of the current falconry-based bird control program at the landfill
- Coordination with the U.S. Fish and Wildlife Service to develop a permit to reduce hazards to aircraft from specific threatened and endangered species and species of special concern

**Mitigation Measure A.4 (Implement Annual Gull Control Program) (Revises 2013 EIR**

**Mitigation A.1)**: Mitigation Measure A.4, below, incorporates the recommendations of USDA Wildlife Services, but excludes the USDA Wildlife Service's recommendations for special-status bird species and the removal of prey base for predatory birds and mammals.

The project sponsor shall continue to implement an annual gull control program as described in *Rolph A. Davis, Ph.D. LGL Limited environmental research associates, Demonstration of the Continued Effectiveness of the Bird Control Program at the Forward Landfill, Manteca, California – 2016-2017, August 7, 2017*. The gull control program shall include monitoring of gulls feeding at or using the landfill, as described below.

- Monitoring shall be conducted by an independent third-party firm or individual with experience in the field of bird hazards to aircraft safety.
- The third-party monitoring shall consist of a minimum of six site visits, each lasting four hours, every month from October through May. To the extent possible, the site visits shall be announced in advance. During each month:
  - two of the visits shall begin at dawn,
  - two shall occur during mid-day,
  - one shall occur late in the afternoon covering the period after the falconer has finished for the day, and
  - one shall occur on Sunday when the landfill is closed to ensure that gulls are not accessing the site when staff are absent.
- Site visits in addition to the minimum of six monthly visits described above shall be made if necessary to verify the criteria for failure described below.
- The results of the monitoring shall be documented in an annual report.

- Landfill staff shall participate in monitoring so that action can be taken as soon as a potential problem is identified.

The control program shall be considered to be failing and will require upgrading if any of the following situations occur:

- Gulls land at the active disposal area, begin to feed, and are able to feed for 10 minutes or more, on two or more occasions during a week.
- Flocks of gulls begin loafing on other parts of the landfill and are not scared away by the control program within 30 minutes, on more than two occasions during a week.
- Gulls begin to circle over the landfill, including adjacent creek areas, and are not removed by the falcons. If this behavior continues over a period of one week, then it indicates that the birds are likely getting food at the landfill.

The above triggers do not specify a minimum number of gulls because if one or two gulls are present, they will soon attract other gulls and numbers will build up. Therefore, it is essential to deter the first gulls.

In the event that the bird control measures proposed as part of the project, described above, in combination with the gull control program described in this mitigation measure, are found to be ineffective in reducing the numbers of flocking birds by the criteria described above, the project sponsor shall implement one or more of the following:

1. The falconry program shall be intensified to ensure that there are no gaps in coverage and that additional falcons are available for those days when it may be necessary to fly the falcons often.
2. The operator shall introduce a more comprehensive pyrotechnic-based control program to supplement the falconry program. Many landfills successfully control gulls using only a pyrotechnic-based program. The pyrotechnics program shall provide coverage when the falcons were not on site during the week and on weekends. The pyrotechnics program shall also cover areas remote from the active area to remove loafing gulls.
3. With the exception of removal of prey base for predatory birds and mammals, and actions involving special-status bird species, the operator shall implement the recommendations for vegetation, wildlife, and water management contained in *Odell, Russel W., Senior Wildlife Biologist, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services California*, Letter to John Funderburg, Principal Planner, San Joaquin County Community Development Department, August 29, 2011.

The Conditions of Approval for the proposed project shall include the requirement that the project sponsor, prior to construction, file a Notice of Proposed Construction or Alteration (Form 7460-1) with the Federal Aviation Administration. Forward has already submitted this form (Lewis, 2018).

The project sponsor shall undertake regular, ongoing communication with Airport staff regarding the airports Wildlife Hazard Assessment and wildlife management program, to

address changes in wildlife presence or behavior observed at the landfill.

***Significance After Mitigation:***

As discussed above, implementation of the procedures to discourage and monitor bird populations and comply with regulatory requirements related to bird hazards. Measures that are proposed as part of the project, along with Mitigation Measure A.4, would reduce bird hazard impacts to a *less-than-significant level*.

**Impact A.5: Night lighting at the proposed project could interfere with airport landing lights. (Same As 2013 EIR Impact A.5.** Pilots landing at the Stockton Metropolitan Airport during darkness use airport runway lights to locate the runway environment. New sources of light near the runway lighting may be difficult to distinguish from airport lighting. Downward shielding of lighting at the landfill would reduce the visibility of landfill lighting to pilots. However, even with downward shielding, moisture in the air during foggy conditions can generate a dispersed glow that may create confusion for incoming pilots. The landfill uses portable lights for night operations, which are always directed to the west (toward the airport) to prevent confusion of incoming pilots. Outgoing pilots follow runway lights and are airborne by the time the aircraft are over the landfill; thus, the portable lights at the landfill would not confuse outgoing pilots.

Use Permit aUP-00-0007, approved in April 2003 for Forward to combine the former Austin Road Sanitary Landfill and the Original Forward Landfill into a single Forward Landfill included a mitigation measure that stipulates that lighting for nighttime operations at the working face and other landfill facilities shall consist of sodium lamps with sharp cutoff angles and downward shielding, and to the extent feasible, shall be oriented in a direction that is not visible from off-site locations. This mitigation measure is included in the Mitigation Monitoring and Reporting Program that has been updated annually since the consolidation project was approved. In addition to the stipulations of the mitigation measure, the County has requested that all landfill lights face to the west to avoid confusion for incoming aircraft. According to the most recent monitoring report, completed on April 17, 2018, Forward Landfill has complied with this mitigation measure since 2003, and has not received any non-compliance reports for lighting hazards to aircraft navigation.

Although, as discussed here and in Surrounding and Nearby Land Uses, above, current landfill lighting does not interfere with aircraft navigation, the effect of lighting associated with the expansion areas may result in a *potentially significant impact* with respect to pilots. Implementation of procedures already included in the project, as well as Mitigation Measure A.5, below, would reduce this impact to *less than significant*.

The following procedures are proposed as part of the project:

- Aircraft warning lights will be installed at the landfill as and when required by the FAA.
- As required by California Code of Regulation Title 27, Section 20270(b), Airport Safety, the owner or operators proposing to site new solid waste facility units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the FAA. Forward notified the

Stockton Metropolitan Airport and FAA by letter on July 6, 2018. (Basso, 2018a, 2018b).

- As required by California Code of Regulation Title 27, Section 20270(c), Airport Safety, the owner or operator must place the demonstration in the operating record that the site will not cause a bird hazard to aircraft, and notify the Department of Resources Recycling and Recovery (CalRecycle) that it has been placed in the operating record. Forward notified CalRecycle that the demonstration was placed in the operating record by letter on July 6, 2018. (Basso, 2018d, Basso, 2018e).
- The use of highly reflective surface materials in constructing structures on the site will be prohibited.

In addition, the following Mitigation Measure (from the 2002 Final EIR for the existing landfill), which is a condition of the permits for the existing landfill, shall be implemented:

**Mitigation Measure A.5. Shield Landfill Lighting. (Same As 2013 EIR Mitigation A.5):** The project sponsor shall include downward shielding of new landfill lighting, and shall abide by any reasonable and feasible measures or regulations the Federal Aviation Administration (FAA) and Stockton Metropolitan Airport have to mitigate lighting impacts that could be caused by the proposed project, including reducing or eliminating lighting during foggy conditions and concurrently suspending operations that depend on the lighting.

The Conditions of Approval for the proposed project shall include the requirement that the project sponsor, prior to construction, file a Notice of Proposed Construction or Alteration (Form 7460-1) with the Federal Aviation Administration. Forward has already filed this form for the proposed project (Lewis, pers. com, August 8, 2018). This form shall be re-filed if there is any change to proposed landfill grade.

Mitigation Measure K.4 (2013 EIR) also applies to night lighting impacts.

***Significance After Mitigation:***

Implementation of the procedures proposed as part of the project, identified above, and Mitigation Measure A.5, would reduce lighting impacts to a *less-than-significant* level.

**Impact A.6: Potential conflicts with nearby land uses (Revises 2013 EIR Impact A.6).** Because the existing Forward Landfill is currently in operation and there are no sensitive residential receptors near the major proposed expansion area, it is not anticipated that the proposed landfill expansion project would generate significant new land use conflicts with the existing adjacent and nearby land uses. The recently constructed California Health Care Facility (located west of Austin Road between the Forward Landfill and Arch Road), the recently constructed Northern California Re-Entry Facility and renovation of the adjacent Dewitt-Nelson Youth Correctional Facility (both located on the south side of Arch Road between Austin and Newcastle Roads), the approved Arch Road Industrial Project (located on the south side of Arch Road between Austin and Newcastle Roads, west of the Northern California Re-Entry Facility), the approved Archtown Industrial Project, at the southwest corner of Arch and Newcastle Roads, and the approved and partially constructed NorCal Logistics Center (formerly known as "Opus Logistics Center") (located northwest of the intersection of Arch and Austin Roads) (see

Surrounding and Nearby Land Uses, above) all consist or would consist of non-residential uses, which are not incompatible with the proposed project. The approved Tidewater Crossing residential project, located west of Highway 99 and north of French Camp Road, adjacent to the Stockton Metropolitan Airport, is approximately one mile west of the project site. The western portion of the existing Forward Landfill is closer to Tidewater Crossing than are the two portions of the proposed 2018 expansion project. Therefore, the 2018 Expansion Project would not create any significant land use conflicts with these future land uses.

The Project could create conflicts with the Stockton Metropolitan Airport due to the potential of the expansion to attract birds that may pose an aircraft hazard. As discussed in Surrounding and Nearby Land Uses, the landfill's bird control program has been effective at preventing gulls from feeding at, or otherwise using, the Forward Landfill. (Davis, 2017). Mitigation Measure A.4, above, stipulates continuation of this gull control program, as well as implementation of appropriate control measures recommended by USDA Wildlife Services. As discussed under Impact A.3, above, the 2018 Expansion Project would comply with the Federal Aviation Regulation Part 77 height restrictions for structures in the vicinity, requirements for notification of the airport and FAA, and requirements that the project sponsor demonstrate that the project would not pose a bird hazard to aircraft.

Therefore, the proposed landfill expansion would not increase land use conflicts with the airport and the impact would be *less than significant*.



## **B. TRANSPORTATION AND CIRCULATION**

This evaluation of transportation and circulation updates the 2013 Forward Landfill Expansion Project EIR's environmental setting and impacts analyses to address the proposed changes to the Expansion Project. This section is based on a Transportation Impact Analysis (TIA) conducted for the 2018 Project for Forward, Inc. by PHA Transportation Consultants (PHA 2018), which was reviewed by County Public Works Department traffic engineers, and is included as Appendix E of this SEIR. The impacts and mitigations in this section replace those in Section IV.B of the 2013 EIR.

### **Setting**

This section describes the traffic-related environmental setting in the vicinity of the project site. The background condition of existing traffic conditions is the "setting" for CEQA purposes. This condition assumes operation of the existing Forward Landfill for the life of the existing permits (see Project Description for a full discussion of permitted development). The following is a description of existing conditions.

### **Existing Roads**

The street network providing access and circulation to the area and the project site consists of Austin Road, Mariposa Road, Arch Road, East French Camp Road, and State Route 99. A brief description of the streets is provided below and shown on Figure IV.B-1.

#### ***Austin Road***

Austin Road provides direct access to and from the Forward Landfill site. Austin Road is a two-lane, north-south rural road that extends from Mariposa Road to Lathrop in the south. Along the segment between Arch Road and East French Camp Road, there are a few dirt access roads from Austin Road to service the adjacent farmland, and paved access driveways to Forward Landfill and the California HealthCare Service facility. A 2018 daily traffic volume count conducted on Austin Road at a point north of the Forward Landfill showed about 2,100 vehicles per day on that roadway segment. According to the San Joaquin County roadway classification and design capacity standard, a minor arterial/collector road such as Austin Road has the ability to carry about 12,500 vehicles per day at an acceptable Level-of-Service "C". There are no posted speed limit signs along the segment. Field observations indicated the average travel speed along the segment is above 50 mph.

#### ***Arch Road***

Arch Road is an east-west running arterial road connecting Austin Road, State Route 99, and the Stockton Airport. West of SR 99 the Road is called Arch-Airport Road. The segment between SR 99 and Austin Road varies between two and four lanes, and primarily serves agricultural, warehousing, and industrial developments near the study area. There are recent road-widening improvements and signalization near Arch Road's intersections with Logistic Drive and



**Figure IV.B-1**  
Site Location and Study Intersections

Newcastle Road. The posted speed limit along the road segment is 45 mph in the vicinity of the Project.

### ***Mariposa Road***

Mariposa Road is an east-west two-lane arterial road connecting SR 99 and Austin Road. The segment near SR 99 is four-lane. The road mostly serves agricultural, industrial, and warehousing developments in the area. The posted speed limit along the roadway is 45 miles per hour (mph) near SR 99 and 55 mph near Austin Road and to the east.

### ***East French Camp Road***

East French Camp Road is an east-west two-lane arterial connecting Austin Road and SR 99 in the study area. The land use along the segment between Austin Road and SR 99 is mostly agriculture. The posted speed limit along the road near SR 99 is 55 mph.

### ***State Route 99***

State Route 99 (SR 99) is a major regional north-south freeway connecting cities in California's Central Valley. In the project vicinity, SR 99 is a four-lane divided freeway (two lanes each direction). Access between Route 99 and the project site is provided via an interchange at Arch Road and interchanges at East French Camp Road and Mariposa Road.

### ***Bicycle and Pedestrian Facilities***

Austin Road south of East French Camp road is currently a designated bicycle route, but no roads within the Forward study area are so designated. Figure 4-2 of the San Joaquin County Bikeway Master Plan Update (San Joaquin County, November 2010) does not show any reported accidents involving bicycles on the study area roadways in the period studied (2002-2007).

Figure 4-3 of the *Plan* identifies Austin Road and Arch Road within the study area as "Community Identified Routes", meaning the roads either currently are used by bicyclists or are potential routes that would be used if bicycles were accommodated. However, neither was included in Table 6-3 or Figure 6-8 of the *Plan* as Recommended Projects.

Figure 6-11 of the *Plan* shows French Camp Road as a proposed Class 3 Bike Route although it is not included in the Tier 1 list for high priority implementation. Also, PHA staff did not observe any bicyclists in the area during their field visits.

There are no pedestrian facilities or sidewalks within the study area except a section of Arch Road on the north side between Fite Court and Logistic Drive.

### ***Public Transit***

Transit service in the general vicinity of the Forward Landfill is provided by the San Joaquin County Regional Transit District (RTD). RTD provides service between Stockton and the airport, but the nearest route is at the Route 99/ Arch Road interchange. No RTD or other transit lines extend into the study area.

### **Intersection Operations**

#### ***Level of Service Concept***

The operating conditions of intersections experienced by motorists are described as “levels of service” (LOS). Level of service is based on several factors, including:

- traffic volumes,
- intersection lane configurations,
- design and type of traffic control,
- speed and travel time,
- traffic interruptions,
- freedom to maneuver, and
- driving comfort and convenience.

Levels of service may be expressed qualitatively with letters “A” through “F” from best to worst, which cover the entire range of traffic operations that might occur. Levels of service A through D generally represent traffic volumes at less than roadway capacity, while LOS E represents traffic volumes at or near roadway capacity, and LOS F represents over-capacity or forced flow conditions.

Two sets of LOS calculation methods were used for intersection capacity analysis in the study; one for signalized intersections and the other for the non-signalized intersections. For signalized intersections, traffic LOS is determined based on the average delay per vehicle for the entire intersection as a whole. For the non-signalized intersections, traffic LOS is determined based on the average vehicle delay for approaches controlled by stop signs or yield signs at minor streets. Through traffic movements on major street approaches were evaluated but are not the determining factor intersection LOS.

The study methodology was selected by PHA based on input from both the City of Stockton and San Joaquin County staff. Generally, this study follows County Traffic Study Guidelines (San Joaquin County, 2008), but because the project is within the City of Stockton’s sphere of influence, a 2035 horizon year for cumulative analysis was used per City guidelines. Tables IV.B-1 and IV.B-2 provide a brief description of LOS for each category.

**Table IV.B-1: Level of Service Descriptions  
 Signalized Intersections**

Level of Service	Average Control Delay (seconds / vehicle)
A	≤10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80
Source: <i>Highway Capacity Manual</i> , Chapter 16 (Transportation Research Board, 2000)	

**Table IV.B-2: Level of Service Descriptions  
 Unsignalized Intersections**

Level of Service	Average Control Delay (seconds / vehicle)
A	0 - 10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50
Source: <i>Highway Capacity Manual</i> , Chapter 17 (Transportation Research Board, 2000)	

***Signalized Intersection Analysis***

***Periods of Analysis.*** During a weekday, traffic flows are typically highest during morning (AM) and evening (PM) peak periods. Therefore, the potential for a project to adversely affect the operation of a transportation system is greatest during these peak periods. The proposed project would operate during both peak periods, therefore, this study focuses on potential impacts during both the AM and PM peak periods.

***Study Intersections.*** Twelve study intersections were selected for analysis in the traffic study for the 2013 EIR, with input from County of San Joaquin staff. The study intersections and the type of control (signal or stop control) are listed in Table IV.B-3, below. The intersection numbering corresponds to the locations of the intersections shown in Figure IV.B-1.

### *Current Traffic Conditions*

Study intersection LOSs were evaluated for morning and afternoon peak-hours based on traffic counts collected for the intersections in May 2018. The calculated traffic LOS for current conditions indicate all study intersections near the project site operated mostly at LOS A and B, meaning traffic generally moves smoothly in the area with no major congestion or delays. It should be noted that some of the study intersections had received improvements in recent years; these improvements include the SR 99 ramps at East French Camp Road ramps signalization, the reconfiguration of at the SR 99 interchange at Mariposa Road, and the signalization at the California HealthCare facility driveway on Austin Road. Table 2 shows current study intersection LOS rankings and corresponding delays. Figure 3 shows current study intersection peak-hour traffic volumes.

While traffic generally moves well in the area, with minimal delays, field observation indicated that frequent traffic backups occur on Arch Road between SR 99 ramps and the Kingsley Road intersection. This condition also was noted by San Joaquin County Traffic Engineering staff. As observed, the traffic backup appears to be caused by a combination of factors: close spacing of the SR 99 ramps and the Kingsley Road intersection, the lack of storage space at the left-turn lane from eastbound Arch Road to northbound Kingsley Road, and the presence of many large trucks that take up most of the spacing between SR 99 and Kingsley Road. This is discussed in more detail in the vehicle queuing analysis section of the report.

The lane configurations of the study intersections are shown in Figure IV.B-2.

### *Existing Landfill Traffic*

The Forward Landfill's current Solid Waste Facilities Permit (SWFP) allows a maximum of 620 (truck) vehicles (1,240 vehicle trips) per day. The average traffic at the landfill over the past 5 years has been about 233 trucks per day. According to a 2017 gate count, the landfill experienced about 220 trucks per day (see Table IV.B-4, below). For the purposes of the traffic analysis, 220 trucks per day was used as the baseline to assess the worst-case impact 620 trucks (220 vs 620-233).

### **Impacts**

Traffic impacts are assessed by evaluating the effects of a proposed project on the adequacy of the transportation circulation system's capacity to accommodate projected traffic levels. This traffic study focuses on the operation of intersections most likely to be adversely affected by the proposed project. Cumulative impacts, which would be those resulting from the combined effects of existing conditions, approved projects, the proposed project, and other likely future projects, also are assessed.

This section updates the impacts and mitigations considered in the 2013 EIR, to account for changes in the proposed project. To facilitate review of the section and comparison of analyses between the 2013 EIR and this document, the heading for each impact or mitigation measure reflects whether that impact is the same, revised, replaced, or new.

<b>Table IV.B-3: Current (2018)-Conditions Intersection Traffic LOS Summary</b>						
<b>Study Intersections and Driveways</b>		<b>Traffic Control</b>	<b>Peak-Hour</b>	<b>Existing (2018) Conditions</b>		<b>Acceptable Conditions</b>
				<b>Delays</b>	<b>LOS</b>	
1	Austin Rd. & Forward Main Driveway	SSS	AM	9.2	A*	Yes
			PM	9.5	A*	Yes
2	Austin Rd. & Forward Secondary Driveway	SSS	AM	9.1	A*	Yes
			PM	9.4	A*	Yes
3	Austin Rd. & E. French Camp Rd.	AWS	AM	10.4	B	Yes
			PM	19.0	C	Yes
4	SR 99 NB On-off Ramps & E. French Camp Rd.	Signal	AM	17.7	B	Yes
			PM	20.1	C	Yes
5	SR 99 SB On-off Ramps & E. French Camp Rd.	Signal	AM	15.0	B	Yes
			PM	24.1	C	Yes
6	SR 99 Urban Interchange & Arch Rd.	Signal	AM	14.1	B	Yes
			PM	14.9	B	Yes
7	Arch Rd. & Kingsley Rd.	Signal	AM	22.1	C	Yes
			PM	17.7	B	Yes
8	SR 99 SB On-off Ramps & Mariposa Rd.	Signal	AM	6.6	A	Yes
			PM	8.0	A	Yes
9	SR 99 NB On-off Ramps & Mariposa Rd.	Signal	AM	5.1	A	Yes
			PM	3.8	A	Yes
10	Mariposa Rd. & Austin Rd.	Signal	AM	4.9	A	Yes
			PM	6.1	A	Yes
11	Arch Rd. & Austin Rd.	Signal	AM	11.3	B	Yes
			PM	16.9	B	Yes
12	Austin Rd. & Cal. Health Care Driveway	Signal	AM	3.5	A	Yes
			PM	5.5	A	Yes

Notes: Traffic counts for the study were conducted in mid-May 2018  
 SSS=Side-Street-Stop  
 AWS=All-Way-Stop  
 Signal=Traffic Signal Light  
 \* For side-street-stop controlled intersections, Delay and LOS reported in the above table represent the worst case (the side street approach controlled by the stop sign). The LOS for the intersection as a whole is A, with delays less than 10 seconds.  
 The traffic analysis for study intersection 5 combines the adjacent frontage as one intersection.



**Figure IV.B-2**  
Existing (2018) Study Intersection Peak-hour Traffic Volumes

Source: PHA Transportation Consultants



<b>Table IV.B-4: 2017 Truck Count at Forward Main Gate</b>		
Month	Monthly Total	Daily Average
Jan	4805	172
Feb	4991	208
Mar	6732	249
Apr	5653	226
May	6399	237
Jun	6624	245
Jul	5890	210
Aug	6621	214
Sep	6113	204
Oct	6396	246
Nov	5854	225
Dec	5726	220
Daily Average		221
Source: Forward Landfill. The Landfill operates Mondays thru Fridays except for holidays and accepts waste material from jurisdictions throughout California. All waste materials are prescreened and scheduled in advance. For the purposes of the traffic analysis, 220 trucks per day was used to account for a worst-case impact.		

**Criteria of Significance**

San Joaquin County policy, as discussed in the San Joaquin County Traffic Impact Study Guidelines, applies to study intersections 1, 2, 3, 4, 10, 11 and 12 (See Figure IV.B-1), and considers it a significant impact when “project” generated traffic would lower an intersection from an acceptable LOS A, B, C, or D to an unacceptable LOS E or F. In this case, the “project” proponent is required to provide mitigation that would improve the LOS to an acceptable level. If the LOS for conditions at a given location is already at an unacceptable LOS, then mitigation measures that would return the volume to capacity ratio to the existing without “project” level must be identified. California Department of Transportation (Caltrans) LOS policies apply to the remaining study intersections, and define acceptable operations as an overall LOS D or better.

**Project Trip Generation**

To identify and capture the maximum range of Project traffic impacts, the study evaluated the impact of the remaining daily quota of 400 truckloads, or 800 round trips (increase from the existing approximately 220-truck daily average to maximum permitted 620 daily trucks). In conducting traffic operation (LOS) analysis, all truck trips were converted to passenger cars based

on a conversion factor of 1 truck vs. 2 passenger cars (PCE). The final daily trip generation for the Project evaluated in the study is 1,600 passenger car trips. Table IV.B-5 shows a summary of Project trip generation estimates.

<b>Table IV.B-5: Forward Landfill "Project" Trip Generation Estimates</b>					
<b>AM Peak Hour Trips (PCE)</b>		<b>PM Peak Hour Trips (PCE)</b>		<b>Daily Trips (PCE)</b>	
<b>Inbound</b>	<b>Outbound</b>	<b>Inbound</b>	<b>Outbound</b>	<b>Inbound</b>	<b>Outbound</b>
108	132	70	106	800	800
Note: The above trip estimates were determined based on the maximum permitted daily trucks minus current daily truck count. Peak-hour trips were determined based on turning movement counts conducted at Forward Landfill main access driveway. The above trips are one-way passenger equivalent trips Passenger car equivalents (PCE) are 2 trips/truck.					

**Project Trip Distribution Assumptions**

The directional distribution of the project traffic, which identifies the potential routes of travel, was estimated based on examinations of the study area street layout, land use, current circulation patterns and traffic volumes, along with consultation from County staff. Figure IV.B-3 shows the estimated directional Project traffic distribution.

**Impact B.1. Potential Project Impact to LOS at Nearby Intersections. (Revises 2013 EIR Impact B.1).**

**Intersection Analysis**

This section of this traffic study describes conditions that would exist under Existing-Plus-Project conditions. Comparing Existing-Plus-Project conditions to the no project conditions results in an identification of project-related impacts. Table IV.B-6 shows traffic LOS for the existing-plus-project condition. Figure IV.B-4 shows existing-plus-project traffic volumes. As shown in the table and figure, all of the study intersections currently operate at acceptable conditions and would continue to operate at acceptable conditions LOS "C" or better with the Project. Therefore, the Project's impact to intersection LOS would be *less than significant*.



**Figure IV.B-3**  
Project Traffic Distribution Assumptions

Source: PHA Transportation Consultants

**Table IV.B-6: Current and Project Conditions Intersection Traffic LOS Summary**

Study Intersections and Driveways	Traffic Control	Peak-Hour	Existing (2018) Conditions		Existing +Project Conditions		Significant Impact
			Delays	LOS	Delays	LOS	
1 Austin Rd. & Forward Main Driveway	SSS	AM	9.2	A*	11.2	B*	No
		PM	9.5	A*	10.7	B*	No
2 Austin Rd. & Forward Secondary Driveway	SSS	AM	9.1	A*	9.7	A*	No
		PM	9.4	A*	9.8	A*	No
3 Austin Rd. & E. French Camp Rd.	AWS	AM	10.4	B	10.9	B	No
		PM	19.0	C	20.6	C	No
4 SR 99 NB On-off Ramps & E. French Camp Rd.	Signal	AM	17.7	B	21.0	C	No
		PM	20.1	C	25.3	C	No
5 SR 99 SB On-off Ramps & E. French Camp Rd.	Signal	AM	15.0	B	16.4	B	No
		PM	24.1	C	24.8	C	No
6 SR 99 Urban Interchange & Arch Rd.	Signal	AM	14.1	B	14.7	B	No
		PM	14.9	B	15.6	B	No
7 Arch Rd. & Kingsley Rd.	Signal	AM	22.1	C	22.8	C	No
		PM	17.7	B	19.5	C	No
8 SR 99 SB On-off Ramps & Mariposa Rd.	Signal	AM	6.6	A	6.7	A	No
		PM	8.0	A	8.3	A	No
9 SR 99 NB On-off Ramps & Mariposa Rd.	Signal	AM	5.1	A	5.2	A	No
		PM	3.8	A	4.4	A	No
10 Mariposa Rd. & Austin Rd.	Signal	AM	4.9	A	4.9	A	No
		PM	6.1	A	5.8	A	No
11 Arch Rd. & Austin Rd.	Signal	AM	11.3	B	12.0	B	No
		PM	16.9	B	17.2	B	No
12 Austin Rd. & Cal. Health Care Driveway	Signal	AM	3.5	A	4.5	A	No
		PM	5.5	A	5.9	A	No

Notes: Traffic counts were conducted in mid-May 2018

SSS=Side-Street-Stop, AWS=All-Way-Stop, Signal=Traffic Signal Light

\* For side-street-stop controlled intersections the delay and LOS reported in the above table represent the worst case (the side street approach controlled by the stop sign). The LOS for the intersection as a whole is A with delays less than 10 seconds. Study intersections 1, 2, 3, 10, 11, and 12 are County intersections and the lowest acceptable condition is LOS D. Other study intersections are Caltrans intersections and the lowest acceptable LOS is D.



**Figure IV.B-4**  
Existing plus Project Peak Hour Traffic Volumes

Source: PHA Transportation Consultants

### ***Newcastle Road as Possible Access to Landfill***

As discussed under Impact IV.B-1 above, the proposed project driveway currently operates at an acceptable level of service. In response to comments on the 2013 Draft EIR for the previously proposed project, landfill access via Newcastle Road was analyzed as an alternative to the existing entrance on Austin Road, and is summarized below.<sup>1</sup>

Newcastle Road is a two-lane rural road with a north-south alignment. It extends south from Arch Road for about 1.5 miles, where the paved road ends. An unpaved extension continues south approximately another 1/4 mile where it terminates just north of Littlejohns Creek. The condition of the paved segment of Newcastle Road is weathered and cracked in some locations. The pavement is adequate for the low traffic volumes and very low truck volumes it currently carries. Several residences front the western side of Newcastle Road, and the N.A. Chaderjian Youth Correctional Facility and the O.H. Close Youth Correctional Facility are located east of Newcastle Road.

Use of Newcastle Road for landfill access would substantially increase truck traffic on that road, which would shorten the pavement life considerably, and would require installation of a second entry station with truck scales. In addition, Newcastle Road currently terminates north of Littlejohns Creek. Truck access to the Forward Landfill would require construction of a creek crossing, which could have adverse environmental impacts to the streambed. For these reasons, and because the existing project driveway operates, and would continue to operate, at a satisfactory level of service, use of Newcastle Road for access to the landfill does not appear to provide a better alternative. Because this alternative access is not proposed, no impact would occur.

### **Impact B.2. Potential Project Impact to Mainline Roadway Segment Operations. (Revises 2013 EIR Impact B.2).**

#### ***Freeway Mainline Analysis***

Freeway mainline operation analyses were conducted to identify traffic operation on SR 99 and to evaluate the Project's potential impact on the freeway segment between Mariposa Road and East French Road during peak-hour operations. In addition, street segment operation analysis was conducted for the Austin Road segment between Arch Road and East French Camp Road.

Table IV.B-7 shows SR 99 mainline peak-hour volumes and operations between Mariposa Road and East French Camp Road for all study scenarios. Freeway mainline LOS was determined based on density, which is calculated by the number of passenger cars per mile per lane divided by speed. Table IV.B-8 shows the freeway traffic operation ranking scale. As shown on Table IV.B-7, SR 99 freeway mainline between Mariposa Road and East French Camp Road would operate at acceptable conditions for all of the study scenarios, and the Project impact is minimal. Therefore, Project impacts to SR 99 mainline operations would be *less than significant*.

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<sup>1</sup> Steve Fitzsimons, Republic ITS, *Memo To: Sangeeta Lewis/Lewis Engineering, Re: Forward Inc, Supplemental Analysis of Newcastle Road Access*, February 19, 2010.

<b>Table IV.B-7: Freeway Mainline Operation Analysis – Existing-Plus-Project Conditions</b>								
State Route 99 (Mariposa Rd.-French Camp Rd.)		Existing Conditions			Existing Conditions + Project			Project Impact +%
		Volume	Density	LOS	Volume	Density	LOS	
Northbound	AM	2080	17.3	B	2100	17.5	B	0.9%
	PM	3120	26.0	C	3136	26.1	D	0.5%
Southbound	AM	2755	23.0	C	2771	23.1	C	0.6%
	PM	2880	24.0	C	2890	24.1	C	0.3%

Note: SR 99 volumes for the analysis are obtained from a 2016 Caltrans peak- hour count. Speed used in the analysis is 60 mph

<b>Table IV.B-8: Freeway Traffic Operation (LOS) Ranking Criteria</b>	
<b>LOS</b>	<b>Density (passenger car / mi / lane)</b>
A	0.0-11.0
B	>11-18.00
C	>18.0-26.0
D	>26.0-35.0
E	>35.0-45.0
F	>45.0

Source: Highway Capacity Manual 2000.

**Austin Road Street Segment Analysis**

Mainline operations also were evaluated for Austin Road, between Mariposa Road and East French Camp Road. This segment is about 4.6 miles long and is accessed by only a few driveways and cross-streets, as much of the land use along the segment is agriculture. The average travel speed as observed is above 50 mph and the daily traffic volume is 2,100 vehicles per day, according to a count conducted by PHA in May 2018, north of Forward Landfill.

The San Joaquin County 2035 General Plan has no roadway classification for Austin Road. Based on its current design and functional characteristic, Austin Road could be classified as either a “minor arterial” or “collector” with a design capacity range of 10,000 to 12,500 vehicles per day. Austin Road currently operates at good Level-of-Service as it carries only 2,100 vehicles per day. The proposed Project would add up to 1,600 vehicles (an additional 400 round trip trucks \*2.0 PCE daily to Austin Road). This is assuming a worse case that the landfill reaches its permitted 620 daily truckloads). Therefore, Project impacts to Austin Road would be *less than significant*.

**Impact B.3. Potential Traffic Collision Impacts. (New Impact).**

PHA conducted a traffic collision review to identify traffic collision hotspots near the Forward Landfill site. Based on collision records obtained from SWITRS (Statewide Integrated Traffic Records System) for the past three years (2015, 2016 and 2017), there were 9 reported collisions along Austin Road between Arch Road and East French Camp Road. All of them occurred during 2015 and 2016, and none in 2017. Most reported collisions occurred at or near the intersection with East French Camp Road or Arch Road. Farther from the landfill, from 2015-2017, 15 collisions occurred on Arch Road between Kingsley and Austin Roads, and 14 collisions occurred on East French Camp Road between Austin Road and SR 99. Table IV.B-9 shows the past reported collisions in the area.

Austin Road between Arch Road and East French Camp Road is a 2-lane rural road with a design capacity for about 12,500 vehicles per day operating at acceptable LOS according to the San Joaquin County General Plan. As the daily 2,100 daily traffic volume count collected at a point north of Forward landfill, which is well below its design capacity, and there is a limited number of cross streets and driveways, Austin Road does not appear to have the potential for a traffic collision hotspot. With the project’s additional traffic, Austin Road would still be far below capacity. Therefore, Project impacts to potential traffic collisions would be *less than significant*.

<b>Table IV.B-9 Study Area Traffic Collision Review</b>			
	2015	2016	2017
Austin Road (between Arch Rd. and Austin Rd.)	4	5	0
Arch Road (between Kingsley Rd. and Austin Rd.)	6	9	0
E. French Camp Road (between Austin Rd and SR 99)	4	9	1
Source: SWITRS 2015, 2016, and 2017 data			

**Impact B.4. Queuing at Landfill Entrance (Same As 2013 EIR Impact B.3):**

The effect of the proposed project on the on-site entrance facilities (driveway and scales) is discussed below, based on the 2018 update of the transportation study, which found that the 2018 Expansion Project queuing impacts would be similar to those described in the 2013 EIR<sup>2</sup>.

PHA (2018) conducted a queuing analysis to evaluate if there is sufficient storage area within the site to accommodate trucks waiting to be processed. The Landfill has two weighing scales located at the end of a long and straight drive aisle about 2,340 feet away from the entrance gate. Based on field observation, trucks driving from Austin Road can go straight through to the scale without having to stop at the gate. According to Forward Landfill staff, each truck

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<sup>2</sup> The landfill is proposing to relocate the scale in 2019; this new location, would be under 2000 feet from Austin Road but have three traffic lanes. No plans were available for this relocation at the time of preparation of this DSEIR, and it is not a part of the proposed expansion project, so no analysis is included in this chapter.



requires approximately 60 seconds to be processed at the scales. One scale is always in operation, and a second scale will open during busy periods or as needed. At a length of 2,340 feet between the entrances to the scales, the drive aisle can accommodate 78 trucks at one time assuming an average 30 feet long per truck. No truck queuing was observed during a May 2018 morning field observation at the site.

It should be noted that, based on a traffic turning movement count at the driveway, there are currently 25 trucks entering the site during the morning peak hour. Assuming a worse-case under the project conditions, with 620 truckloads per day, an estimated 66 trucks (130 passenger car equivalents) would enter the site during the morning peak hour. The landfill has the ability to accommodate the traffic without creating queuing problem on the site or on Austin Road.

In the past, there had been queueing problems associate with the composting facility. The entrance to the composting facility was redesigned and the gates were moved approximately 150 feet west of Austin Road. These gates open at approximately 7:00 a.m., Monday through Friday. There is currently no queuing on Austin Road at the reconfigured entrance to the composting facility. Neither the 2013 project nor the 2018 Expansion Project would change the gate configurations or opening procedures at the entrances, although eventually the composting facility would either be eliminated or removed as that area is filled. This impact would be *less than significant* and no mitigation would be required.

**Impact B.5. Potential Project Impacts on Bicycles. (Same As 2013 EIR Impact B.4)**

The 2018 Transportation Impact Assessment found that the previous analysis of bicycle impacts also would apply to the 2018 Expansion Project.

Since no bicycle facilities currently exist in the study area, no impact on bicyclists or bicycle facilities are expected. It is possible that added Forward Landfill truck traffic outside the study area may overlap with bikeways or bicycle usage. However, the added trips would disperse to many roadways outside the study area, and it is not expected that the increase on any individual roadway would create to a significant negative impact. This impact would be *less than significant* and no mitigation would be required.

**Impact B.6. Potential Project Impacts on Public Transit. (Same As 2013 EIR Impact B.5)**

The 2018 Transportation Impact Assessment found that the previous analysis of transit impacts also would apply to the 2018 Expansion Project.

There is no transit service in the study area; thus, the project would not create any impacts on existing transit service. The nature of the proposed project is such that it would not create any significant demand for new transit service. This impact would be *less than significant* and no mitigation would be required.

**Impact B.7. Cumulative Development Conditions Intersection Impacts (Revises 2013 EIR Impacts B.6 and B.7).**

Two cumulative scenarios are described in this section. The first cumulative condition is composed of existing traffic conditions plus traffic generated by previously approved projects likely to be constructed in the near term. This near-term condition is referred to as Existing Plus Approved Projects (EPAP) conditions. The second cumulative scenario is a long-term forecast of traffic conditions in the year 2035. Both conditions assume full operation of the existing Forward Landfill for the life of the existing permits (see Project Description for a full discussion of permitted development). Both cumulative scenarios are described below.

***Previously Approved Projects***

County staff identified three nearby projects to include in the Approved Projects inventory for the transportation analysis conducted by Republic ITS for the previous 2013 EIR. After the 2013 EIR traffic study was prepared, one of the approved projects identified in the 2013 EIR, the California Health Care Facility, was completed. (The California Health Care Facility is described in Setting, Surrounding and Nearby Land Uses of IV.A. Land Use and Agricultural Resources.) The other two approved projects identified in the 2013 EIR and not yet constructed are listed below.

- Archtown Industrial Project, at the southwest corner of Newcastle and Arch Roads.
- Arch Road Industrial Project, on the south side of Arch Road between Austin and Newcastle Roads, west of the Northern California Re-Entry Facility.

According to San Joaquin County and City of Stockton Planning staff, two additional approved but not yet built projects would likely add traffic to the study area: Norcal Logistic Center located north of Arch Road between Austin Road and Newcastle Road, and Tidewater Crossing located west of SR 99 and south of the Stockton Airport. Norcal Logistic Center is primarily a warehousing and distribution facility, while Tidewater Crossing is a mixed-use project with residential, industrial, school, and other uses. The previously approved Mariposa Lakes Development located north of the Mariposa Road and Austin Road intersection is not expected to be operational in the project lifetime, according to Stockton planning staff, and as such is not included in the cumulative scenario. Table IV.B-10 shows the estimated trips from these projects.

<b>Table IV.B-10: Approved "Project" Trip Generation Estimates</b>				
	<b>AM Peak-Hour Trips</b>		<b>PM Peak-Hour Trips</b>	
	<b>Enter</b>	<b>Exit</b>	<b>Enter</b>	<b>Exit</b>
Norcal Logistic Center	690	439	502	879
Tidewater Crossing	1847	1514	1916	2481
Archtown Industrial	154	98	112	196
Arch Road Industrial	136	87	98	175
Note: The above trip estimates were obtained from the traffic studies prepared for the approved projects.				

**Existing-Plus-Approved-Projects Intersection Impacts**

With the added traffic from the approved projects, traffic operations for the study area intersections were evaluated again with and without Forward Landfill traffic. Table IV.B-11 shows a comparison of study intersection operation with and without the Project under Short-term Conditions. As shown, only the intersection of East French Camp Road and Austin Road was calculated to operate at LOS D while all other study intersections would continue to operate at LOS C or better. The East French Camp Road and Austin Road intersection is controlled by 4-way stop signs. County traffic LOS policy considers LOS D acceptable conditions. Figure IV.B-5 shows the short-term peak-hour traffic with the Project. For the 2018 Expansion Project, this impact would be *less than significant*, and no mitigation measures are required.

Table IV.B-11: Short-term Conditions Study Intersection Traffic LOS Summary								
Study Intersections and Driveways		Traffic Control	Peak-Hour	Existing + Approved Projects		Existing + Approved Projects + Project		Significant Impact
				Delays	LOS	Delays	LOS	
1	Austin Rd. & Forward Main Driveway	SSS	AM	9.3	A*	11.2	B*	No
			PM	9.7	A*	11.2	B*	No
2	Austin Rd. & Forward Secondary Driveway	SSS	AM	9.2	A*	9.7	A*	No
			PM	9.6	A*	10.1	B*	No
3	Austin Rd. & E. French Camp Rd.	AWS	AM	11.1	B	11.9	B	No
			PM	25.1	D	32.5	D	No
4	SR 99 NB On-off Ramps & E. French Camp Rd.	Signal	AM	23.7	C	23.7	C	No
			PM	21.3	C	23.4	C	No
5	SR 99 SB On-off Ramps & E. French Camp Rd.	Signal	AM	17.2	B	18.3	B	No
			PM	33.8	C	34.8	C	No
6	SR 99 Urban Interchange & Arch Rd.	Signal	AM	15.8	B	15.9	B	No
			PM	16.8	B	17.1	B	No
7	Arch Rd. & Kingsley Rd.	Signal	AM	27.6	C	34.3	C	No
			PM	29.5	C	30.9	C	No
8	SR 99 SB On-off Ramps & Mariposa Rd.	Signal	AM	8.8	A	9.5	A	No
			PM	9.7	A	9.7	A	No
9	SR 99 NB On-off Ramps & Mariposa Rd.	Signal	AM	9.0	A	9.2	A	No
			PM	5.0	A	5.0	A	No
10	Mariposa Rd. & Austin Rd.	Signal	AM	9.3	A	9.6	A	No
			PM	6.6	A	8.0	A	No
11	Arch Rd. & Austin Rd.	Signal	AM	12.4	B	13.5	B	No
			PM	19.3	B	21.3	C	No
12	Austin Rd. & Cal. Health Care Driveway	Signal	AM	3.3	A	3.3	A	No
			PM	5.6	A	6.2	A	No

Notes:  
 Traffic count conducted in mid- May 2018  
 SSS=Side-Street-Stop, AWS=All-Way-Stop, Signal=Traffic Signal Light  
 \* For side-street-stop controlled intersections the delay and LOS reported in the above table represent the worst case (the side street approach controlled by the stop sign). The LOS for the intersection as a whole is A with delays less than 10 seconds.  
 Study intersections 1, 2, 3, 10, 11 and 12 are County intersections and the lowest acceptable condition is LOS D. Other study intersections are Caltrans intersections and the lowest acceptable LOS is D.

### *Year 2035 Cumulative Intersection Impacts*

Study intersections LOS for the Cumulative 2035 traffic conditions were evaluated in the 2018 Traffic Impact Assessment with and without the Project to identify project impact for the cumulative conditions scenario. The 2035 traffic volume forecasts for the study intersections were obtained from the traffic reports prepared for the Mariposa Lakes Development and the Tidewater Crossing Development, with results derived from the San Joaquin County Regional Traffic Model prepared by The San Joaquin County Association of Governments.

Table IV.B-12 shows study intersections LOS for cumulative conditions along with a comparison with existing and short-term conditions LOS. Figure IV.B-7 shows the anticipated traffic volumes for the 2035 traffic condition with the Project. As indicated, eight study intersections are projected to operate at unacceptable conditions without any improvements. However, a large number of roadway and signalization improvements are required as mitigation or otherwise included in the other approved projects. These are summarized in the 2018 TIA. Implementation of these improvements would reduce the significantly impacted intersections to the following four:

- SR 99 SB On-off Ramps & E. French Camp Rd., (AM and PM peak hours)
- SR 99 Urban Interchange & Arch Rd. (AM and PM peak hours)
- SR 99 SB On-off Ramps & Mariposa Rd. (AM and PM peak hours)
- SR 99 NB On-off Ramps & Mariposa Rd. (PM peak hour)

The proposed Project would add traffic to the unacceptable levels of service at these intersections. Although the project's contributions would be small, based on County policy they would be considered cumulatively considerable. The intersections were evaluated for mitigation potential, however there is not adequate land available at the required locations to further improve these intersections. Therefore, the Project's cumulative contribution would be considered a *significant unavoidable impact*.

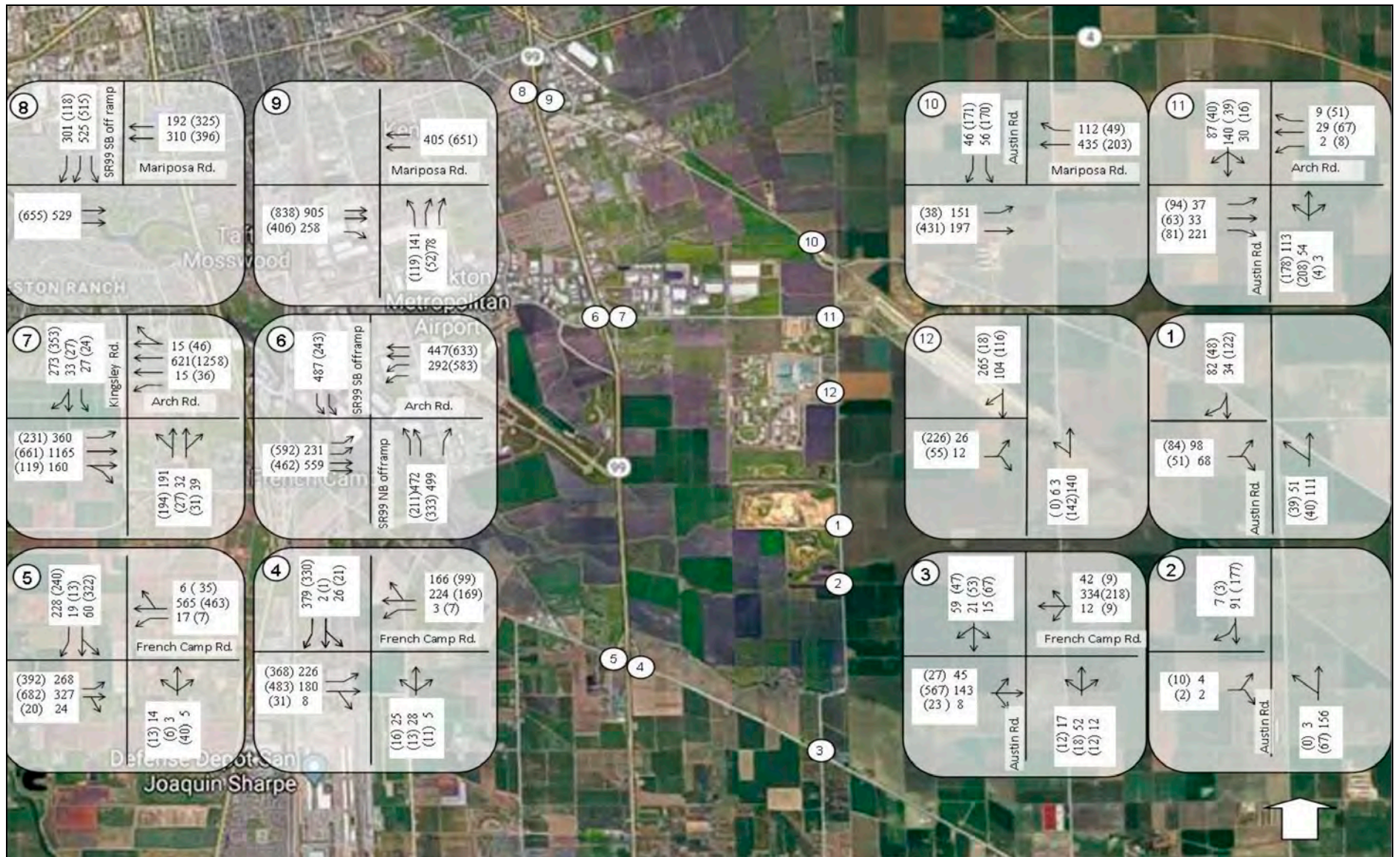
In addition, the Project would generate a significant cumulative contribution to a significant impact at the following intersection.

- Arch Rd. & Austin Rd (AM and PM peak hours)

As shown on Table IV.B-12, implementation of Mitigation Measure B.7, below, would reduce this impact to a *less-than-significant* level.

### *Newcastle Road Access*

As described under Impact B.1, an alternate access to the landfill at Newcastle Road was considered in the 2013 EIR. That EIR found that, under year 2035 cumulative conditions with the use of Newcastle Road for landfill access, the intersections of Austin Road/Forward Driveway and Arch/Newcastle Road would operate at acceptable levels of service, but the Austin/Arch Roads, SR 99/Arch Road, and SR 99/Mariposa Road SB Ramp intersections

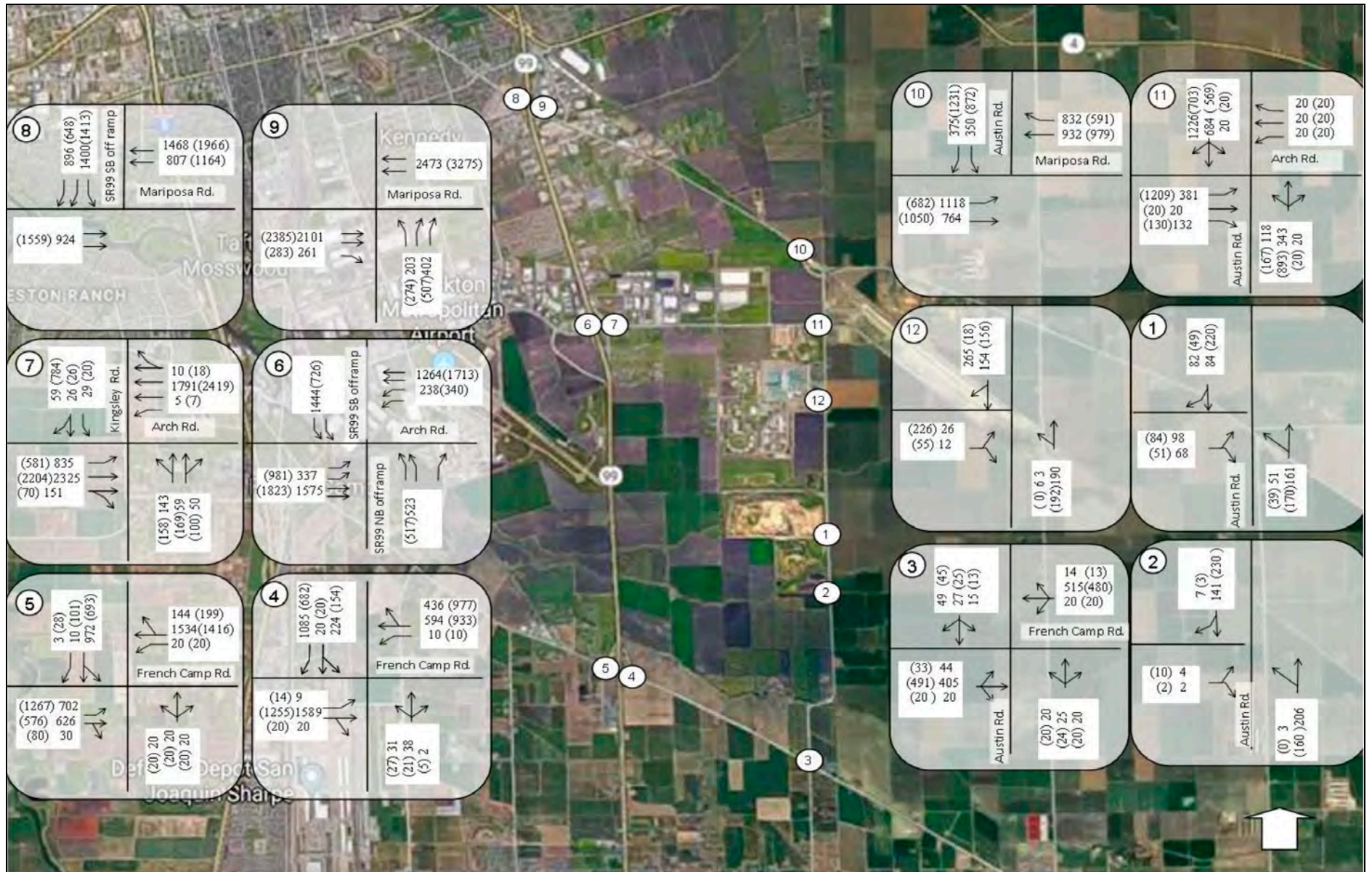


**Figure IV.B-5**  
 Short-term plus Project Study Intersection Traffic Volumes  
 (Existing plus Approved Projects plus Project)

**Table IV.B-12: 2035 Cumulative Conditions Intersection Traffic LOS**

Study Intersections and Driveways	Traffic Control	Peak Hour	2035 Cumulative Conditions		2035 Cumulative Conditions-Mitigated by Other Projects		2035 Cumulative +Project Conditions+ Mitigations by Other Projects		2035 Cumulative + Project + Project Mitigation	
			Delays	LOS	Delays	LOS	Delays	LOS	Delays	LOS
1 Austin Rd. & Forward Main Driveway	SSS	AM	9.9	A	NC	NC	12.6	B	NC	NC
		PM	11.3	B	NC	NC	13.9	B	NC	NC
2 Austin Rd. & Forward Secondary Driveway	SSS	AM	9.8	A	NC	NC	9.8	A	NC	NC
		PM	11.2	B	NC	NC	11.2	B	NC	NC
3 Austin Rd. & E. French Camp Rd.	AWS	AM	21.4	C	NC	NC	27.1	D	NC	NC
		PM	23.6	C	NC	NC	29.3	D	NC	NC
4 SR 99 NB On-off Ramps & E. French Camp Rd.	Signal	AM	>100	F	10.2	B	15.1	B	NC	NC
		PM	>100	F	11.6	B	30.9	C	NC	NC
5 SR 99 SB On-off Ramps & E. French Camp Rd.	Signal	AM	>100	F	82.8	F	83.2	F	SU	NC
		PM	>100	F	>100	F	>100	F	SU	NC
6 SR 99 Urban Interchange & Arch Rd.	Signal	AM	>100	F	>100	F	>100	F	SU	NC
		PM	>100	F	>100	F	>100	F	SU	NC
7 Arch Rd. & Kingsley Rd.	Signal	AM	>100	F	35.4	D	35.9	D	NC	NC
		PM	>100	F	50.0	D	51.9	D	NC	NC
8 SR 99 SB On-off Ramps & Mariposa Rd.	Signal	AM	99.3	F	31.7	C	82.4	F	SU	NC
		PM	>100	F	84.5	F	84.8	F	SU	NC
9 SR 99 NB On-off Ramps & Mariposa Rd.	Signal	AM	30.2	C	33.5	C	47.6	D	NC	NC
		PM	>100	F	93.6	F	94.6	F	SU	NC
10 Mariposa Rd. & Austin Rd.	Signal	AM	>100	F	50.8	D	51.6	D	NC	NC
		PM	>100	F	39.6	D	41.3	D	NC	NC
11 Arch Rd. & Austin Rd.	Signal	AM	>100	F	24.4	C	39.0	D	14.5	B
		PM	>100	F	53.6	D	61.8	E	42.2	D
12 Austin Rd. & Cal. Health Care Driveway	Signal	AM	4.8	A	NC	NC	4.8	A	NC	NC
		PM	6.5	A	NC	NC	7.9	A	NC	NC

Notes: Traffic counts were conducted in mid-May, 2018, SSS=Side-Street-Stop. AWS=All-Way-Stop, Signal=Traffic Signal Light  
 \* For side-street-stop controlled intersections, the delay and LOS reported in the above table represent the worst case (the side street approach controlled by the stop sign). The LOS for the intersection as a whole is A with delays less than 10 seconds.  
 NC = no change SU = Project's incremental contribution is cumulatively significant and unavoidable



**Figure IV.B-6**

2035 Cumulative plus Project Study Intersection Traffic Volumes

Source: PHA Transportation Consultants

would operate at unacceptable Level of Service F, with an average delay similar to year cumulative 2035 conditions if the existing landfill entrance on Austin Road is used. Thus, use of Newcastle Road for landfill access for the previously proposed project would not avoid the deterioration of levels of service at the Austin/ Arch Roads, SR 99/ Arch Road, and SR 99/Mariposa Road SB Ramp intersections to unacceptable conditions in the cumulative year 2035, and 2035 cumulative impacts with alternate access at Newcastle Road would be similar to those of the project evaluated in the 2013 EIR.

**Mitigation Measure B.7. (Revises 2013 EIR Mitigation Measure B.6).** Improvements to Intersection 11, Arch Road / Austin Road, Southbound: The project shall contribute its fair share to the addition of one lane to provide one left-turn lane, two thru lanes, and one right- turn lane, as detailed in the TIA, Figures 12 and 13.

**Impact B.8. Potential Cumulative Impact to Mainline Roadway Operations. (Revises 2013 EIR Impact B.2)**

*Cumulative Impacts to SR 99 Freeway Mainline*

As shown on Tables IV.B-13 and 14, below, the proposed project plus cumulative traffic (Short-Term and 2035) would not significantly affect SR 99 freeway mainline operating conditions.

Table IV.B-13: Freeway Mainline Analysis-Short-term Conditions								
State Route 99 (Mariposa Rd.-French Camp Rd.)		Existing Conditions + Approved Projects			Existing Conditions + Approved Projects+ Projects			Project Impact +%
		Volume	Density	LOS	Volume	Density	LOS	
Northbound	AM	2625	21.9	C	2645	22.1	C	0.7%
	PM	3842	32.0	D	3858	32.1	D	0.4%
Southbound	AM	3289	27.4	D	3305	27.5	D	0.5%
	PM	3401	28.3	D	3411	28.4	D	0.3%

Note: Analysis is based on a 2016 Caltrans peak- hour volume for SR 99. Approved project volumes are derived from Norcal Logistic Center project and Tidewater Crossing projects.

Table IV.B-14: Freeway Mainline Analysis- Cumulative 2035 Conditions								
State Route 99 (Mariposa Rd.-French Camp Rd.)		2035 Conditions			2035 Conditions + Project			Project Impact +%
		Volume	Density	LOS	Volume	Density	LOS	
Northbound	AM	2390	19.9	B	2410	20.0	B	0.8%
	PM	3590	29.9	D	3600	30.0	C	0.3%
Southbound	AM	3170	26.4	C	3190	26.6	C	0.6%
	PM	3300	27.5	C	3310	27.6	C	0.3%

Note: 2035 freeway mainline volumes are estimated with a 1% annual growth rate for 15 years.



### *Cumulative Impacts to Austin Road Mainline Segment*

The Norcal Logistics Center project is expected to add about 1,000 daily trips (5% of its total estimated site generated trips) to Austin Road according to its traffic study estimates. This makes a total of about 4,700 daily vehicle trips on Austin Road in the short-term scenario, well below the recommended design capacities for either collector streets or minor arterial streets.

There are no available 2035 traffic forecasts for Austin Road. Because much of the land along the study segment near the Project site is agricultural land, no changes in land use are expected that would significantly change the current traffic patterns. Assuming an annual 1% growth rate for the next 15 years, the daily volumes would be about 5,500 vehicles per day and would be well within the LOS "C" standard as shown in the following San Joaquin County's General Plan Road Classifications and corresponding capacities. Therefore this impact would be *less than significant*.

#### **Impact B.9. Potential Cumulative Impacts at Main Access Driveway. (Revises 2013 EIR Impact B.9).**

As shown in Table IV.B-12, under cumulative conditions, the landfill driveway with the project would continue to operate at a satisfactory level of service. For these reasons, the Expansion Project would not affect queuing on Austin Road before the landfill is opened in the morning. This impact would be *less than significant* and no mitigation would be required.

#### **Impact B.10. Potential Cumulative Impacts on Bicycles. (Revises 2013 EIR Impact B.10)**

As described in Setting, Bicycles, above, French Camp Road is a proposed Class III bikeway. The 2013 EIR found that the previously proposed project would add a maximum of 19 truck trips in each direction in the AM Peak Hour to French Camp Road. The truck volume would be lower in other hours. This volume of trucks would not be a considerable contribution to cumulative impacts on bicycle usage and facilities; thus, the project's cumulative impact would be *less than significant*.

The 2013 EIR also found that additional Forward Landfill truck traffic outside the study area may overlap with bikeways or bicycle usage, but that the added trips would disperse to many roadways outside the study area, and it is not expected that the landfill-related vehicles on any individual roadway would create a significant negative impact. Therefore, the previously proposed project would not make a considerable contribution to cumulative impacts on bicycle usage and facilities under both cumulative scenarios (near-term and year 2035). The 2018 update of the transportation study found that the analysis of cumulative impacts on bicycles under EPAP conditions the previously proposed project, above, also would apply to the 2018 Expansion Project. For these reasons, under Near-Term Cumulative Conditions and Year 2035 Cumulative Conditions, the impacts of the 2018 Expansion Project would be *less than significant* and no mitigation would be required.

**Impact B.11. Potential Cumulative Impacts on Public Transit. (Same as 2013 EIR Impact B.9).**

There is no transit service in the study area, so there would be no cumulative impacts on transit. In addition, the project would not create any impacts on transit service under cumulative conditions. The nature of the proposed project is such that it would not create any significant demand for new transit service. For these reasons the impact of the 2018 Expansion Project on public transit under either cumulative scenario (near-term EPAP or year 2035) would be *less than significant* and no mitigation would be required.

### C. NOISE

This section describes the existing and likely future noise environments in the vicinity of the proposed Forward Landfill Expansion project to take into account the proposed changes to the project described in this Supplemental EIR. It also addresses the project’s conformity with the San Joaquin County General Plan and Noise Ordinance. The impacts and mitigations in this section replace those in Section IV.C of the 2013 EIR.

#### Setting

#### **Background**

To describe noise environments and to assess impacts on noise-sensitive areas, a frequency weighting measure, which simulates human perception, is commonly used. It has been found that A-weighting of sound levels best reflects the human ear’s reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA)<sup>1</sup> is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. Table IV.C-1 identifies typical ranges of decibel levels for common sounds heard in the environment.

**Table IV.C-1: Typical Noise Levels**

<b>Noise Level (dBA)</b>	<b><u>Outdoor Activity</u></b>	<b><u>Indoor Activity</u></b>
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: (modified from Caltrans Technical Noise Supplement, 1998)

<sup>1</sup> A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called “sound level”) measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)<sup>2</sup>; average day-night 24-hour average sound level (Ldn)<sup>3</sup> with a nighttime increase of ten dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)<sup>4</sup>, also a 24-hour average that includes both an evening and a nighttime weighting.

## Noise Standards

All jurisdictions have noise exposure standards designed to assure that noise does not excessively impact the quality of life of its citizens. For noise sources amenable to local control, noise exposure to noise-sensitive land uses is usually regulated by ordinances. These ordinances limit the allowable noise levels at the property line of the receiving land use. For the most common noise sources, such as cars, trucks, trains or airplanes, local jurisdictions are preempted from regulating the noise emissions from the source. Control of exposure due to preempted sources is managed by discretionary land use decisions relative to the receiver.

Noise ordinance standards are typically stated in terms of the Leq metric, or in terms of allowable exposures over stated short time periods. Lmax, the maximum noise level for a specified duration and time period, also is used. In San Joaquin County, noise ordinances are part of the Ordinance Code. The land use decision standards typically use the weighted 24-hour Ldn or CNEL. Ldn and Leq-based land use standards are also articulated in the San Joaquin County General Plan. Below are summaries of the applicable ordinance codes and policies of the General Plan.

### *San Joaquin County Ordinance Code*

Transportation Noise Source Standards. Section 9-1025.9 (Chapter 9-1025, Division 10, Title 9) of the San Joaquin County Ordinance Code, at Subsection (a), "Transportation Noise Sources," requires that all new noise-sensitive developments mitigate noise levels due to transportation sources at any noise sensitive areas to the levels shown in Table IV.C-2.

The Ordinance also states that if new or expanded transportation facilities cause the levels in Table IV.C-2 to be exceeded, the source is required to mitigate the noise impact. The noise impact from any new landfill traffic would thus be potentially significant if it would cause noise levels at any of the noise sensitive land uses shown in Table IV.C-2 to be exceeded. An acoustical analysis should identify mitigation measures to reduce the noise effects to be within the standards of Table IV.C-2 or provide a detailed explanation stating why mitigation is infeasible (Section 9-0125.9 (d)(4)).

Stationary Noise Source Standards. Sub-section (b), "Stationary Noise Sources," of Section 9-1025.9 establishes requirements that noise-sensitive uses be protected from stationary noise sources, and that new or expanded stationary noise sources mitigate their impact at any noise-sensitive use. The noise

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<sup>2</sup> The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

<sup>3</sup> Ldn is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a ten-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

<sup>4</sup> CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of five decibels in the evening from 7:00 to 10:00 p.m., and an addition of a ten-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

standards at outdoor activity areas for stationary sources are more stringent than for transportation sources, and are as follows:

**Table IV.C-2: Maximum Allowable Noise Exposure (Transportation Noise Sources)**

<u>Noise-Sensitive Land Use</u> (Use Types)	<u>Outdoor Activity Areas</u>	<u>Interior Spaces</u>
	dB Ldn	dB Ldn
Residential	65	45
Administrative Office	--	45
Child Care Services - Child Care Centers	--	45
Community Assembly	65	45
Cultural & Library Services	--	45
Educational Services - General	--	45
Funeral & Interment Services - Undertaking	65	45
Lodging Services	65	45
Medical Services	65	45
Professional Services	--	45
Public Services (excluding hospitals)	--	45
Public Services (hospitals only)	65	45
Recreation - Indoor Spectator	--	45
Religious Assembly	65	45

<u>Exposure</u>	<u>7 a.m. - 10 p.m.</u>	<u>10 p.m. - 7 a.m.</u>
One-hour Avg. (Leq)	50	45
One-second max (Lmax)	70	65

Source: Table 9.1025-9; San Joaquin County Ordinance Code adopted in 1999.

If the sound is impulsive, single tone, or primarily speech or music, the allowable noise level is reduced by another 5 dB.

***San Joaquin County General Plan***

The Noise Section of the Public Health and Safety Chapter of the San Joaquin County General Plan summarizes noise level standards for the County and establishes specific policies to ensure acceptable noise environments for each land use (San Joaquin County, 2016). Applicable policies include the following:

Policy PHS-9.1. The County shall require new development to comply with the noise standards shown in [the above noise ordinance tables] through proper site and building design, such as building orientation, setbacks, barriers, and building construction practices.

Policy PHS-9.5. The County shall seek to alleviate existing community noise problems.

### **Noise Measurements**

In order to characterize the current ambient noise conditions near the project site, the noise measurements in the project area were updated by RCH Group (RCH) in June of 2018. Unattended noise measurements were conducted for 72 hours at four locations along Austin Road in the project area. In addition, two short-term consecutive 5-minute measurements were conducted at the same four locations and at two other locations; one along Austin Road and the other along Newcastle Road, northwest of the project site. The measurement locations were similar to those in the 2013 EIR, with the exception of Site 3, which was relocated south of the curve on Austin Road. Figure IV.C-1 illustrates the noise measurement site locations. The noise measurement locations are described in Table IV.C-3. All noise measurement results are presented in Table IV.C-3, and Appendix F presents detailed data associated with the long-term noise measurements. Noise measurements were along the roadsides and not at the outdoor activity areas. However, the data collected at these sites were used as confirmation of noise model estimates of noise levels at outdoor activity areas.

Ambient noise levels were higher at some measurement site locations than those presented in the 2013 EIR. At Site 1, the operation of a new power plant across the road has increased background noise levels. At Site 5, increased noise may be attributed to traffic increases from the Intermodal station and, to a lesser extent, the California Health Care Facility, which began operating since 2013.

### **Sensitive Receptors**

Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities. In the 2013 EIR, the only sensitive receptors identified near the proposed project expansion sites were rural residences. In 2013, operations began at California Health Care Facility on the site of the former Karl Holton Youth correctional facility on Austin Road. The nearest existing sensitive receptors to the proposed expansion areas and the haul routes are:

- At least ten residences are along Arch Road, west of Austin Road, the closest of which is approximately 55 feet from the road centerline;
- At least three residences are along Austin Road, between Arch Road and the project driveway, the closest of which is approximately 70 feet from the road centerline;
- Two residences are along Austin Road, south of the project driveway, the closest of which is approximately 110 feet east of the road centerline;
- At least eight residences are along French Camp Road, west of Austin Road, the closest of which is approximately 50 feet from the road centerline;
- At least ten residences are along French Camp Road, east of Austin Road, the closest of which is approximately 80 feet from the road centerline; and
- California Health Care Facility, west of Austin Road. The facility is approximately 280 feet from the road centerline and 2,500 feet northwest of the northeast expansion area.

A residential structure (9690 Austin Road) is also along Austin Road approximately 1,300 feet south-southeast of the northeast expansion area. It is directly east of the Forward Landfill main entrance. However, this structure is currently vacant and lacking electricity and plumbing, and so cannot be occupied at this time.

### **Impacts**

Impact significance under CEQA is evaluated relative to the existing environment. For the purposes of this analysis, the "existing noise environment" is the current noise environment, which includes the existing operational conditions at the landfill (i.e., approximately 233 trucks per day). This section includes a summary of impacts and mitigations considered in the 2013 EIR, and has been updated to include impacts and mitigations that are new or have been substantially altered by changes in the proposed project. To facilitate review of the section and comparison of analyses between the 2013 EIR and this document, the heading for each impact or mitigation measure reflects whether that impact is the same, revised, replaced, or new.

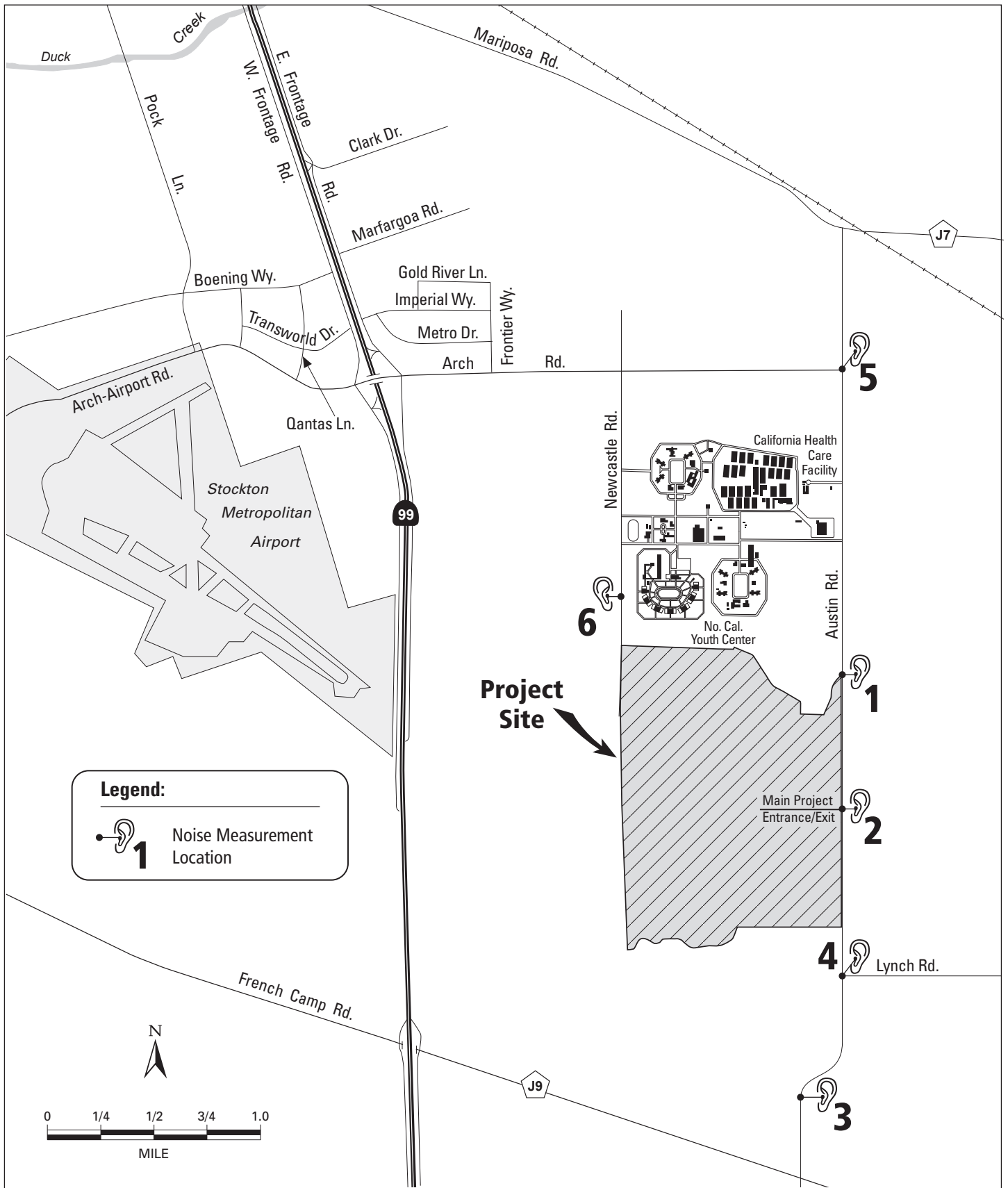
### **Standards of Significance**

Under ambient conditions, most people cannot distinguish a change in the noise environment that differs by less than 3 dBA between the pre- and post-project exposure. A clearly perceptible increase in noise level differences occurs around +5 dBA. The operational noise impact studies prepared for the 1993, 1994, 2000, and 2002 EIRs for the Forward and Austin Road landfills adopted a +5 dBA increase as a significant noise impact. Subsequent to those studies, ambient levels in the area have increased. For the purposes of this analysis, the noise impact from any new landfill traffic would be potentially significant if it would increase exterior noise levels by at least 5 dBA or more at any of the nearby residential land uses that are currently at or below the County's maximum allowable Ldn noise exposure level of 65 dBA for transportation sources (see Table IV.C-2).

As discussed in the 2013 EIR, the existing elevated traffic noise levels related to landfill and other existing truck traffic in the area already exceed the County's maximum allowable exposure level of 65 dBA Ldn along several road segments in the project areas. Like the 2013 EIR, this SEIR applies an adjustable threshold based on absolute noise level. When existing exterior noise levels are more than 65 dBA Ldn at a residential receptor, the threshold would be an increase of 3 dBA. This adjustable threshold is a methodology based on a federal noise study of neighborhood annoyance related to airports that has been used extensively in California in City and County Noise Elements for assessing the effects of highway transportation noise levels (FICON, 1992).

### **Impact C.1. Construction Noise Impacts (Revises 2013 EIR Impact C.1.)**

Temporary construction noise would result during site preparation activities for the project, such as the proposed creek relocation and preparation of the proposed expansion areas. Noise levels associated with such activities would be short-term and would be similar to the equipment noise levels that are already occurring at the landfill. Such activities would not substantially affect existing noise levels in the vicinity of the project and would have no effect on the long-term noise exposure in the project vicinity.



**Figure IV.C-1**

**Noise Measurement Location Sites**

Source: RCH Group



**Table IV.C-3: Existing Noise Environment in the Project Area**

<u>Location</u>	<u>Time Period</u>	<u>Ldn &amp; Leq (dBA)</u>	<u>Noise Sources</u>
<b>Site 1:</b> Austin Rd., approximately 0.4 miles north of landfill entrance. 80 feet east from center of Austin Rd.	June 5, 12:00 a.m. through June 7, 11:59 p.m., 2018 Tuesday - Thursday 72-hour measurement	24-hour Ldn's = 71, 71, 72  Hourly average Leq's ranged from: 63 - 70	Unattended noise measurements do not specifically identify noise sources. However, the noise results clearly indicate the plant was a constant source of noise at this location.
<b>Site 1:</b> Austin Rd., approximately 0.4 miles north of landfill entrance. 80 feet east from center of Austin Rd.	June 4, 2018 11:36 – 11:46 a.m.	5-minute results: Leq's = 66, 66 L90's = 61, 61	Amresco Power Plant across road (approx. 190 feet from meter) resulted in a background noise level of 61 dB. Heavy trucks and other traffic along Austin Rd., birds chirping. Loudest heavy truck pass-by resulted in an Lmax of 79 dB.
<b>Site 2:</b> Austin Rd. at landfill entrance. 40 feet west from center of Austin Rd., south of entrance.	June 5, 12:00 a.m. through June 7, 11:59 p.m., 2018 Tuesday - Thursday 72-hour measurement	24-hour Ldn's = 72, 73, 73  Hourly average Leq's ranged from: 52 - 71	Unattended noise measurements do not specifically identify noise sources.
<b>Site 2:</b> Austin Rd. at landfill entrance. 47 feet west from center of Austin Rd., south of entrance.	June 4, 2018 11:03 – 11:13 a.m.	5-minute results: Leq's = 63, 63 L90's = 46, 52	Birds chirping (up to 51 dB), heavy duty trucks and other vehicles along Austin Rd. and turning into/out of the landfill entrance. A heavy truck pass-by resulted in an Lmax of 77 dB. Background noise was about 43 dB.
<b>Site 3:</b> Austin Rd., south of S curve, approximately 1.7 miles south of landfill entrance. 56 feet east from center of Austin Rd.	June 5, 12:00 a.m. through June 7, 11:59 p.m., 2018 Tuesday - Thursday 72-hour measurement	24-hour Ldn's = 67, 67, 68  Hourly average Leq's ranged from: 48 - 66	Unattended noise measurements do not specifically identify noise sources.
<b>Site 3:</b> Austin Rd., south of S curve, approximately 1.7 miles south of landfill entrance.	June 4, 2018 12:41 – 12:51 p.m.	5-minute results: Leq's = 60, 61 L90's = 44, 45	Heavy trucks and other traffic along Austin Rd. Maximum noise level of 77 dB was from a heavy truck pass-by. Airplanes were up to 55 dB. Traffic from French Camp Rd. was

<u>Location</u>	<u>Time Period</u>	<u>Ldn &amp; Leq (dBA)</u>	<u>Noise Sources</u>
56 feet east from center of Austin Rd.			up to 51 dB. Nearby sprinkler was up to 47 dB.
<b>Site 4:</b> Austin Road at Lynch Rd., 59 feet east from center of Austin Rd.	June 5, 12:00 a.m. through June 7, 11:59 p.m., 2018 Tuesday - Thursday 72-hour measurement	24-hour Ldn's = 67, 68, 68  Hourly average Leq's ranged from: 49 - 66	Unattended noise measurements do not specifically identify noise sources.
<b>Site 4:</b> Austin Road at Lynch Rd., 59 feet east from center of Austin Rd.	June 4, 2018 12:15 – 12:25 p.m.	5-minute results: Leq's = 58, 64 L90's = 41, 41	Birds chirping and heavy-duty trucks and other traffic along Austin Rd. Maximum noise levels of 80 dB were from heavy truck pass-bys. Background noise was less than 41.5 dB.
<b>Site 5:</b> Northeast corner of Austin Rd. at Arch Rd., near the entrance of BNSF Intermodal. 50 feet east from center of Austin Rd.	June 4, 2018 2:48 – 2:58 p.m.	5-minute results: Leq's = 72, 71 L90's = 61, 60	Many heavy trucks and autos. Trucks braking at intersection resulted in Lmax of 88 dB. Trucks moving at slow speeds were 68-79 dB. Autos were 56-81 dB.
<b>Site 6:</b> Approximately 350 feet southeast of 7833 Newcastle Rd., and 60 feet east from the center of Newcastle Rd. Between the residence and the landfill.	June 4, 2018 2:23 – 2:33 p.m.	5-minute results: Leq's = 55, 52 L90's = 47, 45	Only two vehicles on Newcastle Road during measurements (70 dB, 58 dB). Airplanes were up to 62 dB. Wind was up to 57 dB. Beeping from landfill trucks was less than 43 dB. Could hear some traffic on Hwy 99.

The revised project includes the development of expansion areas within the permitted landfill boundary, but does not include the previously proposed horizontal expansion onto the adjoining 184-acre Brocchini property. Eliminating the 184-acre expansion area would reduce construction noise impacts by eliminating noisy construction activities on this property compared with the 2013 project. Construction noise impacts of the revised project would remain *less than significant*.

**Impact C.2. Truck Traffic Noise Impacts (Revises 2013 EIR Impact C.2.)**

The 2013 EIR determined that noise level increases attributed to the project would exceed the significance criteria at residential properties along each of the five roadway segments throughout the project area where residences would be most affected by the project. The revised project would result in slightly decreased levels of traffic noise impacts compared to those described in the 2013 EIR (due to refinements in modeling and truck-size assumptions). In addition, traffic noise impacts would occur for a shorter duration because the revised landfill closure date is 2036 instead of 2039.

The 2018 modeled noise levels along the five roadway segments are presented in Table IV.C-4. The ambient conditions along all these road segments currently exceed 67 dBA, and the increases of 2.6 to 3.9 dBA that would be attributable to the project (at maximum permitted daily trips) would be considered significant along all segments except French Camp Road west of Austin Road. Therefore, impacts associated with project-generated traffic noise increases would be *significant*.

The following measure was proposed as part of the project:

- As recommended mitigation in the 2000 EIR and implemented by the applicant, the landowner or tenant at 9690 Austin Road shall be provided with the option of requesting a sound wall or noise barrier to reduce noise exposure both in the front yard and within the home. Additional noise monitoring and measures will be undertaken to demonstrate compliance with Development Title Section 9-1025.9 Transportation Noise Sources in the event noise complaints are received.

This measure would reduce noise at the applicable house but would not mitigate noise impacts to other residences. Therefore, this impact would remain *significant and unavoidable*.

It should be noted that sound barriers are not feasible in the semi-rural areas that would be affected by truck traffic increases, because the barriers would be far removed from the activity areas of sensitive receptors and the sound barriers would generally be an unnatural barrier not only to noise but also to distant views now possible in these areas.

**Mitigation Measure C.2. (Same as 2013 EIR Mitigation Measure C.2.)**

To reduce truck traffic noise impacts, the landfill operator shall annually notify truck drivers with a flyer that encourages drivers to maintain a steady speed on surface roads leading to the landfill. Drivers shall be instructed to eliminate unnecessary noise by staying within the speed limit and travelling at a steady speed, especially for trips during the morning peak hours.

***Significance After Mitigation:***

Mitigation Measure C.2 could reduce the impact of increased truck noise but not to a level that would be less than significant. Other than Mitigation Measure C.2, no additional mitigations are available for this impact other than reducing project operations. Reducing project operations would be a substantial change to the proposed project and therefore is addressed as a component of Alternative 2B (Reduced Size/ Reduced Daily Operations Alternative) in Chapter V of the 2013 EIR.

Therefore, this impact is considered *significant and unavoidable*.

**Impact C.3. On-Site Landfill Equipment Noise Impacts (Revises 2013 EIR Impact C.3.)**

The 2013 EIR determined that noise from on-site landfill equipment would result in a potentially significant impact at the sensitive receptor closest to the northeast expansion area. As described in the 2013 EIR, refuse disposal equipment would not change measurably in terms of its equipment type, manner of operation or amount of equipment used and any possible operational equipment noise difference would be almost exclusively due to the changed location of the disposal equipment under the lateral expansion during the life of the landfill. The revised project would not include the previously proposed horizontal expansion of landfilling operations onto the adjoining 184-acre Brocchini property, therefore eliminating noise impacts that would occur from landfill equipment on that parcel.

The revised project includes changes to the landfill footprint in the northeast and southeast of the site (see Chapter II, Project Description). These two areas would be the location of noise from new landfill equipment operations. A residence along Austin Road is approximately 1,300 feet south-southeast of the northeast expansion area. The County noise ordinance restricts the noise level at any noise-sensitive receiving property to an Lmax of 65 dBA between 10:00 p.m. and 7:00 a.m. and 70 dBA between 7:00 a.m. and 10:00 p.m. If the location of any outdoor activity area is unknown, the “default” analysis location is the property line of the receiving use. The operation of heavy equipment at the northeast expansion area could result in Lmax noise levels up to 67 dBA at the nearest residence, which would result in a *potentially significant* impact.

**Mitigation Measure C.3. (Same as 2013 EIR Mitigation Measure C.3.)**

The Landfill shall implement one of the following two options exist to mitigate this potentially significant impact:

(a) Heavy equipment operations shall not be conducted within 1,500 feet of any occupied residence after 10 p.m. and before 7 a.m.; or

(b) Equipment operations within 1,500 feet of any residence after 10 p.m. or before 7 a.m. shall be fully shielded from the direct line of sight to the residence by an earthen berm whose crown elevation exceeds the elevation of the top of the exhaust stack.

***Significance After Mitigation:***

Implementation of one or both of these mitigation measures would reduce this impact to a *less than significant* level.

#### **Impact C.4. Cumulative Traffic Noise Impacts (Revises 2013 EIR Impact C.4.)**

In the 2013 EIR, traffic noise levels were modeled for two cumulative scenarios, including a near-term scenario that considers projects in the study area and the 2035 scenario, which is based on the findings of the study of the proposed Mariposa Lakes development. The cumulative noise analysis in the 2013 EIR found that the near-term and 2035 noise level increases attributed to increased traffic from other planned development and the increased project truck traffic would exceed the significance criteria along roadway segments on Austin Road, Arch Road and French Camp west of Austin Road.

Cumulative traffic noise level increases for the revised project are shown in Table IV.C-4 (columns identified as “Change Existing + Project + Cumulative from Existing”; “Change 2036 Cumulative NP from Existing NP”; and “Change 2036 + Project from Existing NP”). The table shows that the noise levels would increase in 2036 (compared to the existing levels) before addition of the noise from the increased project truck traffic. The additional truck traffic noise that would be associated with the proposed project would further increase traffic noise and contribute to a *significant cumulative* noise impact.

As stated in the 2013 EIR Summary of Impacts and Mitigation Measures Table, no feasible mitigation measures are available to reduce the projects contribution to cumulative noise impacts. It should be noted that sound barriers are not feasible in the semi-rural areas that would be affected by cumulative traffic increases, because the barriers would be far removed from the activity areas of sensitive receptors and the sound barriers would generally be an unnatural barrier not only to noise but also to distant views now possible in these areas. Thus, no mitigations are available for this cumulative impact other than reducing project operations. Such a reduction would be a substantial change to the proposed project and therefore is addressed as a component of Alternative 2B (Reduced Size/Reduced Daily Operations Alternative) in Chapter V of the 2013 EIR. Therefore, the project’s noise increment is considered to be cumulatively considerable and the cumulative traffic noise impact is considered *significant and unavoidable*.

**Table IV.C-4  
 EXISTING AND PROJECTED TRAFFIC NOISE LEVELS ALONG ROADWAYS IN THE PROJECT VICINITY (L<sub>DN</sub>)**

Roadway Segment	Existing 2018	Existing + Cumulative (near term)	Change <sup>6</sup> Existing + Cumulative (near term)		Change <sup>6</sup> Existing + Project Cumulative (near term)		Change <sup>6</sup> Existing + Project Cumulative (near term)		Change <sup>6</sup> 2036 <sup>7</sup> Cum NP from Existing (No Project)		Change <sup>6</sup> 2036 <sup>7</sup> Cum + Project (Cum NP)		Change <sup>6</sup> 2036 <sup>7</sup> Cum +Project from Existing No Project	
			Existing	Project	Existing	Project	Existing	Project	Existing	Project	Existing	Project	Existing	Project
Austin Rd, S of Arch Rd <sup>1</sup>	70.1	70.2	0.1	73.4	<b>3.4</b>	73.5	<b>3.4</b>	72.7	2.7	74.9	2.2	<b>4.9</b>		
Arch Rd, W of Austin Rd <sup>2</sup>	68.6	68.7	0.1	71.8	<b>3.3</b>	71.9	<b>3.3</b>	72.7	<b>4.2</b>	74.3	1.6	<b>5.8</b>		
Austin, N of project driveway <sup>3</sup>	69.1	69.3	0.1	73.0	<b>3.9</b>	73.1	<b>4.0</b>	69.8	0.7	73.5	<b>3.6</b>	<b>4.3</b>		
Austin, S of project driveway <sup>4</sup>	67.7	67.8	0.2	71.4	<b>3.7</b>	71.5	<b>3.8</b>	68.6	0.9	71.8	<b>3.2</b>	<b>4.2</b>		
French Camp, W of Austin Rd <sup>5</sup>	69.7	70.1	0.4	72.0	2.3	72.3	2.5	72.2	2.5	73.7	1.5	<b>4.0</b>		

**Bold and Underlined** numbers in the table represent significant increases in noise levels.

<sup>1</sup>There are four residences along the east side of Austin Road: one is 1,800 feet south of Arch Road and approximately 70 feet from the centerline of Austin Road with an outdoor activity area approximately 25 feet from the road centerline; two are 0.8 mile south of Arch Road and approximately 70 feet and 120 feet from the centerline of Austin Road with outdoor activity areas approximately 25 feet from the road centerline; the other residence is 0.9 mile south of Arch Road and approximately 90 feet from the centerline of Austin Road with an outdoor activity area approximately 50 feet from the road centerline.

<sup>2</sup>There are two residences along the south side of Arch Road: one is approximately 200 feet west of Newcastle Road at approximately 65 feet from the road centerline with an outdoor activity area approximately 30 feet from the road centerline; the other is at the intersection with Fite Court at approximately 120 feet from the road centerline with an outdoor activity area approximately 40 feet from the road centerline.

<sup>3</sup>There is one residence along the east side of Austin Road north of the Project driveway. This residence is just north of the Project driveway and is approximately 80 feet from the road centerline with an outdoor activity area approximately 30 feet from the road centerline.

<sup>4</sup>There are three residences along the east side of Austin Road, south of the Project driveway: one is approximately 1.1 miles south of the driveway at approximately 100 feet from the road centerline with an outdoor activity area approximately 30 feet from the road centerline; the other residences are approximately 1.2 miles south of the driveway at approximately 300 feet and 530 feet from the road centerline with outdoor activity areas approximately 250 feet and 500 feet from the road centerline.

<sup>5</sup>There are several residences along French Camp Road, west of Austin Road, the closest of which are approximately 200 feet to the west of Austin Road. One of these residences is on the north side of the road at approximately 100 feet from the road centerline with an outdoor activity area approximately 30 feet from the road centerline. Two others are on the south side of the road at distances of 115 feet and 190 feet from the road centerline with outdoor activity areas approximately 85 feet from the road centerline.

<sup>6</sup>Some "Change" calculations appear to be off by 0.1 dB, this is due to rounding, the calculations are correct based on model calculations to hundredths.

<sup>7</sup>2035 cumulative traffic was used to model 2036 cumulative traffic noise levels in this Supplemental EIR.

Significance criteria: 5.0 dBA or more if ambient conditions are less than 65 dBA, Ldn, and 3.0 dBA or more if ambient conditions are greater than 65 dBA, Ldn (FICON, 1992).

Other Notes: Noise levels in this table were calculated using the FHWA Traffic Noise Prediction Model for approximately 50 feet from the roadway centerline. As noted above, some of the outdoor activity areas of nearby residences are as close as 25 feet from the road centerline and some of the residences are well over 100 feet from the road centerline. The analysis assumes the average vehicle speed to be 50 mph on Austin Road, 45 mph on Arch Road, and 55 mph on French Camp Road. Vehicle mix varies, it is assumed that existing landfill heavy truck trips equal approximately 60% of the project increase in heavy truck trips; existing and cumulative medium trucks are assumed to be 2% of total vehicle mix. The noise analysis relies upon a.m. peak-hour traffic levels from PHA Transportation Consultants. Noise values in the table are a.m. peak-hour Leq values. The values are shown as Ldn values for comparison with 24-hour noise metrics because the general rule is that the Ldn is within +/- 2 dBA of the peak hour Leq under normal traffic conditions (Caltrans, *Technical Noise Supplement*, 1998).

## D. AIR QUALITY / ODORS / CLIMATE CHANGE

This section updates the existing air quality conditions both within the vicinity of the proposed Forward Landfill Expansion project and its surrounding region, the associated regulatory framework, and the analysis of potential air quality impacts that would result from the proposed changes to the 2013 FEIR project, as described in this Supplemental EIR (see Chapter III, Project Description). Emissions calculations are included in Appendix G, Health and Air Quality Report, prepared by SCS Engineers, May 18, 2018.

In summary, compared to the project analyzed in the 2013 EIR, the additional airspace has been reduced from 32 million cubic yards to 8.1 million cubic yards and the closure date has changed from 2039 to 2036. It also updates the potential impacts of the proposed changes to the 2013 FEIR project on regional and local air quality, including temporary impacts due to construction of project components and long-term impacts due to operations. Lastly, an updated assessment of greenhouse gas (GHG) emissions was also conducted. The impacts and mitigations in this section update and replace those in Section IV.D of the 2013 EIR.

The air quality analysis was conducted in accordance with published guidance, including the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*<sup>1</sup>. The *Air Quality Impact Analysis and Air Toxics Risk Assessment (AQIA)* conducted by SCS Engineers<sup>2</sup> (See Appendix F) was peer reviewed for this SEIR by the RCH Group's air quality specialists, and summarized in this section.

### Setting

#### **Topography/Meteorology/Climate**

Primary factors influencing air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographic conditions determine the movement and dispersal of criteria<sup>3</sup> air pollutants and include factors such as wind speed and direction, as well as interaction between air temperature gradients and physical landscape features.

The project area lies within the San Joaquin Valley Air Basin (SJVAB), a broad, flat area (250 miles long and 35 miles wide) bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San

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<sup>1</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD), *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*, March 19, 2015.

<sup>2</sup> SCS Engineers, *Air Quality Impact Analysis and Air Toxics Risk Assessment for Proposed Landfill Project 2018 Forward Landfill Manteca, California*, May 2018.

<sup>3</sup> "Criteria" air pollutants are defined as those for which the U.S. Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) under the Federal Clean Air Act (CAA), and include Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>), Sulfur Dioxide (SO<sub>2</sub>), Lead (Pb), Carbon Monoxide (CO), Particulate Matter with mean aerodynamic particle diameters of 10 micrometers or less (PM<sub>10</sub>) and Particulate Matter with mean aerodynamic particle diameters of 2.5 micrometers or less (PM<sub>2.5</sub>)

Joaquin-Sacramento Delta empties into the San Francisco Bay. The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also negatively contributes to air quality.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flow in a south-southeasterly direction through the valley, through the Tehachapi pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30 degrees °F. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is approximately 45 degrees °F. Precipitation in the Stockton area falls almost exclusively from mid-November to mid-April from the fringes of mid-latitude storms. The Stockton area averages 13.5 inches of rain annually.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because differences in air density thereby restrict air pollutant dispersal.

## **Regulatory Framework**

Air quality issues are under the jurisdiction of the United States Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the SJVAPCD. Regulation of air pollution is achieved through both Federal and State ambient air quality standards and emission limits for individual sources of air pollutants. An "ambient air quality standard" represents a level of an air pollutant in the outdoor (ambient) air that is necessary to protect public health. The ambient standards do not apply to indoor environments.

Again, as required by the federal Clean Air Act (CAA), the EPA identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS, or national standards) to protect the public health and welfare. There are NAAQS for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter equal to or less than 10 microns in diameter (PM<sub>10</sub>), fine particulate matter equal to or less than 2.5 microns in diameter (PM<sub>2.5</sub>), and lead (Pb). These pollutants are known as "criteria" air pollutants because standards have been established to meet specific public health and welfare criteria.



The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (known as CAAQS, or State standards). The pollutants of greatest concern in the area are O<sub>3</sub> and PM<sub>10</sub>. The State and National Ambient Air Quality Standards are summarized in Table IV.D-1, which also provides a brief discussion of the related health effects and principal sources for each air pollutant.

### *Criteria Air Pollutants*

The following provides a brief summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants.

**Ozone.** Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>). VOCs and NO<sub>x</sub> are known as precursor compounds for ozone. Substantial ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of VOC and NO<sub>x</sub> under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, such as ozone.

**Carbon Monoxide.** Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion of carbon containing materials such as fossil fuels, and is mostly associated with motor vehicle traffic, and in wintertime, with wood-burning stoves and fireplaces. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle exhaust emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its' oxygen-carrying capacity, resulting in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling are not a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles, and improvements in fuels.

**Nitrogen Oxides.** When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) are the most significant air pollutants generally referred to as NO<sub>x</sub>. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO<sub>2</sub> and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO<sub>2</sub> can lead to respiratory illnesses such as bronchitis and pneumonia.

**Table IV.D-1: State and National Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour	0.09 ppm	–	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when volatile organic compounds and nitrogen oxides react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 Hour	0.070 ppm	0.070 ppm		
Carbon Monoxide (CO)	1 Hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Combustion, especially gasoline-powered motor vehicles.
	8 Hour	9.0 ppm	9 ppm		
Nitrogen Dioxide (NO <sub>2</sub> )	1 Hour	0.18 ppm	0.10 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm		
Sulfur Dioxide (SO <sub>2</sub> )	1 Hour	0.25 ppm	0.075 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Combustion, chemical plants, sulfur recovery plants, and metal processing.
	24 Hour	0.04 ppm	0.14 ppm		
	Annual Arithmetic Mean	–	0.030 ppm		
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	–		
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	–	35 µg/m <sup>3</sup>	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Combustion, primarily in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants: nitrogen oxides, sulfur oxides, and organics.
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>		
Lead (Pb)	30 Day Average	1.5 µg/m <sup>3</sup>	–	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	–	1.5 µg/m <sup>3</sup>		
	Rolling 3-Month	–	0.15 µg/m <sup>3</sup>		

SOURCE: California Air Resource Board, May 4, 2016, <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> NOTE: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

**Particulate Matter.** Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) consists of airborne particles that are 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM<sub>10</sub> and PM<sub>2.5</sub> represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities and mining, are more local in nature, while others, such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 microns) settles out rapidly and is easily filtered by human breathing passages. This dust is of concern more as a soiling nuisance rather than a health hazard. The remaining fraction, PM<sub>10</sub> and PM<sub>2.5</sub>, are a health concern particularly at levels above the federal and State ambient air quality standards. PM<sub>2.5</sub> (including diesel exhaust particles) is thought to have greater deleterious effects on health because these particles are so small and thus are able to penetrate to the deepest parts of the lungs.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990's have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health. The CARB has estimated that achieving the ambient air quality standards for PM<sub>10</sub> could reduce premature mortality rates by 6,500 cases per year.

**Other Criteria Pollutants.** Sulfur dioxide (SO<sub>2</sub>) is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO<sub>2</sub> is also a precursor to the formation of atmospheric sulfate and particulate matter, and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO<sub>2</sub> concentrations recorded in the project area are well below federal and State standards; as a result the area is in attainment status with both federal and State SO<sub>2</sub> standards.

Ambient lead (Pb) concentrations also meet both the federal and State standards in the project area. Lead has a range of adverse neurotoxic health effects, and historically has been released into the atmosphere via leaded gasoline products. The phase-out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead.

### **Odors**

While offensive, odors rarely cause any physical harm. Nevertheless, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen

complaints to local governments and the SJVAPCD. The occurrence and severity of odor problems depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptor(s).

### *Toxic Air Contaminants*

Toxic air contaminants (TACs) are pollutants that are associated with acute, chronic, or carcinogenic effects but for which no NAAQS or CAAQS have been established. TAC impacts are evaluated by determining if a particular chemical poses a significant risk to human health and, if so, under what circumstances. The ambient background of TAC is the combined result of many diverse human activities, including gasoline stations, refineries, automobiles, industrial operations, and painting operations. In general, mobile sources (such as diesel) contribute more significantly to health risks than stationary sources. TACs are also known as hazardous air pollutants (HAPs) under federal EPA regulations. Based upon data from other landfills, TAC constituents within LFG typically consist of benzene, methylene chloride, perchloroethylene (PCE), trichloroethylene (TCE), vinyl chloride (VC) as well as other TACs.

In August of 1998, the CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as a TAC. In 2000, CARB published the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*<sup>4</sup> and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*.<sup>5</sup> The documents represent proposals to reduce diesel particulate emissions, with the goal being to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low-sulfur diesel fuel.

### *Greenhouse Gases*

Some gases in the atmosphere affect the Earth's heat balance by absorbing infrared radiation. These gases can prevent the escape of heat in much the same way as glass in a greenhouse. This is often referred to as the "greenhouse effect," and it is responsible for maintaining a habitable climate. The gases believed to be most responsible for global warming are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Enhancement of the greenhouse effect can occur when concentrations of these gases exceed the natural concentrations in the atmosphere. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities.

Emissions of CO<sub>2</sub> are largely by-products of fossil fuel combustion, whereas CH<sub>4</sub> primarily results from off-gassing associated with agricultural practices and landfills. SF<sub>6</sub> is a GHG commonly used in the utility industry as an insulating gas in transformers and other electronic equipment. SF<sub>6</sub>, while comprising a small fraction of the total GHGs emitted annually worldwide, is a very potent GHG with 23,900 times the global warming potential as CO<sub>2</sub> over a 100-year period.

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<sup>4</sup> California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, September 28, 2000.

<sup>5</sup> California Air Resources Board (CARB), *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, September 28, 2000.

To account for the warming potential of GHGs, GHG emissions are often quantified and reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The effects of GHG emission sources (i.e., individual projects) are reported in metric tons/year of CO<sub>2</sub>e. There is widespread international scientific agreement that human-caused increases in GHGs has and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming.

Some of the potential resulting effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Globally, climate change has the potential to affect numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects:

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days, and fewer frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Landfills typically emit some CO<sub>2</sub> and methane from the creation of landfill gas. When municipal solid wastes are buried in a landfill, a complex series of biochemical reactions occur in which anaerobic microorganisms decompose a portion of the organic fraction of the wastes to CO<sub>2</sub> and methane, while the remainder does not appreciably degrade and is considered to be sequestered or stored. The methane and CO<sub>2</sub> produced may be collected and flared or converted to energy, which oxidizes the methane emitted in the exhaust to CO<sub>2</sub>. The methane can also be oxidized to carbon dioxide by methanotrophic bacteria in the landfill cover soil. Therefore, the ultimate fate of carbon placed in the landfill is either sequestration or in emissions as CH<sub>4</sub> or CO<sub>2</sub>. Management and treatment of waste ultimately leads to management of the method by which the carbon is released back into the environment, similarly changing the climate-related impacts upon the way waste is stored, treated, and disposed. The CARB estimated that in 2015, landfills produced 8.40 million metric tons of CO<sub>2</sub>e GHG emissions, or 1.9 percent of the state total.<sup>6</sup> Landfills are a source of carbon dioxide and methane, which are greenhouse gasses (GHGs); however, the carbon dioxide is biogenic and would have been emitted whether the landfill existed or not. As biogenic emissions, carbon dioxide is not included in the GHG emissions, which is consistent with how carbon dioxide is treated in state and federal GHG programs. Methane is a result of the anaerobic conditions in the landfill and is anthropogenic.

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<sup>6</sup> California Air Resources Board, 2017 Edition California Greenhouse Gas Inventory for 2000-2015 by Sector and Activity, June 6, 2017.

## **Regulatory Agencies**

The EPA is responsible for implementing a myriad of programs established under the federal CAA, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs). However, EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

The CARB is responsible for establishing and reviewing California's State standards, compiling the California SIP, securing approval of this plan from EPA, and identifying toxic air contaminants. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county and/or regional level. The county/regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their jurisdictions and for preparing air quality plans that are required under the federal CAA and California CAA. These regional air quality plans are prepared by districts throughout the State and compiled by CARB to form California's SIP. The local air districts also have the responsibility and authority to adopt transportation control and emission reduction programs for indirect and area-wide emission sources.

SJVAPCD is the regional agency with jurisdiction over the area surrounding the proposed project. The SJVAPCD is responsible for bringing the area into compliance and/or maintaining air quality within federal and State air quality standards. This includes the responsibility to monitor ambient air pollutant levels and to develop and implement attainment strategies to ensure that future emissions are within federal and State standards.

SJVAPCD's *GAMAQI* is a guidance document designed to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents. The *GAMAQI* recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

## **Regulations and Policies**

As required by the federal CAA and the California CAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the standards have been achieved.

Nonattainment areas are also required to prepare air quality plans that include strategies for achieving attainment. The SJVAB is in attainment or unclassified for both the NAAQS and the CAAQS for NO<sub>2</sub>, SO<sub>2</sub>, CO, and lead. The SJVAB is nonattainment for both the NAAQS and CAAQS for ozone. The SJVAB is nonattainment for the CAAQS for PM<sub>10</sub> and PM<sub>2.5</sub>, but is in attainment of the NAAQS for PM<sub>10</sub> and is nonattainment for the NAAQS PM<sub>2.5</sub> standard.

Air quality plans developed to meet federal requirements are referred to as SIPs. The federal CAA and the California CAA require plans to be developed for areas designated as nonattainment. Plans are also required under federal law for areas designated as “maintenance” for national standards. Such plans include strategies for attaining the standards. Currently, there are four attainment plans in effect for the SJVAB:

- **1-Hour Ozone.** Although EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and the SJVAB must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD’s most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, the SJVAPCD is in the process of requesting an EPA finding of attainment based on 2011-2013 ozone data. The SJVAPCD will continue working closely with ARB and EPA on this issue.
- **8-Hour Ozone.** The SJVAPCD’s far-reaching 2007 Ozone Plan demonstrates attainment of EPA’s 1997 8-hour ozone standard by 2023. EPA approved the 2007 Ozone Plan effective April 30, 2012. The SJVAPCD is now in the process of developing the 2016 Ozone Plan to address EPA’s 2008 8-hour ozone standard, which the Valley must attain by 2032. This is a very tough standard that is nearing the SJVAB’s naturally-occurring background concentrations. Attainment may not be possible without the virtual elimination of fossil fuel combustion.
- **PM<sub>10</sub>.** Based on PM<sub>10</sub> measurements from 2003-2006, EPA found that the SJVAB has reached Federal PM<sub>10</sub> standards. On September 21, 2007, the SJVAPCD’s Governing Board adopted the 2007 PM<sub>10</sub> Maintenance Plan and Request for Redesignation. This plan demonstrates that the Valley will continue to meet the PM<sub>10</sub> standard. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance.
- **PM<sub>2.5</sub>.** The SJVAPCD’s 2008 PM<sub>2.5</sub> Plan demonstrated 2014 attainment of EPA’s first PM<sub>2.5</sub> standard, set in 1997. EPA lowered the PM<sub>2.5</sub> standard in 2006, and the SJVAPCD’s 2012 PM<sub>2.5</sub> Plan showed attainment of this standard by 2019, with the majority of the SJVAB seeing attainment much sooner. The SJVAPCD continues to work with EPA on issues surrounding these plans, including EPA implementation updates. EPA lowered the PM<sub>2.5</sub> standard again in 2012 and is in the process of completing attainment designations.

The SJVAPCD regulates, permits, and inspects stationary sources of air pollution, while the State is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles. For the Forward Landfill, the relevant rules and regulations include:

- Rule 2201 —requires new and modified stationary sources of emissions to mitigate emissions using best available control technology and to offset emissions when above thresholds.<sup>7</sup>
- Rule 4102 Odors —establishes odor management practices and requirements to reduce odors from creating a nuisance off site.

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<sup>7</sup> San Joaquin Valley Air Pollution Control District, [http://www.valleyair.org/transportation/ceqa\\_rules.htm](http://www.valleyair.org/transportation/ceqa_rules.htm)

- Regulation VIII Dust—requires implementation of dust suppression techniques to prevent fugitive dust<sup>8</sup> from creating a nuisance off site.

### ***Senate Bill 97***

Senate Bill 97 (SB 97) (Chapter 185, Statutes of 2007; Public Resources Code [PRC] §21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). This bill directed the Governor's Office of Planning and Research (OPR), which is part of the California Natural Resources Agency (Resources Agency), to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA, by July 1, 2009. The Resources Agency adopted the CEQA Guidelines amendments on December 31, 2009. The amended CEQA Guidelines became effective on March 18, 2010.

### ***Executive Order S-3-05***

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and,
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

### ***Assembly Bill 32***

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as

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<sup>8</sup> Solid airborne particulate matter emitted from any source other than a stack or chimney.



compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020.

The Landfill Methane Control Measure (Landfill Methane Rule or LMR became effective June 17, 2010 and required increased monitoring and earlier installation of LFG collection and destruction systems at landfills with the goal of reducing methane emissions.

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHG to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every five years. The initial AB 32 Scoping Plan contains the main strategies California will use to reduce the GHG that cause climate change. The initial Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 program implementation fee regulation to fund the program. In August 2011, the initial Scoping Plan was approved by CARB.

The 2013 Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The 2013 Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defines CARB climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlights California progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. In the 2013 Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program. On May 22, 2014, the First Update to the Climate Change Scoping Plan was approved by the Board, along with the finalized environmental documents.

#### ***Executive Order No. B-30-15***

On April 29, 2015, Executive Order No. B-30-15 was issued to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Executive Order No. B-30-15 sets a new, interim, 2030 reduction goal intended to provide a smooth transition to the existing ultimate 2050 reduction goal set by Executive Order No. S-3-05 (signed by Governor Schwarzenegger in June 2005). It is designed so State agencies do not fall behind the pace of reductions necessary to reach the existing 2050 reduction goal. Executive Order No. B-30-15 orders "All State agencies with jurisdiction over sources of GHG emissions shall implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 targets." The Executive Order also stated that "CARB shall update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent." CARB's second update to the Climate Change Scoping Plan (The 2017 Scoping Plan") reflects the 2030 reduction target and is described below.

### ***Senate Bill 32***

In September of 2016, Governor Brown signed Senate Bill (SB) 32 into law, which extended the goals of AB32 and set a goal 2030 goal of reducing GHG emissions 40 percent below 1990 levels by 2030. With SB 32, the Legislature passed companion legislation AB 197, which provided additional direction for developing the Scoping Plan.

In December of 2017, CARB adopted the second update to the Climate Change Scoping Plan, the 2017 Scoping Plan. The 2017 Scoping Plan provides a framework for achieving the 2030 target. The 2017 Scoping Plan Update builds upon the successful framework established by the initial Scoping Plan and the first update (the 2013 Update), while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The 2017 Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade Program, which constraints and reduces emissions at covered sources. The 2017 Plan also noted that the Recycling and Waste Sector generates two percent of California's total GHG emissions.

### ***Senate Bill 1383***

In September of 2016, Governor Brown signed SB 1383 into law, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy, including solid waste. As it pertains to CalRecycle, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

### ***Assembly Bill 1826***

In October of 2014, Governor Brown signed AB 1826 into law, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (please note, however, that multifamily dwellings are not required to have a food waste diversion program). Organic waste (also referred to as organics throughout this resource) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties.

### ***San Joaquin County 2035 General Plan***

An inventory of countywide GHG emissions (including the solid waste sector), projections, reduction strategies and policies were reviewed in the San Joaquin County 2035 General Plan (Appendix A: General Plan Sustainability Policies and Programs). The GHG inventory found that the waste emissions sector (including managed landfill and controlled incineration GHG

emissions) generated approximately one percent of 2007 (41,067 metric tons of CO<sub>2</sub>e) countywide emissions and was projected to generate approximately one percent of 2020 emissions (47,343 metric tons of CO<sub>2</sub>e).

The San Joaquin County 2035 General Plan identified the following policy related to GHG emissions and landfills:

PHS-6.5: Diversion, Recycling, and Reuse. The County shall achieve a 75 percent diversion of landfilled waste based on 1990 levels by 2020, and shall achieve a diversion rate of 90 percent by 2035.

The San Joaquin County 2035 General Plan Final EIR included the following mitigation measure related to landfills:

IS-1.18: Landfill Capacity. The County shall analyze remaining landfill capacity and continue to implement solid waste diversion programs in order to increase the rate of diversion across all communities and increase the usable life of existing landfill disposal facilities.

### ***SJVAPCD Climate Change Action Plan***

Recognizing the amount of regulatory guidance, the San Joaquin Valley Air Pollution Control District's Governing Board adopted the Climate Change Action Plan (CCAP) in August 2008. The CCAP directed the District's Air Pollution Control Officer to develop guidance to assist District staff, Valley businesses, land-use agencies, and other permitting agencies in addressing GHG emissions as part of the CEQA process. Regarding CEQA GHG guidance, the goals of the CCAP are to establish District processes for assessing the significance of project specific GHG impacts for projects permitted by the District; assist local land-use agencies, developers, and the public by identifying and quantifying GHG emission reduction measures for development projects and by providing tools to streamline evaluation of project specific GHG effects; ensure that collateral emissions from GHG emission reduction projects do not adversely impact public health or environmental justice communities in the Valley; and assist Valley businesses in complying with state law related to GHG emission reduction.

On November 5, 2009, the SJVAPCD issued a final staff report entitled *Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act*. The report indicated that it is readily understood that global climatic change is the result of the sum total of GHG emissions, both man-made and natural that occurred in the past; that is occurring now; and will occur in the future. The effects of project-specific GHG emissions are cumulative, and without mitigation, their incremental contribution to global climatic change could be considered significant. District staff concluded that this cumulative impact is best addressed by requiring all projects subject to CEQA to reduce their GHG emissions through project design elements.

On December 17, 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the policy entitled *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA when Serving as the Lead Agency*. The guidance and policy rely on the use of statewide, regional, or local plans for reduction or mitigation of GHG emissions, or performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific GHG emission on global climate change.

The District staff approach is intended to streamline the process of determining if project specific GHG emissions would have a significant effect. Projects are considered to have a less than significant GHG impact if they comply with statewide, regional, or local plans for reduction or mitigation of GHG emissions. If they do not comply with such a plan, the methodology relies on the use of performance-based standards that would be applicable to projects that result in increased GHG emissions. Use of performance-based standards is a method of determining significance of project specific GHG emission impacts using established specifications or project design elements, BPS, and is not mitigation of project related impacts. Establishing BPS would help project proponents, lead agencies, and the public by proactively identifying effective, feasible GHG emission reduction measures. Emission reductions achieved through implementation of BPS would be pre-quantified thus, negating the need for project specific quantification of GHG emissions. However, at this time the District has not approved BPS for landfills. For illustrative purposes only, the guidance document does identify the following BPS for landfills<sup>9</sup>:

**Illustrative BPS:** Landfills shall comply with CARB Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills.

The SJVAPCD signed a Memorandum of Understanding to implement CARB's Landfill Methane Rule on October 20, 2011.

BPS would be established through a process approved by the District's Governing Board. The proposed process would provide ample opportunity for stakeholders and other interested parties to participate and provide valuable input into the establishment of baseline GHG emissions and BPS.

### **Existing Air Quality**

The SJVAPCD's regional air quality monitoring network provides information on existing ambient concentrations of criteria air pollutants. Monitored ambient air pollutant concentrations reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. Table IV.D-2 presents a five-year summary of air pollutant (concentration) data collected at the monitoring station in the vicinity of the project area on Hazelton Street in Stockton; located seven miles to the northwest of the Forward Landfill. Pollutant concentrations measured at this station should be representative of background air pollutant concentrations at the project site. However, background concentrations can vary among different locations within an area. Table IV.D-2 compares these measured air pollutant concentrations with CAAQS and NAAQS. The monitoring data show that ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> periodically exceeded the AAQS.

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<sup>9</sup> CARB, Landfill Methane Rule, <http://www.arb.ca.gov/cc/landfills/landfills.htm>, 2009. The regulation includes CH<sub>4</sub> reduction strategies such as installation of collection and control systems for landfills that would otherwise be exempt by current regulations, design of collection and control systems to capture maximum amounts of CH<sub>4</sub> produced, continuous operation of CH<sub>4</sub> control equipment, improved leak standards (25 ppmv, integrated) for CH<sub>4</sub> collection and control system components as well as landfill surface emissions, 99% CH<sub>4</sub> destruction efficiency for flares and methane-fire energy recovery devices, and other enhanced source testing, inspection, monitoring and operating standards.

**Table IV.D-2: Air Quality Data Summary (2012–2016) For the Project Area<sup>1</sup>**

Pollutant	Monitoring Data by Year					
	CAAQS/ NAAQS <sup>2</sup>	2012	2013	2014	2015	2016
<b>Ozone</b>						
Highest 1-Hour Average (ppm) <sup>3</sup>	0.09/-	<b><u>0.097</u></b>	0.080	0.090	0.094	<b><u>0.102</u></b>
Days of Exceedance		1	0	0	0	2
Highest 8-Hour Average (ppm) <sup>3</sup>	0.070/0.070	<b><u>0.083</u></b>	0.067	<b><u>0.077</u></b>	<b><u>0.078</u></b>	<b><u>0.078</u></b>
Days of Exceedance		5	0	4	2	2
<b>Particulate Matter (PM<sub>10</sub>)</b>						
Highest 24-Hour Average (µg/m <sup>3</sup> ) <sup>3</sup>	50/150	<b><u>70.0</u></b>	<b><u>95.5</u></b>	<b><u>94.0</u></b>	<b><u>55.3</u></b>	<b><u>66.5</u></b>
Estimated Days of Exceedance		17.9	58.2	18.0	24.5	30.6
Annual Average (µg/m <sup>3</sup> ) <sup>3</sup>	20/-	<b><u>22.8</u></b>	<b><u>32.0</u></b>	<b><u>24.5</u></b>	<b><u>28.0</u></b>	<b><u>26.5</u></b>
<b>Particulate Matter (PM<sub>2.5</sub>)</b>						
Highest 24-Hour Average (µg/m <sup>3</sup> ) <sup>3</sup>	-/35	<b><u>60.4</u></b>	<b><u>66.5</u></b>	<b><u>56.8</u></b>	<b><u>58.8</u></b>	<b><u>43.7</u></b>
Days of Exceedance		6.0	27.6	16.0	12.2	4.0
Annual Average (µg/m <sup>3</sup> ) <sup>3</sup>	12/15	<b><u>12.4</u></b>	NA	<b><u>12.3</u></b>	<b><u>12.3</u></b>	NA

SOURCE: CARB Air Quality Data Statistics (<http://www.arb.ca.gov/adam/welcome.html>), 2012–2016.

NOTES: Values in **bold underline** are in excess of applicable standard. NA means data was not available for the given year.

<sup>1</sup> Ambient monitoring station for at Hazelton Street, Stockton.

<sup>2</sup> California Ambient Air Quality Standards are not to be exceeded and National Ambient Air Quality Standards are not to be exceeded more than once per year.

<sup>3</sup> ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

A landfill gas to energy (LFGTE) plant operated in the northeast portion of the project site by Ameresco. The LFGTE converts landfill gas, a waste byproduct of landfill operations, into a useful energy source that would otherwise be destroyed through flaring without any beneficial reuse. The LFGTE plant produces approximately 4.2 MW of energy, enough to power approximately 6,000 to 8,000 single family homes every day.

Ameresco is planning an upgrade to the existing LFGTE facility to meet PG&E's Rule 21 pipeline quality requirements for renewable natural gas from landfills. The process would treat gas that is compressed to around 100 to 200 psig. The process would remove CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> and other trace constituents to increase the quality of the landfill gas. It is currently anticipated that the equipment required for this upgrade process would be located in the region of the former Covanta LFGTE plant, which was located near the western property boundary just south of the realigned north creek. The operational need for the LFGTE upgrade is independent of the proposed expansion.

## Potential Impacts and Mitigation Measures

### Criteria of Significance

According to Appendix G of the CEQA Guidelines a project may be deemed to have a significant effect on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan(s);
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Also, to address GHG emissions, a project may be deemed to have a significant effect on the environment if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Consistent with CEQA Guidelines Appendix G, the SJVAPCD has established thresholds of significance that may be relied upon in assessing construction impacts, project operations and cumulative impacts.

The SJVAPCD's *GAMAQI* includes significance criteria for evaluating construction emissions, operational-phase emissions from permitted equipment and activities, and operational-phase emissions from non-permitted equipment and activities. Construction emissions, operational-phase emissions from permitted equipment and activities, and operational-phase emissions from non-permitted equipment and activities are evaluated separately and compared to the significance criteria. Non-permitted equipment and activities include on-road mobile sources and off-road equipment and do not include permitted equipment/ activities (stationary sources) covered under permit with the SJVAPCD. For this analysis, the project would be considered to have a significant effect on the environment if it would exceed the following thresholds:

- Cause a net increase in pollutant emissions of reactive organic gases (ROG) or NO<sub>x</sub> exceeding 10 tons per year.
- Cause a net increase in pollutant emissions of PM<sub>10</sub> or PM<sub>2.5</sub> exceeding 15 tons per year.
- Cause a net increase in pollutant emissions of SO<sub>x</sub> exceeding 27 tons per year.
- Cause a net increase in pollutant emissions of CO exceeding 100 tons per year.

### *Cumulative Impacts*

According to the SJVAPCD GAMAQI, a cumulative impact occurs when two or more individual effects, considered together, are considerable or would compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. Notably, any project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. According to the SJVAPCD GAMAQI, cumulative impacts should be assessed for ozone, PM<sub>10</sub>, CO and TAC.

### *Greenhouse Gases*

The project would be considered to have a significant impact if the project would be in conflict with State plans, policies and regulations adopted for the purpose of reducing GHG emissions, such as AB 32, with the assumption that State plans, policies, and regulations, such as AB 32, will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide by 2020 and beyond. It is important that the State has taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG.

### **Impacts and Mitigation Measures**

This impact section evaluates the activities described in the Project Description that could potentially result in impacts to air quality, odors, and climate change based on the conditions of the project area. The project would add 8.1 million cubic yards of landfill capacity versus the 32 million cubic yards in the 2013 project, and the projected landfill closure date would be 2036 versus 2039 for the 2013 project. From an air quality perspective, the additional 8.1 million cubic yards would result in an increase in fugitive emissions from the landfill surface and an increase in emissions from LFG control devices due to the increase in LFG collected. The project would also result in an increase above the current annual level of traffic-related trips, which would result in an increase in emissions associated with traffic-related trips.

Two Project scenarios were evaluated. The first scenario assumes that all LFG in excess of what is currently permitted for destruction in an Ameresco LFG to energy (LFGTE) facility would be destroyed in existing and future flares. The second scenario assumes that all LFG in excess of the current actual quantity of LFG sent to the flares is destroyed in existing and future LFGTE facilities.

#### **Impact D.1. Initial construction activities for the expansion area would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter (PM<sub>10</sub>) and equipment exhaust emissions (Revises 2013 EIR Impact D.1.).**

The project would include two distinct types of construction phases: the relocation of the Littlejohn Creek and the construction of new landfill cells. For the purposes of quantifying construction emissions, it was assumed that the creek location would occur at the same time as the construction of a new landfill cell. This assumption is conservative and would result in the

maximum construction emissions for a given year. Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod), a model developed by CARB to quantify emissions from land-use and construction projects for the purpose of evaluation under CEQA. The maximum construction emissions for a given year are presented below in Table IV.D-3. As shown below, all criteria pollutant emissions generated by construction activities would be well below the SJVAPCD's air quality thresholds of significance for construction emissions.

**Table IV.D-3: Maximum Construction Criteria Pollutant Emissions (tons per year)**

Scenario	ROG	CO	NOx	PM10	PM2.5	SOx
Cell Construction (equipment)	0.36	1.34	3.19	0.12	0.12	0.003
Cell Construction (worker trips and other sources)	0.19	0.91	1.80	0.08	0.08	0.000
Cell Construction (dust)	--	--	--	0.62	0.02	--
Creek Movement	0.31	1.74	2.38	0.08	0.08	0.000
Creek Movement (dust)	--	--	--	0.18	0.09	--
Total	0.86	3.99	7.37	1.08	0.39	0.003
CEQA Threshold	10	100	10	15	15	27
Exceeds Threshold	No	No	No	No	No	No

SOURCE: SCS Engineers, 2018

For all construction projects, compliance with SJVAPCD Regulation VIII is required by law. Based on the size of the construction area and proximity to receptors, additional measures may be required, as described within Mitigation Measure D.1. Therefore, this impact would be *less than significant*.

**Mitigation Measure D.1. (Same as 2013 EIR Mitigation Measure D.1.):** The applicant shall comply with Regulation VIII and implement the following control measures during construction:

- The applicant shall submit a Dust Control Plan subject to review and approval of the SJVAPCD at least 30 days prior to the start of any construction activity on a site that includes five acres or more of disturbed surface area.

Specific relevant control measures for construction, excavation, extraction, and other earthmoving activities required by the SJVAPCD include:

- All disturbed areas, including storage piles not actively utilized for construction purposes, shall be effectively stabilized using water, chemical stabilizer/suppressant, or covered with a tarp or other suitable cover or vegetative ground cover in order to comply with Regulation VIII's 20 percent opacity limitation.
- All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized using water or chemical stabilizer/suppressant.



- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled utilizing application of water or by presoaking.
- When materials are transported offsite, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. However, the use of blower devices is expressly forbidden, and the use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized utilizing sufficient water or chemical stabilizer/suppressant.
- Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

Enhanced and additional control measures for construction emissions of PM<sub>10</sub> shall be implemented where feasible. These measures include:

- Limit traffic speeds on unpaved roads to 15 mph by signage and electronic speed monitoring devices.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Install wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds exceed 20 mph.
- Limit area subject to excavation, grading, and other construction activity at any one time.

The applicant shall implement feasible control measures during construction to mitigate NO<sub>x</sub> and VOC emissions from construction equipment, which may include:

- Require construction equipment used at the site to be equipped with catalysts/particulate traps to reduce particulate emissions. These catalysts/traps require the use of ultra-low sulfur diesel fuel (15 ppm). Currently, CARB has verified a limited number of these devices for installation in several diesel engine families to reduce particulate emissions. At the time bids are made, contractors must show that the construction equipment used is equipped with particulate filters and/or catalysts or prove why it is infeasible.
- Use alternative fueled construction equipment, where feasible.
- Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways.
- Require that all diesel engines be shut off when not in use on the premises for more than five minutes to reduce the emissions from idling.

### **Significance after Mitigation**

Construction impacts would be *less than significant* with the implementation of Mitigation Measure D.1.

**Impact D.2. The project would result in an increase in operational emissions of criteria air pollutants from onsite emission sources and increase emissions associated with traffic-related trips (Revises 2013 EIR Impact D.2. and adds CO discussion to replace 2013 EIR Impact D.3.).**

The AQIA<sup>10</sup> evaluated how the project would increase criteria pollutant emissions from LFG-derived sources under two scenarios: additional LFG is controlled either by additional flare capacity (flare scenario) or LFG engines at existing and future LFG to energy facilities (LFG engine scenario). Two Baseline scenarios were evaluated: Current Actual emissions, determined using 2016 and 2017 operational data; and Current Permitted emissions, based on emissions of landfill sources at maximum permitted levels.

Table IV.D-4 presents net project emissions derived from the AQIA. Project unmitigated impacts for VOC, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and CO would be considered *potentially significant* under almost all of the Project scenarios presented. Additional information regarding the assumptions and methodologies used in the air emission calculations is available in the AQIA by SCS Engineers (See Appendix F). The flare scenario would result in lower emissions increases of CO, SO<sub>x</sub> and VOCs compared to the LFG engine scenario. The LFG engine scenario would result in lower emissions increases of NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.

Rule 2201 requires new and modified stationary sources of emissions to mitigate emissions using best available control technology (BACT) and to offset emissions when above emissions offset threshold levels. All VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions from stationary sources in excess of the applicable SJVAPCD emissions offset threshold levels shall be offset by acquisition of emission offsets, as required by SJVAPCD Rule 2201 regulations. For example, under the Project (flare) – Current Actual scenario, a total of 19.0 tpy of NO<sub>x</sub> emissions would be offset (29.0 tpy – 10 tpy); while under the Project (LFG Engines) – Current Actual scenario, a total of 10.1 tpy of NO<sub>x</sub> emissions would be offset (20.1 tpy – 10 tpy). Thus, the stationary source NO<sub>x</sub> emissions would be mitigated with emission offsets and would be *less than significant*.

Emission offsets are emission reductions recognized by the SJVAPCD in the form of Emission Reduction Credits that are issued in accordance with the provisions of SJVAPCD Rule 2301

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<sup>10</sup> SCS Engineers, Air Quality Impact Analysis and Air Toxics Risk Assessment for Proposed Landfill Project Forward Landfill Manteca, California, May 2018.

(Emission Reduction Credit Banking), or other Actual Emissions Reductions that may be used to mitigate an emission increase as part of the same Stationary Source Project in accordance with the provisions of SJVAPCD Rule 2201. Emission offsetting works by using emission reductions from existing sources to offset emission increases from new or expanding sources. Emission offsets are considered adequate mitigation because they are enforceable by permit conditions, legally binding agreements, or other measures, and they are capable of being monitored and enforced.<sup>11</sup>

To determine whether Project emissions would exceed the NAAQS or CAAQS, emissions were modeled, added to background concentrations and compared to the standards. Project (future potential) – Current Actual emissions of CO, NO<sub>2</sub> and SO<sub>2</sub> would not exceed the NAAQS or CAAQS when added to background concentrations. Project (future potential) – Current Actual emissions of PM<sub>10</sub> and PM<sub>2.5</sub> were found to contribute to background concentrations that exceed the NAAQS and CAAQS (the SJVAPCD is designated nonattainment for PM<sub>10</sub> and PM<sub>2.5</sub>). Additional information regarding the assumptions and methodologies used in the ambient air quality analysis is available in the AQIA by SCS Engineers (See Appendix D).

With implementation of Mitigation Measures D.2a. and D.2b., stationary sources would be mitigated (by D.2a.) and fugitive emissions and mobile emissions would be mitigated (by D.2b.). The future emission offsets to be purchased as required by Mitigation Measures D.2a. and D.2b. would reduce emissions in the SJVAB and the Project's contribution to existing violations of the NAAQS and CAAQS would not be considered substantial after mitigation. Thus, with mitigation, this impact would be *less than significant*.

**Mitigation Measure D.2a. (Revises 2013 EIR Mitigation Measure D.2a.):** The applicant shall comply with SJVAPCD Rule 2201 regulations to offset stationary source emissions of VOCs, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> in excess of the applicable SJVAPCD emissions offset threshold levels. The applicant shall also comply with Regulation VIII and implement Mitigation Measure D.1. for operational activities such as earthmoving.

**Mitigation Measure D.2b. (Same as 2013 EIR Mitigation Measure D.2b.):** The applicant shall enter into a Voluntary Emissions Reduction Agreement (VERA) with the SJVAPCD (to offset unmitigated mobile and fugitive dust emission impacts). The VERA shall cover mobile emissions and fugitive emissions (above the SJVAPCD CEQA thresholds for NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) associated with the 8.1 mcy of new capacity.

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<sup>11</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD), *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*, March 19, 2015.

**Table IV.D-4: Project Net Criteria Pollutant Emissions (tons per year)**

Scenario	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>x</sub>	VOC
<b>Stationary Source Emissions (Requiring Offsets)</b>						
Project (Flare) – Current Actual	29.0	115.9	19.7	19.7	12.5	6.6
Project (LFG Engines) – Current Actual	20.1	240.9	6.7	6.7	38.2	24.7
Project (Flare) – Current Permitted	4.9	1.7	4.1	4.1	3.1	1.6
Project (LFG Engines) – Current Permitted	-4.0	126.7	-8.9	-8.9	28.9	19.7
<b>Mobile Source Emissions</b>						
Project – Current Actual (on-site equipment)	6.3	2.3	0.1	0.1	<0.1	0.9
Current Actual (off-site trucks)	36.0	4.7	0.9	0.9	0.1	1.2
Maximum Permitted (off-site trucks)	106.0	14.0	3.0	3.0	0.3	4.0
Maximum Permitted – Current Actual (off-site trucks)	70.0	9.3	2.1	2.1	0.2	2.8
Total Mobile Source Emissions	76.3	11.6	2.2	2.2	0.2	3.7
<b>Fugitive Emissions</b>						
Project – Current Actual			195.9	195.9		5.1
Project – Current Permitted			0.0	0.0		1.6
<b>Total Net Emissions with Off-Site Haul Truck Emissions</b>						
Project (Flare) – Current Actual	105.3	127.5	217.9	217.9	12.7	15.4
Project (LFG Engines) – Current Actual	96.4	252.5	204.8	204.8	38.5	33.5
CEQA Threshold <sup>1</sup>	10	100	15	15	27	10
Exceeds Threshold?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

SOURCE: SCS Engineers, 2018

NOTES: All CEQA significance thresholds listed are from the SJVAPCD's *GAMAQI* (March 2015).

See *AQIA* Tables ES-2 through ES-8, 3-6A, 3-6B, 3-7A, and 3-7B for more information. Tables ES-2 through ES-7 provide the emissions associated with the current actual, current permitted, future potential (flares), and future potential (LFG engines), current actual vs. future potential, and current permitted vs. future potential, while Table ES-8 provides the net project emissions (without adding in the offsite mobile sources). Off-site mobile source emissions are provided in *AQIA* Table 3-14.

Mobile source emissions are based on current permitted tonnages and current actual tonnages provided by Forward Landfill in combination with average haul distances from major waste origins. See *AQIA* Tables 3-13 and 3-14 for details on off-site haul vehicle emissions. Fugitive dust emissions are based on vehicle traffic on unpaved roads and surfaces. See *AQIA* Tables 3-5A, and 3-5B for details on mobile and fugitive dust emission calculations.

### **Impact D.3. Odor and Visible Dust Impacts (Same as 2013 EIR Impact D.4.)**

As bacterial decomposition proceeds, odoriferous compounds can escape from the landfill surface through cracks in the surface cover. Other possible sources of odors are the actual wastes. Some household and consumer products contain substances with distinctive odors. The major contribution to odors comes from two groups of compounds: the first group is dominated by esters and organosulfurs, and the second group consists of alkyl benzenes and limonene.

Together with hydrocarbons, the second group is probably responsible for the background smell associated with a landfill. The sensory perception of odorants has four major dimensions: detectability, intensity, character, and hedonic tone. Odor detectability consists of a detection threshold and a recognition threshold. The detection threshold is the lowest concentration of an odorant that will elicit a sensory response in 50 percent of the population. There is an awareness of the presence of an added substance, but not necessarily an odor sensation. The detection thresholds are determined using human subjects and sophisticated dilution equipment.

Detection thresholds are published for more than 900 chemicals. The recognition threshold is the minimum concentration that is recognized as having a characteristic odor quality by a segment of the population. Odor intensity refers to the perceived strength of the odor sensation, and odorant character is what the substance smells like (e.g., fishy, rancid, hay, sewer, turpentine, ammonia, etc.). Garbage has been demonstrated to possess an odor with an unpleasant tone.

Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or federal air quality regulations, the SJVAPCD does not currently impose any rules or regulations that place quantifiable limitations on emissions of odorous substances, other than its Nuisance Rule 4102. Any actions related to odors are based on citizen complaints to local governments and the District.

The SJVAPCD identifies a sanitary landfill as a type of facility that is a potential odor source. Because there are one or more sensitive receptors within the screening trigger distance of one mile from the landfill property, potential odor impacts from the Project must be considered. The District has established the following significance threshold for odor problems:

- More than one confirmed complaint per year averaged over a three-year period, or
- Three unconfirmed complaints per year averaged over a three-year period.

A Public Records Request was submitted to the SJVAPCD on June 25, 2018, requesting information on odor and dust complaints for Forward Landfill since 2015. On June 26, 2018, the SJVAPCD indicated that there are no complaint records on file for Forward Landfill since 2015 (over the last three years).<sup>12</sup>

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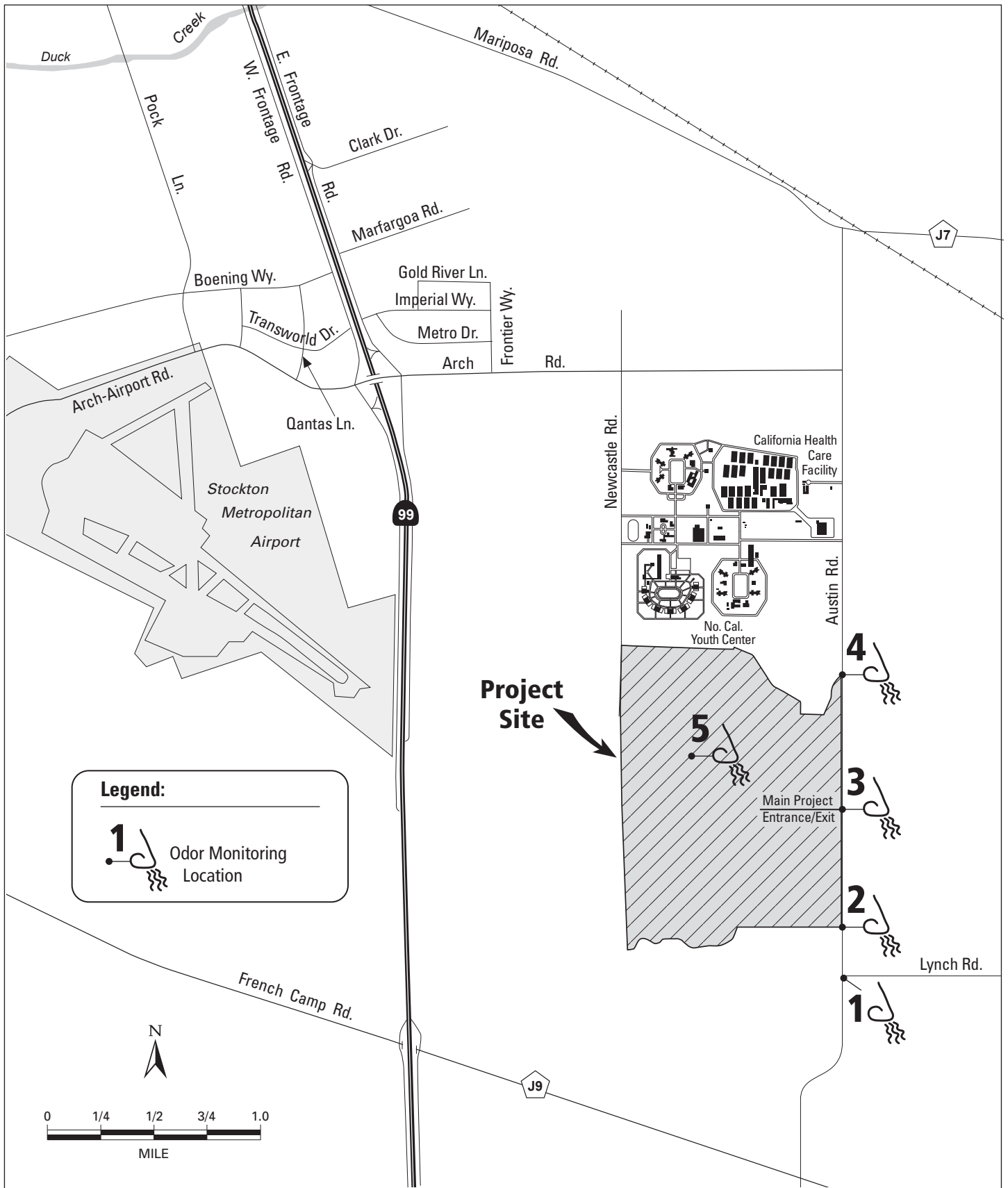
<sup>12</sup> Public Records Request C-2018-6-88; Forward Landfill, Inc.; Received June 26, 2018.

As part of the 2013 EIR, a survey was conducted during three days to make qualitative observations related to odor and visible dust emissions leaving the landfill. The landfill area was surveyed on November 8, 2011 (starting at 1 p.m.); November 22, 2011 (starting at 12:30 p.m.); and December 5, 2011 (starting at 10:30 a.m.). The same five locations were reviewed during each survey. A summary of the survey results is presented in Table IV.D-5. The survey locations are shown on Figure IV.D-1. Conditions were generally sunny with light to moderate breezes on each of the survey days.

**Table IV.D-5: Odor and Dust Survey Observations**

<b>Location</b>	<b>Dust Observations</b>	<b>Odor Observations</b>
#1 – East side of Austin Road at Lynch Road South of the landfill	No direct view of working face from this location. No visible dust on Austin Road from passing trucks.	No landfill odors detectable.
#2 – East side of Austin Road across from the entrance of Forward Recovery Center	No direct view of working face from this location. No dust visible from landfill. Slight visible re-entrained road dust from passing trucks observed on 12/5/2011.	Noticeable (moderate) odor detected from composting facility on 12/5/2011. No odors detected during other survey days.
#3 – East side of Austin Road across from the main entrance to Forward Landfill	Direct view of working face from this location. On all days: some dust visible from trucks on landfill road to working face and re-entrained road dust from passing trucks on Austin Road.	Very faint odors detected, could be from working face or agricultural operations.
#4 – East side of Austin Road across northern most part of the landfill (near the gas plant).	Direct view of working face from this location. No dust visible from landfill or passing trucks.	Faint/mild odors at this location all three days, could be from landfill working face or landfill gas plant.
#5 – On landfill site, on the ridge near the working face.	Direct view of working face from this location. Water truck applying water in this area. Slight dust from passing trucks and when trucks empty. Dust plumes did not leave the working face area.	Moderate to strong landfill odors detected on all three days. Also, odor on 11/22/2011 from nearby agricultural burning.

SOURCE: MEC, 2011



**Figure IV.D-1**

**Odor Monitoring Location Sites**

Source: Miller Environmental Consultants

The odor and dust surveys identified minimal off-site impacts from odors or visible dust. Odors that were moderate to strong near the working face were reduced to mild, very faint, or non-detectable at locations surveyed on Austin Road. On the days surveyed [assumed to be typical operations] the water trucks were seen controlling onsite dust generation by periodically watering the on-site landfill roads and areas used by trucks near the working face. Track-out of dirt onto Austin Road near the entrances to the Forward Recovery Center (Location 2) and Forward Landfill (Location 3) are the source of re-entrained road dust on Austin Road observed during the surveys. Mitigation Measure D.1. would reduce the level of re-entrained dust to a **less-than-significant** level.

Potentially significant odor impacts would be reduced to a less-than-significant level by implementation of Mitigation Measure D.3, below.

**Mitigation Measure D.3. (Same as 2013 EIR Mitigation Measure D.4.):** To reduce the potential for any off-site odor impacts, the Odor Control Management Plan for Forward Landfill shall be modified to include daily management odor inspections when cannery wastes are being processed.

**Impact D.4. Project operations would generate emissions of GHG that could conflict with the implementation of the California Global Warming Solutions Act of 2006 (AB32) (Revises 2013 EIR Impact D.5.).**

As with other individual projects, the specific emissions from this project would not be expected to individually have an impact on Global Climate Change, but they are analyzed for the potential for a significant contribution to the cumulative impact on GHG emissions.<sup>13</sup> Recent guidance indicates that GHG-related impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.<sup>14</sup>

Three types of analyses are used to determine whether the project could be in conflict with the State goals for reducing GHG emissions. The analyses are as follows:

A) Identification of any potential conflicts with the CARB's GHG 39 recommended actions in the adopted Initial Climate Change Scoping Plan<sup>15</sup> and recommended actions in the 2013 Scoping Plan (First Update) and 2017 Scoping Plan (Second Update).

B) Evaluation of the relative size of the project. The project's GHG emissions will be compared to the size of major facilities that are required to report GHG emissions

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<sup>13</sup> Association of Environmental Professionals (AEP), *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, 2007.

<sup>14</sup> California Air Pollution Control Officers Association (CAPCOA), *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

<sup>15</sup> California Air Resources Board, *Climate Change Scoping Plan Appendices, Volume I: Supporting Documents and Measure Detail*, Appendix E List of Recommended Actions by Tons. December, 2008.



(25,000 metric tons/year of CO<sub>2</sub>e)<sup>16</sup> to the State; and the project size will be compared to the estimated State GHG reduction goal of approximately 169 million metric tons of CO<sub>2</sub>e per year by 2020. As noted, the 25,000 metric ton annual limit identifies the large stationary point sources in California that make up 94 percent of the stationary emissions. If the project's total emissions are below this limit, the total emissions are equivalent in size to the smaller projects in California that as a group only make up six percent of all stationary emissions. It is assumed that the activities of these smaller projects will not conflict with State's ability to reach overall goals outlined within AB 32. In reaching its goals the CARB will focus upon the largest emitters of GHG emissions.

C) Any potential conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Forward Landfill would be required to comply with all applicable State plans, policies and regulations, such as AB 32 regulations and CARB's Scoping Plan (Item A). The Scoping Plan and updates will generally be implemented through mandatory regulation enacted by the CARB, and regulations that address methane emissions from landfills are one of the target GHG emissions that will be regulated. The proposed project would be required to comply with applicable provisions of the recently adopted regulation to reduce methane emissions from municipal solid waste landfills (CCR, Title 17, Subchapter 10, Article 4, Subarticle 6, Sections 95460 to 95476, Methane Emissions from Municipal Solid Waste Landfills [Landfill Methane Rule]). The Landfill Methane Rule contains performance standards for the gas collection and control system, and specifies monitoring requirements to ensure that the system is being maintained and operated in a manner to minimize methane emissions. The Landfill Methane Rule includes a leak standard for gas collection and control system components, a monitoring requirement for wellheads, methane destruction efficiency requirements for most control devices, surface methane emission standards, and reporting requirements.

**Table IV.D-6** shows the net total GHG emissions from the landfill future potential scenarios compared to the current actual and current permitted conditions (Item B). The GHG emissions are based on Solid Waste Industry for Climate Solutions (SWICS) site-specific values for collection efficiency, methane oxidation in landfill cover<sup>17</sup>, and methane destruction efficiency in the flare and engines.<sup>18</sup>

The project's GHG impacts include five components: methane emissions, biogenic CO<sub>2</sub> emissions, emission reductions from energy displacement, off-site haul truck mobile emissions and sequestered carbon. The methane emissions are anthropogenic and are considered a GHG emission from the landfill.<sup>19</sup> The biogenic CO<sub>2</sub> emissions are not attributed to the landfill since CO<sub>2</sub> emissions from refuse would normally occur in the natural carbon cycle. The emission

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<sup>16</sup>The State of California has not provided guidance as to quantitative significance thresholds for assessing the impact of greenhouse gas emissions on climate change and global warming concerns. Nothing in the *CEQA Guidelines* directly addresses this issue.

<sup>17</sup> These rates account for the landfill cover type, results of surface emissions monitoring, and the liner type at the landfill.

<sup>18</sup> SCS Engineers, Current MSW Industry Position and State-of-the-Practice on LFG Collection Efficiency, Methane Oxidation, and Carbon Sequestration in Landfills, Version 2.2, January 2009.

<sup>19</sup> Methane emissions are considered to be anthropogenic because they are caused by the artificially anaerobic conditions in the landfill.

reductions from energy displacement are a credit for the landfill as the production of electrical energy is displacing GHG emissions from electrical generation from other sources. The off-site haul truck mobile emissions are on-road emissions from transporting the wastes to Forward Landfill. The carbon sequestration is also a credit for the landfill. However, as a conservative assessment the sequestration is not included in the calculation.<sup>20</sup> Thus, the total GHG emissions from Forward Landfill are the sum of the methane emissions plus the stationary combustion emissions plus off-site haul truck emissions minus the energy displacement credit.

**Table IV.D-6: GHG Emissions (metric tons equivalent CO2 per year)**

Scenario	Methane Emissions	Energy Credits	Off-Site Haul Truck Emissions	Total Emissions
Current Actual	23,147	-5,088	9,236	27,295
Current Permitted	45,385	-6,846	27,011	65,550
Project (Flare)	51,561	-6,846	27,011	71,726
Project (LFG Engines)	65,315	-23,999	27,011	68,327
Project (Flare) – Current Actual				<b><u>44,431</u></b>
Project (LFG Engines) – Current Actual				<b><u>41,033</u></b>
Project (Flare) – Current Permitted				6,176
Project (LFG Engines) – Current Permitted				2,777

SOURCE: SCS Engineers, 2018; modified by RCH Group

NOTES: GHG emissions were calculated for four scenarios:

- Current Actual, which assumes no waste placement occurs at Forward after 2017;
- Current Permitted, which assumes waste placement continues until the site reaches its current permit limit;
- Future Permitted (Flare), which is the Project scenario assuming all LFG not sent to the LFGTE or Ameresco facilities is destroyed in a flare;
- Future Permitted (LFG Engines), which is the Project scenario assuming all LFG resulting from the Project is destroyed in an engine and the energy is recovered as electricity.

See AQIA Table 3-10 for more information on landfill GHG emissions. See AQIA Table 3-14 for off-site haul vehicle emissions.

On-site operational equipment emissions are not included because the use of such equipment will not increase with the project, see AQIA Table 3-16.

Energy Credits (negative number in the table) reflect the amount of GHG emissions that are displaced by the electrical power generated by the LFGTE facilities at the Forward Landfill under the various scenarios. Because of the electricity generated by the LFGTE facilities, there is less demand for electricity from other power plants and thus the criteria air pollutant and GHG emissions from the other power plants are reduced (resulting in the GHG Energy Credits).

**Bold Underlined** Values are above significance threshold

Example: Project (Flare) – Current Actual = 71,726 – 27,295 = 44,431 metric tons

Values are averaged over a 60-year period and are representative of overall impacts. Peak emissions would be higher than emissions shown.

<sup>20</sup> Landfills are a place where carbon is stored, removing it from the carbon cycle and preventing its emission as carbon dioxide. When waste is placed in a landfill, not all of the carbon decomposes into methane and carbon dioxide. The carbon that does not decompose is sequestered in the landfill. Sequestered carbon is not emitted to the atmosphere as either carbon dioxide or methane, removing it from the carbon cycle resulting in reduced greenhouse gases. The inclusion of carbon storage in a landfill greenhouse gas calculation is not universally accepted, but it is consistent with USEPA methodologies and inventories. It should be noted that the amount of carbon sequestered is greater than the GHG emissions from the landfill for all scenarios. If carbon storage is included in the GHG total for the project, the Project lowers the GHG emissions because more carbon is sequestered in the landfill where it would not be emitted as either methane or CO<sub>2</sub>.

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The flare scenario (Project compared to Current Actual) and the LFG Engine scenario (Project compared to Current Actual) both would exceed the threshold of 25,000 metric tons/year of CO<sub>2</sub>e, indicating substantial emissions of GHGs under these scenarios. The LFG Engine scenario would result in power displacement and thus, its GHG emissions would be slightly less than the flare scenario.

Lastly (Item C), the project would be in compliance with CARB regulations for landfill methane emissions. The landfill methane emission rule regulates emissions from the landfill surface, landfill gas collection system, flares, and LFG engines. Compliance with a statewide plan for reduction or mitigation of GHG emissions would render this project less than significant according to the flowchart guidance provided by the SJVAPCD in the fact sheet related to addressing GHG emission impacts<sup>21</sup>; therefore a BPS is not necessary to demonstrate that GHG emissions are less than significant. The SJVAPCD has not approved BPS for landfill GHG emissions.

The majority of analyses of items A through C indicate that the project would not have a significant impact on the State's goals for reducing GHG emissions. If carbon sequestration of materials in the landfill were considered as a credit against emissions, none of the scenarios would exceed the 25,000 metric ton annual limit. Also, none of the Project scenarios would exceed 25,000 metric ton annual limit when compared to the Current Permitted emissions. However, this analysis does not consider sequestration of carbon in the landfill as a credit against emissions, and therefore under both the project scenarios (Flare-Current Actual and LFG Engines-Current Actual scenarios) the project would exceed the 25,000 metric ton increase annual limit compared with actual existing emissions. Considering all three items in total and given the compliance with CARB's Landfill Methane Rule and the energy efficient location of the landfill, the project would generally be in compliance with the State's goals for reducing GHG emissions. Regardless, the project would result in an increase above the 25,000 metric ton annual limit (at the maximum acceptance rate –when compared to the current actual baseline) resulting in additional impacts in California (the project GHG emissions would be similar to emission levels from major sources). Thus, because of the emissions that would be generated from maximum operations, this impact is considered *potentially significant*.

**Mitigation Measure D.4. (Same as 2013 EIR Mitigation Measure D.5.):** Both the Flare and LFG engine options would require feasible mitigation measures to further reduce GHG emissions. The landfill operators shall annually report GHG emissions from the project (actual operations) to the County and SJVAPCD. If project operations exceed 25,000 metric tons of CO<sub>2</sub>e per year by 2020, then the landfill shall purchase verifiable GHG credits to offset the remaining project emissions above 25,000 metric tons of CO<sub>2</sub>e per year. Additional GHG credits shall be purchased every five years if the annual reports indicate that the credits have not offset excess GHG emissions (those above 25,000 metric tons of CO<sub>2</sub>e per year) in the prior five years.

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<sup>21</sup> Factsheet flowchart reviewed September 3, 2014 at:  
[http://www.valleyair.org/Programs/CCAP/bps/Fact\\_Sheet\\_Stationary\\_Sources.pdf](http://www.valleyair.org/Programs/CCAP/bps/Fact_Sheet_Stationary_Sources.pdf)

The purchase of the verifiable GHG credits<sup>22</sup> would reduce the impact to a level that is *less than significant*.

**Impact D.5. The project would contribute to a cumulative air quality impact in the project area (Revises 2013 EIR Impact D.6.).**

According to the SJVAPCD GAMAQI, cumulative impacts should be assessed for ozone, PM<sub>10</sub>, CO, and TAC. The SJVAB is nonattainment for both the NAAQS and CAAQS for ozone. The SJVAB is nonattainment for the CAAQS for PM<sub>10</sub>. The nonattainment status of ozone and PM<sub>10</sub> in the SJVAB is a result of past and present development within the SJVAB. Thus, the existing emissions of ozone and PM<sub>10</sub> in the SJVAB have resulted in an existing significant cumulative impact.

Ozone impacts are the result of the cumulative emissions from numerous sources in the region and transport from outside the region. Ozone impacts are assessed based on the emissions of NO<sub>x</sub> and VOC (ozone precursors). The project would have a *less than significant* impact on project-level ozone impacts (after mitigation). However, the residual emissions from the project (emissions after mitigation and emissions from the extended years of landfill operations, and increased daily acceptance rate [above existing actual emissions], as a result of the project) would contribute to overall ozone nonattainment in the region and would be considered a cumulatively considerable contribution to the existing significant cumulative impact in the SJVAB.

PM<sub>10</sub> impacts are assessed by determining exposure to sensitive receptors near the project site from earth disturbing activities from the current project and any nearby projects that may occur at the same time. According to SJVAPCD GAMAQI, if the level of earth disturbing activity may cause an adverse impact, enhanced dust control measures should be included to reduce the impact to less than significant levels. Thus, with Mitigation Measure D.2a. and D.2b., the project-level impacts of PM<sub>10</sub> from the project would be *less than significant*. However, the project would contribute to the overall PM<sub>10</sub> nonattainment within the region. Because the project would result in PM<sub>10</sub> emissions from traffic and operations every day (due to the extended years of landfill operations as a result of the project), the project's emissions would be considered a cumulatively considerable contribution to the existing significant cumulative impact in the SJVAB.

In recent years, CO measurements are well below AAQS due to the retirement of older polluting vehicles, less emissions from new vehicles, and improvements in fuels. As a result, no future violations of the CO standard are anticipated from the project and any cumulative project in the vicinity. The cumulative CO impact would be *less than significant*.

TAC emissions were found to be well below the SJVAPCD thresholds for incremental cancer risk and non-carcinogenic acute and chronic risks (see Section IV.E., Public Health and Safety,

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<sup>22</sup> A carbon credit or carbon offset is a credit for GHG emissions reduced or removed from the atmosphere from an emissions reduction project, which can be used, by governments, industry or private individuals to compensate for the emissions they are generating. California's long-term GHG reductions goals in existing laws/regulations such as E.O. S-3-05, E.O. B-30-15, and S.B. 32 ensure carbon credits will be available in 2020 and beyond.

Impact E.8.). Thus, the project's increased TAC emissions would not result in a significant cumulative impact.

As determined in Impact D.4., cumulative GHG emissions would be a *significant* impact prior to mitigation.

The project would extend the lifetime of the landfill, adding years of emissions of ozone precursors and PM<sub>10</sub> that would otherwise not occur without the project. Therefore, the project's emissions of ozone precursors and PM<sub>10</sub> would be considered a cumulatively considerable contribution to the existing significant cumulative air quality impact in the SJVAB.

With the incorporation of Mitigation Measures D.1., D.2a., D.2b., and D.4., the individual project impacts would be *less than significant*. Nevertheless, the cumulative impact to air quality (ozone precursors and PM<sub>10</sub>) from the project would be *significant*.

**Mitigation Measure D.5. (Revises 2013 EIR Mitigation Measure D.6.):** Implement Mitigation Measures D.1, D.2a, D.2b and D.4.

With mitigation, the project would still have increased emissions (though the increased project emissions would be less than the project-level significance thresholds with mitigation) and these emissions would be a cumulatively considerable contribution to the cumulative air quality impacts in the SJVAB, and thus *significant and unavoidable*.

## E. PUBLIC HEALTH AND SAFETY

This section provides an overview of existing conditions with regard to public health and safety associated with the proposed expanded Forward Landfill. Included are reviews of the hazardous materials regulatory framework, worker health and safety / environmental protection requirements, and hazardous materials screening programs and procedures. In addition, this section summarizes the peer-reviewed health risk assessment (HRA) completed for the applicant, which assesses exposure to offsite human receptors from inhalation, soil ingestion, dermal exposure, and mother's milk exposure pathways. The inhalation pathway is the health-risk-driving pathway). The impacts and mitigations in this section replace those in Section IV.E of the 2013 EIR.

The HRA was conducted in accordance with published guidance, including the SJVAPCD *GAMAQI*<sup>1</sup> and the Office of Environmental Health Hazard Assessment (OEHHA) *The Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*<sup>2</sup>. The HRA is included in the *AQIA* conducted by SCS Engineers<sup>3</sup> (See Appendix G) and was peer reviewed for this SEIR by the RCH Group's air quality specialists, and summarized in this section.

### Setting

#### **Regulatory Setting**

The use, production, and disposal of hazardous materials and waste are regulated extensively by federal, State, regional, and local regulations and guidance, with major objectives of protecting the public health and the environment. These regulations and guidance were developed primarily for application in industrial and manufacturing environments where worker health and safety and waste production as a byproduct of manufacturing occurs.

A myriad of laws and regulations at the federal, State, and local levels affect the management of hazardous materials. The U.S. Environmental Protection Agency (EPA) is the lead agency responsible for enforcing federal regulations that affect public health and the environment. The EPA designates much of its regulatory authority to the individual states. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal-EPA). Cal-EPA serves as the umbrella agency for six boards/ departments: the California Air Resources Board (CARB), the Department of Pesticide Regulation (DPR), the Department of Toxic Substances Control (DTSC), the Department of Resources Recycling and Recovery (CalRecycle), the Office of Environmental

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<sup>1</sup> San Joaquin Valley Air Pollution Control District (SJVAPCD), *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*, March 19, 2015.

<sup>2</sup> Office of Environmental Health Hazard Assessment (OEHHA), *The Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

<sup>3</sup> SCS Engineers, *Air Quality Impact Analysis and Air Toxics Risk Assessment for Proposed Landfill Project 2018 Forward Landfill Manteca, California*, May 2018.

Health Hazard Assessment (OEHHA), and the State Water Resource Control Board (SWRCB) and associated Regional Water Quality Control Boards (RWQCB).

The DTSC is generally charged with oversight of hazardous materials and waste. The Regional Water Quality Control Board (Central Valley Region) is the lead regulatory agencies for the protection of the waters of California potentially endangered by pollution. In turn, local jurisdictions such as the San Joaquin County Certified Unified Programs Agency (CUPA) may take the lead agency role as a Local Oversight Program entity, implementing State as well as local policies. At the project site, the lead agencies for hazardous materials and any associated potential contamination to the environment are the DTSC and RWQCB

#### *Department of Toxic Substances Control*

The DTSC works in conjunction with the EPA to enforce and implement specific laws and regulations pertaining to hazardous wastes. California legislation, for which DTSC has primary enforcement authority, includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. Most State hazardous waste regulations are contained in Title 27 of the California Code of Regulations (CCR). The DTSC generally acts as the lead agency for soil and groundwater cleanup projects, and establishes cleanup and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

#### *Office of Environmental Health Hazard Assessment*

The mission of the OEHHA is to protect and enhance public health and the environment by objective scientific evaluation of risks posed by hazardous substances. An HRA involving four steps; hazards identification, exposure assessment, toxicity assessment, and risk characterization, was conducted in accordance with published guidance, including the OEHHA *Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*.

#### *State Water Resource Control Board*

The project site is located in the jurisdiction of the Central Valley Regional Water Quality Control Board (Water Board or RWQCB). The Water Board is authorized by the California Porter-Cologne Water Quality Act of 1969 to implement water quality protection laws. The Water Board provides oversight for sites at which the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

California's hazardous waste laws are codified in the California Code of Regulations (CCR). In general, a material is a hazardous waste if it poses a threat to human health or the environment. Under California law, approximately 800 substances are listed as potentially hazardous depending on their property or combination of properties. A hazardous waste can be present in a liquid, semi-solid, solid, or gaseous form. California law requires that the generator of a

potentially hazardous waste determine if said material is in fact hazardous<sup>4</sup> and stipulates the criteria and analytical methods for the determination of a waste as hazardous.<sup>5</sup> In 1997, the California Administrative Code of Regulations was modified and the RWQCB and CalRecycle requirements for landfills were consolidated into Title 27.

Numerous plans and permits are required by the various regulatory agencies responsible for the regulation of sites that use or dispose of hazardous materials or wastes. The key plans and permits applicable to the use, treatment, or storage of Class II (designated) waste and hazardous waste at the Forward landfill operation include:

- Hazardous Material Management Plan (HMMP)
- Storm Water Pollution Prevention Plan (SWPPP)
- Waste Discharge Requirements (WDRs) Order
- Report of Disposal Site Information (RDSI) and Report of Waste Discharge (RWD) which are now encompassed in the landfill's Joint Technical Document (JTD)

Local hazardous waste regulations on the county and city level involve setting standards of care for the use, storage, and handling of hazardous materials, as described above. Such hazardous waste-related regulations and proposed landfill programs include the RWQCB orders, RWQCB-required Solid Waste Assessment Test (SWAT), National Pollutant Discharge Elimination System, (NPDES) permits, workers right-to-know, Hazardous Materials Management Plan (HMMP), Storm Water Pollution Prevention Plan (SWPPP), and California DTSC incident reports. The RWQCB is the lead regulatory agency with a history of overseeing environmental monitoring and reporting of the Forward and Austin Road landfills.

As of 2018, there are three Board Orders stipulating the monitoring and reporting requirements for the existing Forward Landfill: WDRs Order No. R5-2014-0006, R5-2003-0080 (Monitoring and Reporting Program and Groundwater Treatment System, NPDES No. CA0082911) and Order R5-2008-0714. Quarterly and annual reports of the monitoring results are submitted by Forward to the DTSC, RWQCB, and the San Joaquin County Public Health Services Department, Environmental Health Division, which is the Local Enforcement Agency (LEA) for CalRecycle. The Forward Inc. Landfill also is operating under Solid Waste Facility Permit (SWFP); Waiver of Waste Discharge Requirements for Composting (RWQCB Resolution 96-031); WDR-City of Stockton, 2000; Hazardous Waste Generators Permit No. 008450, San Joaquin County Public Health Services (SJCPHS), 1998; Hazardous Waste Facility Postclosure Permit, Department of Health Services (DOHS), 1989; and the RCRA Hazardous Waste Facility Postclosure Permit No. CAL000190080, EPA, 1990.

The 2008 CAO (R5-2008-0714) required Forward Landfill to define the lateral and vertical extent of groundwater impacts downgradient of the landfill, provide an alternate source of drinking

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<sup>4</sup> CCR, Section 66471.

<sup>5</sup> CCR, Section 66680 and 66693 et seq.



water to any landowner with a municipal or domestic well that had a confirmed detection of VOCs, implement source control to prevent VOCs from migrating past the landfill point of compliance, enhance the facility's landfill gas and groundwater monitoring programs, and submit quarterly progress reports.

Subsequent to the 2008 CAO, Forward Landfill began its efforts to comply with the 2008 CAO by addressing the requirement to provide replacement water for the California Youth Authority Facility, which was done by extending the City of Stockton's drinking water supply line to the facility. Forward Landfill also supplies bottled water to Newcastle residents and the City supplies bottled water to residents on Austin Road near the landfill. Forward Landfill also implemented an evaluation monitoring program in which numerous wells were installed and with regard to source control and remedial actions, installed an additional groundwater extraction well and multiple landfill gas extraction wells between 2008 and 2011.

In 2017, the RWQCB issued CAO R5-2017-0703<sup>6</sup> (the 2017 CAO) to Forward Landfill. The 2017 CAO rescinded the 2008 CAO except for enforcement purposes related to groundwater monitoring. The 2017 CAO summarizes Forward Landfill's efforts to date to define the vertical and lateral extent of release from the landfill, as well as the installation of corrective action systems to control and capture the migration of contaminants. The 2017 CAO requires additional investigation to fully delineate the vertical and lateral extent of the VOC plume present and the installation of enhanced corrective action measures such that no VOCs will be present in the groundwater beyond the landfill boundaries. In summary, the 2018 CAO requires Forward Landfill to enhance its groundwater treatment system and also requires the landfill to address violations associated with over-loading of nitrogen to the cannery waste land application area.

The proposed landfill expansion requires a JTD describing operational and monitoring practices be submitted to the RWQCB and CalRecycle for approval. The proposed programs for segregation, special handling, and screening procedures of hazardous materials are summarized in the Project Description and also will be presented in detail in the JTD. As described in the Project Description, these programs are already in place for the current Forward Landfill, and would be continued in the proposed expanded landfill.

The San Joaquin County General Plan incorporates public health and safety considerations into the community's long-term planning. The portions of the General Plan relevant to hazardous materials are C. Fire Safety and Law Enforcement and E. Hazardous Materials and Wastes, under V. Public Health and Safety of Volume I: Policies / Implementation.

### **Existing Receptors**

The project area is agricultural and sparsely populated. The nearest residence is located at 9690 Austin Road and is approximately 150 feet from the main landfill entrance gate. It is located across Austin Road from the entrance facilities area and is uninhabited. Adjacent land

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<sup>6</sup> California Regional Water Quality Control Board Central Valley Region, *Cleanup and Abatement Order R5-2017-0703 For Forward Inc. and Republic Services, Inc., Forward Landfill San Joaquin County*. April 10, 2017.

uses include agricultural lands to the east, west, and south (See Figure IV.A-1 in the Land Use section). California Health Care Facility on the site of the former Karl Holton Youth Correctional Facility, is located west of Austin Road approximately 1,900 feet from the northernmost existing Forward Landfill disposal area and approximately 300 feet north of the soil borrow area in the California Health Care Facility's parcel. A women's prison, the Northern California Women's Facility, is located farther north of the site, at the southwest corner of Arch and Austin Roads. The women's prison is currently closed and does not house any inmates.

As described in more detail in Chapter III of this EIR, the following projects are proposed or approved within two miles of the landfill:

- Arch Road Industrial Project
- Archtown Industrial Project
- Northern California Re-Entry Facility and renovation of adjacent Dewitt-Nelson Youth Correctional Facility
- NorCal (formerly Opus) Logistics Center

All existing and future receptors are considered in the health risk assessment since a grid base is used for the model that includes all sites, whether they are occupied or not, per SJVAPCD guidance.

### **Health Risk Assessment**

SCS Engineers prepared an HRA for the applicant that evaluates toxic air contaminant (TAC) emission levels for the Forward Landfill. The objective of the HRA is to evaluate potential health risks that may occur as a result of the proposed landfill expansion due to LFG emissions from the landfill surface, LFG control devices and mobile source emissions. The original HRA was peer-reviewed by Miller Environmental Consultants/KB Environmental Sciences, prior to incorporation into the 2013 EIR. The HRA information was further updated based on comments on the 2013 EIR and also changes to the Project Description for the currently proposed project.

The HRA focuses on quantifying potential health risks (cancer and non-carcinogenic) associated with off-site residents and off-site workers resulting from pollutant emissions from the proposed landfill modifications. Under CEQA, the net difference (or change) in conditions (comparing the existing to future year conditions) are evaluated to the significance thresholds. As such, the HRA is considered an incremental HRA; the cancer risks for the proposed project minus the baseline cancer risk.

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chances in one million of contracting cancer, for example one cancer case among one million people exposed. Incremental cancer risks are determined by summing the individual risk for each air toxics. The incremental risk from exposure to a given air toxic is calculated by multiplying the concentration (or dosage level) of the given air toxic by its specific unit risk factor or potency slope. The unit risk factor

or potency slope of an air toxic is derived from epidemiological studies, and the published values are based on the assumption that a person would be exposed to the given air toxic at that dosage constantly for 30 years or for the worst-case 30-year span over life of the project. The cancer risk from current landfill operations<sup>7</sup> is calculated to be  $1.2 \times 10^{-5}$ .

Health risks (acute<sup>8</sup> and chronic<sup>9</sup> impacts) for each non-carcinogenic air toxics are determined using a Hazard Index (HI), which is the ratio of the predicted exposure concentration to a threshold level that could cause adverse health effects other than cancer, as established by the OEHHA. The Hazard Quotient (HQ) of each non-carcinogenic substance is added to the calculated HQ of the other non-carcinogens to produce an overall HI. Existing health risks from the current landfill operations are calculated to be 0.0004 for the acute HI, 0.00005 for the chronic HI.

### **Impacts**

This section includes a summary of impacts and mitigations considered in the 2013 EIR, and has been updated to include impacts and mitigations that are new or have been substantially altered by changes in the proposed project. To facilitate review of the section and comparison of analyses between the 2013 EIR and this document, the heading for each impact or mitigation measure reflects whether that impact is the same, revised, replaced, or new.

### **Standards of Significance**

For the purposes of this section, impacts and mitigation measures identified in the 2013 Forward Landfill Expansion EIR were reviewed and incorporated as appropriate. This impact section evaluates the currently permitted activities and proposed project described in the Project Description that could potentially result in impacts to health and the environment based on the conditions of the project area. The proposed project would have a significant impact with regard to hazardous materials if it would:

- Create a potential public health hazard; or
- Involve the use, production, or disposal of materials that pose a hazard to people or animal or plant populations in the area affected, beyond baseline conditions.

The operation of any project with the potential to expose sensitive receptors to substantial levels of air toxics would be deemed to have a potentially significant impact. More specifically, proposed projects that have the potential to expose the public in excess of the following thresholds would be considered to have a significant air quality impact (Per the SJVAPCD's

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<sup>7</sup> SCS Engineers, *Air Quality Impact Analysis and Air Toxics Risk Assessment for Proposed Landfill Project 2018 Forward Landfill Manteca, California*, May 2018.

<sup>8</sup> A health effect (non-cancer) produced within a short period of time (few minutes to several days) following an exposure to air toxics

<sup>9</sup> A health effect (non-cancer) produced from a continuous exposure occurring over an extended period of time (weeks, months, years)

*GAMAQI and Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*<sup>10</sup>):

- Probability of contracting cancer for the Maximally Exposed Individual exceeds 20 in one million.
- Ground-level concentrations of non-carcinogens exceed the acceptable health-based risk concentrations (i.e., a Hazard Index of greater than 1.0).

In addition to overall risks for public receptors analyzed in the HRA, the landfill expanded operation must conform to safe practices for its operators and programs to minimize and appropriately manage hazardous materials.

### **Impacts and Mitigation Measures**

#### **Impact E.1: Worker exposure to chemical contaminants and particulates during landfill operations would exceed levels protective of human health or safety. (Same as 2013 EIR Impact E.1)**

The project would increase the amount of potentially contaminated waste products because of the proposed expansion of the Class II landfill, but the expansion would be smaller than the expansion project evaluated in the 2013 EIR. The current landfill allows for such materials as asbestos and automobile shredder waste, and a variety of nonhazardous commercial and industrial wastes including but not limited to sewage sludge; water treatment sludge; grit/grease; holding tank pumpings; storm drain cleanings; dredge and fill materials; fiberglass; soils contaminated with petroleum hydrocarbons, metals, nonpetroleum-based organics, and/or soluble solids; ash; treated infectious waste; metals-contaminated wastes; organic compound contaminated materials; chemical toilet waste; boiler blowdown water (in dry form only); construction and demolition waste; processed tires; septic tank pumping; cleansed pesticide containers; and nonhazardous leachate. The Forward Landfill accepts cannery wastes in accordance with its WDRs and SWFP.

The anticipated closure date for the existing Forward Landfill is 2030. The expanded project would be permitted to dispose a total of 8,668 tons per day of solid waste, the same as currently permitted, but greater than the current actual. The proposed project assumes 620 vehicles per day, the same as currently permitted daily trips but greater than the current actual daily trips (which average approximately 233 trucks/day). These trips would occur over 7 days a week, as in the existing condition, with closure of the landfill being extended to 2036. These changes could affect the health and safety of workers at the landfill by potentially exposing them to a variety of contaminants in air, soil or water that are associated with the materials brought into the landfill. Fugitive dust with airborne contaminants could be inhaled, dermal contact and ingestion of contaminated soil and/or water could occur.

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<sup>10</sup> San Joaquin Valley Unified Air Pollution Control District, *Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*, March 18, 2015.

A summary of the key landfill operational commitments that result in a lessening of the risk factors in the proposed project are shown in Table IV.E-1, below, which compares the baseline assumptions with the proposed project assumptions.

**Table IV.E-1: Summary of Key Landfill Operation Assumptions**

<b>Key Landfill Operations Assumptions</b>	<b>Baseline</b>	<b>Proposed Project</b>
<b>Diesel Particulate Source Areas</b>	Combustion equipment associated with Working Area, Borrow Soil Stockpile, Excavation, Class II Soil Stockpile, haul trucks	Combustion equipment associated with New Expansion Area Excavation, Working Area, Borrow Soil Stockpile, Class II Soil Stockpile, haul trucks
<b>Daily Tonnage</b>	3500 tons/day	8,668 tons/day (same as current permitted level, but higher than actual baseline)
<b>Haul Trucks per day</b>	233	620 (same as current permitted level, but higher than actual baseline)
<b>Number of Vehicles, Operating Hours, days per week operation, vehicle replacement frequency</b>	Forward – 17 pieces of diesel-powered landfill operating equipment, 10.5 hrs, 7 days, 5 to 10 years	Unchanged

Source: SCS, May 2018

In addition, the following procedures are proposed as part of the project:

- Use of a total of 17 pieces of equipment (at any given time) over the life of the project to minimize particulate discharge, will remain unchanged.
- Waste Management Unit operations at the landfill would be limited to a single working face for disposal operations at any given time.
- All employees would be given appropriate training regarding the potential for exposure to hazardous materials. This training will include a 24-hour hazardous waste operations course and an annual 8-hour refresher course for personnel involved in the “load checking” program where the incoming loads are screened for hazardous materials.
- The landfill would not accept any designated waste that may potentially contain hazardous levels of regulated substances (as defined in water Code Section 13173) unless authorized by the RWQCB.
- Dust control procedures specified in the Site Operations Plan (per the JTD) would use the application of fine water spray at a minimum of twice daily on the active soil-

covered work areas, soil excavation areas, and soil stockpile areas where fugitive dust may exist.

- Existing fire protection facilities would be maintained to the satisfaction of the Lathrop – Manteca Fire Protection District.
- Dust exposure of site workers would be monitored periodically, at the discretion of the landfill manager, to evaluate if any additional respiratory protection or dust suppression (watering) mitigation is needed.
- Additional engineering controls would be implemented by the site operator, if needed based on the evaluation of the site health and safety or operations manager, to control dust emissions. Such controls might include wind screens near unloading areas or the use of dust suppressants.
- If the above controls cannot reduce employee dust exposure below acceptable levels as determined by Forward Landfill (considering factors including irritation and annoyance to employees), site personnel at risk would be supplied with gloves, coveralls, eye protection and respirators, with associated training in their use.
- Wastes must not leave the landfill on workers' clothing. Workers who have had direct contact with waste, or who have performed operations that may involve direct contact with wastes (such as equipment maintenance or asbestos handling), would wear disposable clothing or change clothing before leaving the site. The potentially contaminated clothing will be cleaned or disposed as appropriate.
- To avoid cross-contamination from contaminated to non-contaminated sites, the applicant would install a pressurized water distribution system to service a decontamination facility for personnel and equipment. The decontamination facility may be fixed or mobile. Wastewater generated from the decontamination of personnel and equipment is containerized and analyzed in accordance with applicable requirements. If analytical results support compatibility with the Class II impoundments, a request will be submitted to the Regional Water Quality Control Board to dispose of decontamination water in the Class II surface impoundments. Upon approval in writing from the Regional Water Quality Control Board, containerized decontamination water will be discharged in the Class II surface impoundments.
- For asbestos, a strict Asbestos-Containing Materials (ACM) handling program would be developed, and would include the following:
  - a. Bagged ACM would be dumped only onto the working face of the asbestos disposal area and not onto the flat compacted landfill surface. Bulldozers would then push soil cover onto the working face to cover the ACM bags and will not contact the bags.
  - b. For Forward site employees engaged in handling asbestos materials, Forward will implement one of the following:
    1. A three-day approved asbestos workers training program

2. Any asbestos training program specific to landfill employees that has been developed, described, or required by regulation by either the CalRecycle or Cal-OSHA
  3. Any other asbestos training program approved by Cal-OSHA
- c. Provision of water at the working face to keep ACM damp until covered.
- Continuation of the annual physical evaluations of all onsite Forward employees for asbestos exposure.
  - Workers would not be allowed to eat near the active landfill.

Implementation of these procedures would reduce the impact to a *less-than-significant* level.

**Impact E.2: Hazardous waste might inadvertently be contained in the solid waste that is brought to the landfill for disposal. (Same as 2013 EIR Impact E.2)**

Hazardous materials that are not permitted to be disposed in Class II landfills often arrive within the refuse stream inadvertently. Commonly this is in the form of almost spent product related to the building trades or household waste materials such as paint, paint thinner, varnishes, constituents such as the solvents and petroleum distillates that are their constituent parts may break down, leach through the liner and underlying soil and contribute to the formation of a toxic leachate that could contaminate groundwater.

As part of the project, the following procedures are proposed to reduce this impact:

- The Forward Landfill “load-checking program,” which is designed to mitigate against hazardous waste being placed in the landfill, will continue to be implemented for the expanded landfill.
- Landfill operators will be trained to recognize and properly segregate and handle hazardous waste. This will include a 24-hour hazardous waste materials management training program that complies with 29 CFR, Section 1910.

Implementation of these procedures would reduce the impact to a *less-than-significant* level because they would reduce the likelihood of disposal of hazardous materials into the landfill to minimal levels.

**Impact E.3: Spills, collisions, upsets, or other accidents at the landfill or during waste transport could cause injury to site workers, the general public, or the environment. (Same as 2013 EIR Impact E.3.)**

Leachate, some of which is toxic, could leak or spill due to containment failures, and special wastes such as asbestos containing materials (ACM), petroleum contaminated soils, ash, etc. could end up in inappropriate uncontrolled locations due to spills, collisions, upsets or other accidents that can occur during the landfilling operations. Mitigation of such accidents after the fact—such as windblown asbestos containing materials if the bags that contain ACM ripped

and dispersed—could be difficult. Worker health and safety could be threatened in the event such upsets occur.

The Forward Landfill operating procedures (part of the JTD) contains the Site Emergency Action Plan, Fire Prevention Plan, Health and Safety Plan and Hazardous Material Management Plan that are designed to have procedures in place to deal effectively with spills, collisions, upsets, or other accidents at the landfill. The San Joaquin County Office of Emergency Service signed off on the Forward Landfill plan.

The following procedures are proposed as part of the project:

- The Standard Safe Work Practices listed in the Forward, Inc. Site Health and Safety Program and Contingency Plan will be implemented by the operator.
- The landfill operator will comply with the provisions of CCR Title 27, Section 20590, which requires that O&M personnel wear and use approved safety equipment for personal health and safety.
- Landfill access will continue to be controlled to limit unauthorized entry by persons or vehicles.
- The landfill operator will comply with all provisions of CCR, Title 27, Division 2, Chapter 3, Subchapter 4, Articles 1-3 that apply to landfill health and safety.

These procedures also would be included in the JTD being updated by the applicant.

The off-site impact is *potentially significant* therefore the following additional mitigation measure is suggested:

**Mitigation Measure E.3: (Same as the 2013 EIR Mitigation Measure E.3.)** The San Joaquin County Public Works Department shall approve any new waste transport haul routes to the landfill from major arterials, SR 4, or Highway 99.

Implementation of the proposed procedures and this mitigation measure would reduce the impact to a *less-than-significant* level because the County can direct haul trucks to avoid hazardous routes.

**Impact E.4: Additional landfill gas would be generated, thus increasing the potential for landfill gas hazards. (Same as 2013 EIR Impact E.4.)**

Landfill gas has been reported at less than significant levels at the 28 monitoring points in the most recent (June 2014) sampling of perimeter wells (i.e. outside of the waste) at Forward Landfill, as indicated by the presence of methane and carbon dioxide, the two primary gases that are generated by landfills. Concentrations of landfill gases in perimeter monitoring wells are higher near the Austin Road Landfill unit. The production of landfill gases within a landfill is of concern because landfill gas typically consists of 50 percent methane gas, which is flammable when diluted in air to concentrations of 5 to 15 percent. Landfill gas is also of concern because of the hazardous air pollutants carried with the gas (such as the documented VOCs in the area of the Austin Landfill unit). Uncontrolled landfill gas emissions could cause



methane gas buildup that could be ignited by machinery or onsite workers, however, the site includes a landfill gas collection system that reduces the chance of a dangerous on-site landfill gas build-up except in the waste mass itself. Perimeter wells have low concentrations of methane indicating that some off-site migration is occurring. Despite the fact that methane is lighter than air (vapor density of 0.55 versus 1), it is concurrently produced with carbon dioxide and will not separate. Instead, both gases will remain mixed and follow pressure and density gradients during transport based on the properties of the mixture, rather than the properties of the individual components (EPA 1993)<sup>11</sup>. The mixture of methane and carbon dioxide in landfill gas is comparable to that of air.

The flammability and lack of odor make methane a dangerous gas at landfills if not collected over time. Explosions and effects on worker health have occurred at unmitigated landfills, most often when workers were exposed to low lying areas within the landfill where methane accumulated (Everett, Wilson and Hoylman, 1984). Along the northern landfill boundary there is a perimeter collection and migration monitoring system where methane and other gas concentrations are monitored and controlled. Throughout the site, there is a comprehensive landfill gas collection system that routes most methane to either a flare or engine for controlled combustion. Further augmentation of the gas collection system is planned as part of the proposed project and required for continued compliance with regulation. In addition to reducing the impact of a methane gas-related hazards, the expansion of the gas collection will remove some VOCs currently impacting groundwater quality (GeoLogic, 2008).

A subsurface oxidization (SSO) event can be caused by a variety of factors, including spontaneous combustion or by placing too much vacuum on a landfill gas collection system. In spontaneous combustion, waste material buried in a landfill is heated by chemical oxidation and biological decomposition. The resulting heat can cause the material to reach the point of ignition, causing rapid oxidization.

Landfill gas collection systems are designed to operate under a vacuum, so that methane and other gases generated by the decomposition of municipal solid waste in a landfill can be captured by the landfill gas collection system and conveyed in pipes to either a landfill gas flare that destroys the gas or a co-generation plant that converts landfill gas into renewable electric energy. Placing too much vacuum on a landfill gas collection system can cause oxygen to be drawn into the landfill waste mass, which in turn can cause an increase in the temperature of the waste and lead to SSO. Placing too little vacuum on the landfill gas collection systems can cause landfill gas to escape through the cover of the landfill, which would violate federal and state air pollution regulations that limit that amount of landfill gas emitted into the atmosphere.

SSO events are more likely to oxidize or burn slowly without visible flame or large quantities of smoke and are characterized by rapid oxidation of organic waste in the landfill. The waste mass may oxidize around a gas extraction well, in the influence zone of the extraction well, or near a surface feature that allows oxygen to enter the waste mass. Subsurface fires in gas collection systems are detected by elevated temperature at the gas extraction well head or by the detection

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<sup>11</sup> Solid Waste Disposal Facility Criteria Technical Manual, USEPA 530-R-93-017, 1993

of soot in the gas collection system. At times, underground combustion/oxidation will go undetected until a sinkhole or smoke appears. Normally flames are not visible during this type of fire unless the subsurface fire is excavated and exposed to the atmosphere.

With the correct conditions present, spontaneous combustion can occur in household trash or at construction debris facilities. This type of combustion will produce excessive amounts of CO and other trace gases due to incomplete oxidation. To confirm SSO by using CO measurements, the results must be acquired through quantitative laboratory analysis. The CalRecycle staff considers levels of CO in excess of 1,000 ppm to be a positive indication of an active underground landfill SSO event. Levels of CO between 100 and 1,000 ppm are viewed as suspicious and require further air and temperature monitoring. Levels between 10 and 100 ppm may be an indication of SSO but not active combustion.

The Forward Landfill has standard operating procedures in place to address landfill SSO events. If physical indications of an SSO event are noted, the environmental manager and landfill manager are immediately notified. An initial investigation is performed and a physical inspection conducted that includes visual observation, infrared thermometer surveys, and measurements at nearby landfill gas wells. The data is then analyzed and a course of action is developed. The actions include removing oxygen from the SSO area by shutting down wells that may have caused the SSO, shutting down wells in the surrounding area, capping or repairing any items that may have contributed to the oxygen intrusion, and replacing cover materials where necessary. Following the corrections and repairs, the SSO area is monitored until the indicators of SSO are no longer noted.

The Forward Landfill had one SSO event in 2007 and six in 2008. The two events are described in the 2013 FEIR. In consultation with representatives of Cal Recycle and the San Joaquin County Health Department -- Local Enforcement Agency, Forward Landfill made improvements to its landfill gas collection system and placed additional intermediate cover in the areas that had experienced these events. Forward Landfill has not had any SSO events since the improvements were implemented and the consent decree (2:11-cv-00590 EFB) specifying the LFG Collection System improvements has been completed and terminated. (Lewis, pers. com).

The following procedures are proposed as part of the project:

- Where required by State and Federal regulations, the landfill gas monitoring, gas control and collection system will be installed, extending to the new areas of the expanding landfill and operating in conformance with applicable regulations.
- The existing gas extraction system, or an equivalent system, will continue to operate.
- Regular gas monitoring will be conducted to prevent landfill gas accumulation in onsite buildings or beneath temporary buildings. The landfill operator will install an automatic combustible gas detection and alarm system for structures at the site.
- The landfill operator will not construct or otherwise locate any structure in an area of known landfill gas build-up.

- All site personnel who work in permanent structures will be trained to use and respond to the landfill gas monitoring and alarm system.

This impact is still considered *potentially significant*; therefore the following additional mitigation measure is identified:

**Mitigation Measure E.4: (Same as the 2013 EIR Mitigation Measure E.4.)** Landfill gas monitoring shall include the volatile organic compounds in order to determine the amount of contaminant recovery, and control potential exposure to onsite personnel.

Implementation of the proposed procedures and this mitigation measure would reduce the impact to a *less-than-significant* level because it allows the County and applicant to control potential exposure of personnel to hazardous gases.

**Impact E.5: Solid waste pathogens could be spread by vectors. (Same as 2013 EIR Impact E.5.)**

Refuse in landfills attracts vectors such as rats, moles, gulls, etc. that can carry infectious pathogens, disease and parasites. More vectors over time would likely be attracted to the landfill due to its expansion over time. This could increase the likelihood of human exposure to the pathogens carried by the vectors.

The potential public health and nuisance problem from vectors is a *potentially significant impact*.

The following procedures are proposed as part of the project:

- The landfill operator will follow legally required daily or alternative cover practices.
- The landfill will continue to ban intact tires (which collect water and serve as a breeding ground for vectors) and large dead animals from disposal at the landfill.
- Existing measures to discourage gulls from the landfill will be continued.
- Appropriate landfill personnel will periodically monitor the landfill for the presence of vectors, and landfill inspections will be documented in the landfill operations administrative file.

Implementation of these procedures would reduce this impact to a *less-than-significant* level and no mitigation is required.

**Impact E.6: The project would involve the use of additional regulated or hazardous materials during the proposed landfill expansion construction and operation. (Same as 2013 EIR Impact E.6.)**

Construction activities during the extended life of the landfill would include earthmoving, paving, possible dewatering, various new construction including the new drainage and leachate collection systems, and painting. Solid waste could be generated from land clearing and demolition of existing structures. Hazardous materials used in construction may include acids,

lime, glues, paints, solvents, and curing compounds. During operations, vehicle fueling and equipment maintenance and cleaning would occur where diesel fuel, gasoline, oil, and grease would be stored and used onsite. Hazards associated with these materials would be a *potentially significant impact*.

**Mitigation Measure E.6: (Same as the 2013 EIR Mitigation Measure E.6.)**

(a) All applicable regulatory guidance originating after the Forward Landfill 2002 EIR shall be implemented; all hazardous materials shall be handled in accordance with local, State, and federal regulations. This includes required reporting various hazardous materials-related data as mandated by the California Health and Safety Code through the web-based California Environmental Reporting System (CERS).

(b) The site HMMP, SWPPP, Operations Manual, and Wet Weather Plan shall serve to provide guidance in the use and handling of hazardous materials during the operations of the facility.

Implementation of Mitigation Measure E.6 would reduce the impact to a *less-than-significant* level.

**Impact E.7: Private groundwater production wells located downgradient of the landfill may be affected by the VOC-contaminated groundwater plume. (Same as 2013 EIR Impact E.7.)**

The description of this impact is presented in the Hydrology and Water Quality section under Impact F6 of the 2013 EIR. The potential impacts from the potential ingestion of groundwater from private offsite wells contaminated by the landfill-generated leachate plume would be *significant* if not mitigated. As described in Impact F.6, F. Hydrology and Water Quality, Forward would implement measures that would reduce the impact to a *less-than-significant*.

**Impact E.8. Emissions of air toxics could pose a risk to human health. (Same as 2013 EIR Impact E.7.)**

As with the criteria pollutants (see the Air Quality Section), the project would increase toxic air contaminant emissions from LFG-derived sources with two options: additional LFG is controlled either by additional flare capacity (flare option) or LFG engines at a new LFG to energy facility (LFG engine option). Both of these options include the additional emissions from the Ameresco Inc. LFG to energy project that has recently been constructed.

Air toxics within LFG typically consist of benzene, chloroform, methylene chloride, perchloroethylene, trichloroethylene, vinyl chloride, as well as other air toxics. Landfill gas emission estimates are based on EPA's Landfill Gas Emissions Model (LandGEM).

A review of potential pathways for human exposure to toxics from the project is included in Appendix G, Health and Air Quality Assessment. Some of the potential pathways have been excluded because the specifics of the project mean they would not be complete pathways for the purposes of the HRA. The pathways that were examined as part of the HRA included the

inhalation of chemicals present in landfill gas (LFG) and emissions from vehicles, dermal absorption, soil ingestion, and mother's milk.

As identified in Standards of Significance, the significance of air toxic emissions depends upon the chance of contracting cancer from exposure to air toxics, or upon having adverse health effects from exposure to non-carcinogenic air toxics. Cancer risks would be significant if the incremental risk equals or exceeds 20 in a million for the Maximally Exposed Individual.<sup>12</sup> Exposure to non-carcinogenic substances would be significant if the Hazard Index (HI) exceeds 1.0.<sup>13</sup>

The standards are typically applied to the results of a HRA through a detailed air dispersion modeling effort using the EPA's AERMOD dispersion model. This assessment is intended to provide a worst-case estimate of the increased exposure by employing a standard emission estimation program and an accepted pollutant dispersion model.

Conservative health risk methodologies were used in the HRA in order to estimate maximum potential health risks. These methodologies are anticipated to overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. For carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the risk assessment methodology.

In accordance with OEHHA guidelines, the HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. The HRA for this project utilized the EPA approved AEROMOD model. AEROMOD is a refined air dispersion modeling program and can compute emission concentrations from many sources at many locations based on actual meteorological data. The meteorological data used in this HRA was obtained from the SJVAPCD web site and had already been reviewed for use in AEROMOD.

The Post-Project or Future Potential scenario was estimated in the HRA assuming full implementation of the Project described in the Project Description, namely the proposed development of additional disposal area within the currently permitted Forward Landfill boundary and creek re-location. The proposed expansion does include an increase in the rate of landfill-related activities from the current actual rate to the full permitted waste acceptance rate of 8,668 tons per day. The project would result in an increase of air toxics emissions from onsite

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<sup>12</sup> The Maximally Exposed Individual represents the worst-case risk estimate, based on a theoretical person continuously exposed at the point of highest compound concentration in the air. The analysis used emission of LFG based on results from the EPA Landfill Gas Emissions Model (LandGEM) gas generation models. For the current permitted and future potential scenarios, the worst-case 30-year span was used; 2018 through 2047 for current permitted, and 2029 through 2058 for future potential.

<sup>13</sup> The Hazard Index is the ratio of a hazardous air pollutant concentration to its Reference Concentration, or safe exposure level. If this "hazard index" exceeds one, people are exposed to levels of hazardous air pollutants that may pose non-cancer health risks.

emission sources associated with the operation of the project such as flare and/or LFG engines, DPM emissions from increased truck trips, and fugitive LFG emissions.

The incremental carcinogenic risk (increase in cancer risk from the Current Actual to the Project scenario Landfill Gas Flare) is estimated to be 4 cancer occurrences per million persons at the nearest occupied receptor. This value is below the threshold of 20 cancers per million and thus, the impact would be *less than significant*.

This analysis is based on conservative (overestimated) assumptions, and can be considered a worst-case analysis. The maximum incremental cancer risk is relatively small compared with the overall lifetime cancer incidence of 200,000 to 250,000 per million in the United States.

The OEHHA has established a significance threshold for non-cancer health risk based on concentrations that would result in a Hazard Index (HI) greater than 1.0. Based on the modeling, the non-cancer health risks would be well below the Hazard Index of 1.0 at all receptors. The maximum non-cancer acute hazard risk would be an HI of 0.0117. The maximum non-cancer chronic hazard risk would be an HI of 0.00016. The increased non-cancer acute and chronic hazard risk from the Project (increase in hazard risk from the Current Actual to the Project scenario Landfill Gas Flare) would be less than these maximum Project values. Maximum non-cancer hazard risk values (acute and chronic) are below the threshold of 1.0 and thus, the impact would be *less than significant*.

Implementation of the measures identified in Mitigation Measure D.2a. in this EIR (See Air Quality Section) would reduce emissions and further reduce both cancer and non-cancer health risks near the project area.

## **F. VEGETATION AND WILDLIFE**

This section updates the discussion in the 2013 EIR and addresses the impacts of the 2018 Expansion Project to existing or potentially occurring biological resources. It uses a “worst-case” baseline, comparing project impacts to existing on-the-ground conditions. As outlined in the Project Description (Section III), the proposed additional development would allow the construction of landfill disposal cells and landfilling operations within those cells on an 8.7-acre parcel that lies in the northeast portion of the site within the currently permitted landfill boundary. In addition, approximately 8.6 acres of landfill disposal area is proposed to be added in the south area by shifting the existing disposal footprint to the north and realigning 3,000 feet of the South Fork of South Littlejohns Creek to the southern and eastern boundary of the site. With the exception of the proposed realignment of the creek, the proposed work in the south expansion area will primarily occur in an area used as the landfill’s composting and materials recovery facility (MRF) facility. The impacts and mitigations in this section replace those in Section IV.H of the 2013 EIR.

### **Setting**

### **Methodology**

Identification of the potentially occurring special-status biological resources for the proposed project is partially based on the previous analysis and a biological assessment included in the Draft and Final Forward Landfill Expansion EIR (2013) and the following key supporting biological studies:

- Fisheries habitat assessment of the North Branch of the South Fork of Littlejohn’s Creek (A.A. Rich Associates 2002)
- Fisheries survey and a wetland delineation the South Branch of the South Fork of Littlejohn’s Creek (Monk & Associates 2007)
- A pilot bird-control program conducted in March and April 2010, and a permanent gull control program initiated in September 2010, to restrict the congregation of feeding gulls at the landfill by use of falcons and pyrotechnics (Davis 2013)
- The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) (SJCOG 2000)

The information presented herein is intended to update and supplement that provided in the earlier assessments and to bring current the analysis of impacts, reflecting recent changes in status of endangered, threatened, and rare species, as well as State and federal legislation regarding biological resources. Updated information on special-status plant and animal species was compiled through review of the following sources:

- The California Natural Diversity Database (CNDDDB 2018)
- The California Native Plant Society Online Inventory of Rare and Endangered Plants (CNPS 2018)
- Burrowing habitat assessment/surveys (WRA 2017, 2015, 2014, 2013).

- Surveys for western gulls (WRA 2017, 2014, 2013)
- Surveys for nesting Swainson's hawk (WRA 2017, 2014)
- Demonstration of the Continued Effectiveness of the Bird Control Program at the Forward Landfill, 2015-2017
- Concept Design Report for the South Branch of the South Fork of Little John Creek Relocation Project (Questa Engineering 2017)
- Request for Reverification of Jurisdictional Determination, Forward Landfill Project Site (Monk & Associates 2018)

A reconnaissance-level site survey was conducted by biologists Patrick Kobernus and Michael Wood on December 8, 2008 and the site was re-visited by Mr. Wood on July 4, 2012. Additional reconnaissance-level site surveys were conducted by biologist Josh Phillips on July 1, 2014 and May 30, 2018. Focused botanical or wildlife studies following published protocols were not performed as part of this analysis; such surveys were not warranted due to onsite habitat conditions or other factors.

### **Existing Biological Resources**

The study area is situated in a rural setting of existing and former orchards, vineyards, and agricultural fields with scattered residences. The Forward Landfill facility is bordered to the east, west, and south by agricultural fields, and correctional facilities are located to the north of the existing landfill facility. The North Branch of the South Fork of Littlejohn's Creek, which was relocated as part of a previous expansion of the landfill, runs along the northern boundary of the landfill site. A total of 39.4 acres of riparian habitat were restored within the previously relocated creek.

The study area is situated on mostly level ground with a natural elevation of 30-40 feet above mean sea level. Landfill operations would be expanded into approximately 8.7 acres located in the northeastern corner of the existing facility, along Austin Road. In addition, approximately 8.6 acres of landfill disposal area is proposed to be added in the south area by shifting the existing disposal footprint to the north and realigning the South Branch of South Littlejohns Creek to the southern and eastern boundary of the site. This will require relocating approximately 3,000 feet of the South Branch of South Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill; the relocated creek would be 3,400 feet in length. A bridge will be constructed crossing the east side of the realigned South Branch of South Littlejohns Creek.

### ***Plant Communities and Associated Wildlife***

The project area is located within an agricultural area of San Joaquin County approximately 4 miles north of Manteca, within the Central Zone of the SJMSCP (SJCOG 2000). This zone is characterized by primarily urban and agricultural land uses.

The study area is characterized as a highly modified environment, supporting very little native vegetation. With the exception of the South Branch of South Littlejohns Creek, the proposed



development areas consist of developed landfill-related land uses (which are largely graded and devoid of vegetation). However, some non-native grassland and ruderal (i.e., weedy) vegetation is present on and around the proposed onsite development areas. Emergent freshwater marsh is present along the creek channel. Other than the freshwater marsh, which has colonized the altered and maintained creek channel, no native plant communities are present within the study area. Each of these habitats is discussed below.

***Nonnative Annual Grassland.*** Nonnative annual grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). It typically occurs on soils consisting of fine-textured loams or clays that are somewhat poorly drained. This vegetation type is dominated by nonnative annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands, scrub and woodland as a result of human disturbance. Scattered native wildflowers and grasses, representing remnants of the original vegetation may also be common.

Nonnative annual grassland most closely conforms to the Wild Oats Grassland series as described in Sawyer, *et al.* (2009), and would be classified as upland, following Cowardin, *et al.* (1979). At the time of the 2018 site visit, only limited areas of non-native grassland were present within the proposed development areas. The proposed northeast landfill disposal area was disked and devoid of vegetation; it is expected that this area contains non-native grasses and weedy plant species between disking cycles. Large portions of the proposed relocated southeast landfill area (south of the creek) are actively used as a composting and material recovery facility, and are covered with piles and rows of compost material; these areas are generally devoid of vegetation and in their current condition are not non-native grasslands. However, non-native grasslands occur along the upper banks and bordering the South Branch of South Littlejohns Creek (within the proposed relocated southeast landfill disposal area) and within other isolated areas in the development area. Non-native grasslands also are present on portions of the landfill that are outside of the proposed development areas.

Characteristic nonnative annual grasses commonly found on site include wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), foxtail barley (*Hordeum murinum*), Italian rye grass (*Festuca perennis*), and Bermuda grass (*Cynodon dactylon*). Common nonnative forbs include yellow star thistle (*Centaurea solstitialis*), field bindweed (*Convolvulus arvensis*), bur-clover (*Medicago polymorpha*), black mustard (*Brassica nigra*), long-beaked storks-bill (*Erodium botrys*), broadleaf bird's-foot trefoil (*Lotus corniculatus*), English plantain (*Plantago lanceolata*), Italian thistle (*Carduus pycnocephalus*), and milk thistle (*Silybum marianum*) among others. Ornamental plants have also been planted on portions of the project site, including rows of oleander, patches of evening primrose, pricklypear, as well as a windrow of trees along the site's eastern boundary.

In the proposed relocated southeast landfill area, there are also existing buildings and a small garden. There is a large detention basin in the southwest corner of site, which contained standing water at the time of the May 2018 site visit. There is also a drainage ditch (dry at the time of the site visits), which directs surface water during storms events to the detention basin.

Nonnative annual grassland provides habitat for a wide variety of common wildlife species in the Central Valley. Nonnative annual grasslands on site are generally limited to small roadside areas and unmaintained edges of the landfill. Due to the intensive agricultural land use on surrounding parcels and in the region, the value of these small and isolated nonnative grasslands in supporting special-status wildlife is limited; the potential occurrence of special-status wildlife species on the project site is discussed later in this section.

Common rodents such as California ground squirrels (*Otospermophilus beecheyi*) and pocket gophers (*Thomomys bottae*) may utilize the grassland areas and provide a prey base for hawks, owls and snakes. However, it should be noted that an active rodent control program is implemented on the landfill and no ground squirrel burrows were observed. Other common species potentially utilizing the grassland areas within the study area include black-tailed hare (*Lepus californicus*), striped skunk (*Mephitis mephitis*), gopher snake (*Pituophis catenifer*), common king snake (*Lampropeltis getula*), western fence lizard (*Sceloporus occidentalis*), red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), mourning dove (*Zenaidura macroura*), house finch (*Haemorhous mexicanus*), American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), turkey vulture (*Cathartes aura*) and killdeer (*Charadrius vociferus*), among others.

**Freshwater Marsh.** Freshwater marsh typically occurs in low-lying sites that are permanently flooded with fresh water and lacking significant current. This plant community is found on nutrient-rich mineral soils that are saturated for all or most of the year. Freshwater marsh is most extensive where surface flow is slow or stagnant or where the water table is so close to the surface as to saturate the soil from below. Freshwater marsh is distributed along the coast and in coastal valleys near river mouths and around the margins of lakes, springs, and streams (Holland 1986). This vegetation community characteristically forms a dense vegetative cover dominated by perennial, emergent monocots 1-15 feet high that reproduce by underground rhizomes.

Within the study area, freshwater marsh consists of scattered patches of emergent monocots along the upper reaches of the South Branch of the South Fork of Littlejohn's Creek. The marsh vegetation growing in the channel bottom of the South Branch of the South Fork of Littlejohn's Creek most closely conforms to the Hardstem Bulrush Marsh alliance as described in by Sawyer, *et al.* (2009); it would be classified as a Palustrine persistent emergent wetland following Cowardin, *et al.* (1979). Vegetation on the channel banks does not conform to any particular series described in Sawyer, *et al.* (2009); it would be classified as an upland following Cowardin, *et al.* (1979). Based on observations made in 2008, 2014, and 2018, the dominant emergent monocot is common tule (*Schoenoplectus acutus*), with clusters of tules occurring throughout portions of the channel. Narrow leaf cattail (*Typha angustifolia*) has also been observed in the channel. Dominant aquatic/wetland dicots included floating water primrose (*Ludwigia peploides*) and common knotweed (*Persicaria lapathifolium*). Other characteristic wetland species in the channel included umbrella sedge (*Cyperus eragrostis*) and eastern cocklebur (*Xanthium strumarium*). Occasional saplings of arroyo willow (*Salix lasiolepis*) were present in the channel. At the time of the May 2018 survey, large portions of the channel were dry, with shallow pockets of water being present in the western portion of the channel. It is important to note that this channel is cleared of vegetation on a routine basis by the Flood

Control District, and no woody vegetation is allowed to establish and mature and the extent of emergent vegetation is managed. Along the channel banks of the creek there are stands of California rose (*Rosa californica*) and California mugwort (*Artemisia douglasiana*). The creek banks contain many of the non-native grasses and weedy species discussed above, as well as patches of Himalayan blackberry (*Rubus armeniacus*), creeping wildrye (*Elymus triticoides*), and tall willowherb (*Epilobium brachycarpum*), among others.

Summer flows in the South Branch of the South Fork of Littlejohn's Creek are primarily generated from irrigation tail-waters and from irrigation water releases from Farmington Reservoir approximately 13 miles east of the project site (Monk and Associates 2007). The South Branch of South Littlejohn's Creek flows into Lone Tree Creek, which flows into the main branch of Littlejohns Creek, which flows to French Camp Slough, which is a tributary of Walker Slough, which finally enters the San Joaquin River (Monk and Associates 2007).

At the time of the 2018 survey, nesting cliff swallows were present on the underside of the Austin Road Bridge over the South Branch of the South Fork of Littlejohn's Creek; these birds were foraging over the creek. The channel provides habitat for common amphibians such as Sierran treefrog (*Pseudacris sierra*), numerous common species of nesting birds, foraging habitat for bats, and common mammals such as raccoon (*Procyon lotor*). Managed irrigation channels are typically limited to nonnative fish species that can tolerate warm, shallow water such as green sunfish (*Lepomis cyanellus*), golden shiner (*Notemigonus crysoleucas*), bigscale logperch (*Percina macrolepida*) and carp (*Cyprinus carpio*) among others (A.A. Rich Associates 2002).

#### ***Wildlife Movement Corridors***

Wildlife corridors are important for persistence of wildlife in the landscape and, therefore, conservation. Linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. Even where patches of pristine habitat are fragmented, as commonly occurs with riparian vegetation, wildlife movement between populations is facilitated through habitat linkages, migration corridors and movement corridors. Wildlife movement includes migration (*i.e.*, usually one direction per season), inter-population movement (*i.e.*, long-term genetic exchange) and small travel pathways (*i.e.*, daily movement within an animal's home range).

The area surrounding the project site is primarily agricultural, with some industrial and residential land uses. The 8.7-acre northeast expansion area is bordered by the existing Forward Landfill on the south and west, and to the north by the restored North Branch of the South Fork of Littlejohn's Creek (and associated riparian corridor) and further to the north by a correctional facility. The 8.6-acre southeast landfill relocation area is bordered by the existing landfill to the north and east, and by agricultural land to the south. Austin Road, a two-lane road, runs along the eastern boundary of the study area. With the exception of isolated valley oak trees and restored riparian habitat within the North Branch of the South Fork of Littlejohn's Creek, there are no other native habitats within the area. Due to the altered condition of the study area and the active use of much of it for various landfill operations, the proposed additional development areas are unlikely to be part of a significant corridor for wildlife. The one exception is the South Branch of the South Fork of Littlejohn's Creek, which provides a potential

movement corridor for terrestrial and aquatic wildlife. While riparian vegetation does occur north of the site, the restored woodland is isolated, does not connect discrete open space areas, and is outside of the proposed development area.

### ***Special-Status Biological Resources***

Special-status biological resources include plant and animal species and natural communities or habitats deemed rare or locally significant by federal, State or local agencies or professional associations. The study area supports or has the potential to support several special-status species and biological resources. Each is described below. A summary of the status, habitat affinities, reported localities in the project area, and potential for occurrence within the project area for each of the target plant and animal species and those with a low potential to occur are presented in Appendix I, Special-Status Species Lists.

### ***Special-Status Natural Communities and Habitats***

Special-status natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (*i.e.*, waters of the United States, covered under Sections 404 and 401 of the Clean Water Act [CWA] and/or waters of the State<sup>1</sup> covered under the CFGC<sup>2</sup> and the Porter-Cologne Water Quality Control Act.<sup>3</sup> The CNDDB has ranked a number of natural communities in terms of their significance and rarity (CDFW 2018).

A single special-status natural community, freshwater marsh, occurs in the study area. In addition, the actual stream channel of the South Branch of the South Fork of Littlejohn's Creek qualifies as a "waters of the U.S." and "waters of the State".

### ***Special-Status Plants***

The laws comprising California's legal framework and authority for plant species conservation include the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), and CEQA (see discussion below). Special-status plants include those listed as endangered, threatened, or rare or as candidates for listing by the USFWS and/or the CDFW. Other species regarded as having special-status include special plants included on lists 1B and 2 of the CNPS Inventory of Rare and Endangered Plants (2018).

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<sup>1</sup> Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" California Water Code Section 13050(e). These include nearly every surface or ground water in California, or tributaries thereto, and include drainage features outside USACE jurisdiction (*e.g.*, dry and ephemeral/seasonal stream beds and channels, *etc.*), isolated wetlands (*e.g.*, vernal pools, seeps, springs and other groundwater-supplied wetlands, *etc.*), and storm drains and flood control channels.

<sup>2</sup> Section 1600, *et seq.*

<sup>3</sup> Water Code Sections 13000–14920

Focused botanical surveys were not conducted as part of this EIR; due to the highly modified nature of the site, they were not warranted because suitable habitat is not present. All proposed construction activities would occur within the boundaries of the existing landfill and associated highly altered and disturbed habitats, and within a managed irrigation channel that is regularly cleared of vegetation. No federally or State-listed plant species or other special-status plant species are considered to have any potential to occur within the study area.

### *Special-Status Animals*

Special-status animal species include those listed as endangered, threatened, rare, or as candidates for listing by the USFWS and/or CDFW. Other species regarded as having special status include “special animals”, as listed by the CDFW (2018). “Special animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The CDFW considers the taxa on this list to be those of greatest conservation need. Additional animal species receive protection under the Bald Eagle Protection Act and the Migratory Bird Treaty Act (MBTA)<sup>4</sup>. The State of California created the classification of “Fully Protected” conserve wildlife species that risk extinction within the State.

Administered by the CDFW, lists of fully protected species were created for fish<sup>5</sup>, mammals<sup>6</sup>, birds<sup>7</sup>, and reptiles and amphibians<sup>8</sup>. Additional information on Fully Protected fish can be found in the California Code of Regulations (CCR)<sup>9</sup>. The category of Protected Amphibians and Reptiles in Title 14 has been repealed. The CCR also provides for the protection of certain furbearing mammals<sup>10</sup>. Additional definitions of endangered, rare or threatened species are given in CEQA<sup>11</sup>.

Based on habitats present in the study area and the context of the project site, five federally and/or State-listed animal species could potentially occur on site. In addition, 19 non-listed special-status species have been recorded from the project region (Table IV.H-1). Below is a discussion of those species that may occur on the site (and be potentially impacted by the project) or whose occurrence on site is not expected but are prominent in today’s regulatory environment.

Several special-status species that occur in the region have some likelihood to occur within the study area. However, the majority of the site is disked and devoid of vegetation, or activity used for landfill operations.

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<sup>4</sup> 16 USC §703–711; 50 CFR Subchapter B

<sup>5</sup> §5515

<sup>6</sup> §4700

<sup>7</sup> CFGC §3511

<sup>8</sup> §5050

<sup>9</sup> CCR, Title 14, Division 1, Subdivision 1, Chapter 2, Article 4, §5.93

<sup>10</sup> CCR, Title 14, Division 1, Subdivision 2, Chapter 5, §460

<sup>11</sup> §15380(d)

Site reconnaissance visits conducted in 2005, 2008, 2012, 2014, and 2018 are not considered sufficient to confirm presence or absence of special-status wildlife because they were not USFWS protocol-level surveys. Therefore, the potential for occurrence on site was assessed by presence or absence of appropriate habitat and geographic distribution.

**Table IV.F-1: Special-Status Animal Species Recorded from Project Region or Potentially Affected by Project Implementation**

<b>Common Name</b>	<b>Scientific Name</b>	<b><u>Potentially Impacted</u></b>	<b><u>Covered under SJMSCP</u></b>
<b><i>Federally Listed, State-Listed, and State Fully Protected Species</i></b>			
Chinook salmon (winter-run)	<i>Oncorhynchus tshawytscha</i>	<u>yes</u>	<u>no</u>
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	<u>no</u>	<u>yes</u>
giant garter snake	<i>Thamnophis gigas</i>	<u>yes</u>	<u>yes</u>
golden eagle	<i>Aquila chrysaetos</i>	<u>yes</u>	<u>yes</u>
steelhead (Central Valley DPS)	<i>Oncorhynchus mykiss irideus</i>	<u>yes</u>	<u>no</u>
Swainson's hawk	<i>Buteo swainsoni</i>	<u>yes</u>	<u>yes</u>
white-tailed kite	<i>Elanus leucurus</i>	<u>yes</u>	<u>yes</u>
<b><i>Other Special-Status Species</i></b>			
black-crowned night heron	<i>Nycticorax nycticorax</i>	<u>no</u>	<u>yes</u>
burrowing owl	<i>Athene cunicularia</i>	<u>yes</u>	<u>yes</u>
California horned lark	<i>Eremophila alpestris actia</i>	<u>yes</u>	<u>yes</u>
California mastiff bat	<i>Eumops perotis californicus</i>	<u>yes</u>	<u>yes</u>
fringed myotis	<i>Myotis thysanodes</i>	<u>yes</u>	<u>yes</u>
great blue heron	<i>Ardea herodias</i>	<u>no</u>	<u>yes</u>
great egret	<i>Ardea albus</i>	<u>no</u>	<u>yes</u>
loggerhead shrike	<i>Lanius ludovicianus</i>	<u>yes</u>	<u>yes</u>

**Table IV.F-1: Special-Status Animal Species Recorded from Project Region or Potentially Affected by Project Implementation**

<b>Common Name</b>	<b>Scientific Name</b>	<b><u>Potentially Impacted</u></b>	<b><u>Covered under SJMSCP</u></b>
long-eared myotis	<i>Myotis evotis</i>	<u>yes</u>	<u>yes</u>
long-legged myotis	<i>Myotis volans</i>	<u>yes</u>	<u>yes</u>
tricolored blackbird	<i>Agelaius tricolor</i>	<u>yes</u>	<u>yes</u>
northern harrier	<i>Circus cyaneus</i>	<u>yes</u>	<u>yes</u>
merlin	<i>Falco columbarius</i>	<u>no</u>	<u>yes</u>
Western pond turtle	<i>Actinemys marmorata</i>	<u>yes</u>	<u>yes</u>
pale big-eared bat	<i>Corynorhinus townsendii pallescens</i>	<u>yes</u>	<u>yes</u>
small-footed myotis	<i>Myotis ciliolabrum</i>	<u>yes</u>	<u>Yes</u>
snowy egret	<i>Egretta thula</i>	<u>no</u>	<u>yes</u>
western red bat	<i>Lasiurus blossevillii</i>	<u>yes</u>	<u>yes</u>

***Federally and State-Listed Species***

*California Red-Legged Frog*

California red-legged frog (*Rana draytonii*; hereafter referred to as CRF) is federally listed as Threatened and is designated as a California Species of Special Concern. The CRF is distributed throughout 26 counties in California, including San Joaquin County. Breeding takes place in streams, deep pools, backwaters within streams and creeks, ponds, marshes, and stock ponds. CRF can occur in ephemeral ponds or permanent streams and ponds; however, populations probably cannot persist in ephemeral streams (Jennings and Hayes 1985). Breeding ponds are typically deep (greater than 2 feet) with still or slow-moving water and dense, shrubby riparian or emergent vegetation (Hayes and Jennings 1988 – cited in USFWS 2002), although CRF have also been observed in shallow sections of streams and ponds that are devoid of vegetative cover.

The project site is not located within federally designated CRF Critical Habitat. The CRF has not been recorded within an approximate 20-mile radius of the study area (CNDDDB 2018), and

the species is not expected to occur within the study area due to the lack of suitable breeding habitat within or adjacent to the study area, and the rarity of occurrences of CRF within the valley floor of the Central Valley (SJCOG 2000). Therefore, this species is not further addressed in this section.

#### *Riparian Brush Rabbit*

Riparian brush rabbit (*Sylvilagus bachmani riparius*) is federally and state listed as Endangered. This species is associated with riparian forests and currently only two populations are known in San Joaquin County. One of two presently known populations is found on the lower Stanislaus River in Caswell State Park (Williams 1986). Pursuant to available studies (Williams 2000), a second population has been identified near Stewart Tract along the San Joaquin River and its tributaries. The habitat for this species apparently is the dense brush and nearby openings associated with the banks of the Stanislaus River and San Joaquin River. According to the SJMCP, due to the fragmentation of suitable remaining habitat, the rabbit has no means of dispersing from Caswell State Park to other areas. Riparian habitat does not occur within the project study area, and the offsite restored riparian habitat along the North Branch of the South Fork of Littlejohn's Creek is isolated and not accessible to known brush rabbit populations or areas containing suitable habitat. Therefore, this species is not further addressed in this section.

#### *Chinook Salmon*

Sacramento winter-run chinook salmon (*Oncorhynchus tshawytscha*) is a federal and state-listed Endangered species. Sacramento spring-run chinook salmon (*Oncorhynchus tshawytscha*) is a federal and state Threatened Species, and Central Valley fall/late-fall chinook salmon (*Oncorhynchus tshawytscha*) is a National Marine Fisheries Service (NMFS) Species of Concern and a California Species of Special Concern.

Because both branches of the South Fork of Littlejohn's Creek are used for conveyance of irrigation water, the flows are highly variable and do not correspond to the natural hydroperiod for streams (i.e. wet winters/ dry summers) in the San Joaquin County area. The National Marine Fisheries Service (NMFS) has stated that Chinook salmon could be present in Littlejohn's Creek at a nearby project site in the fall and winter months, but acknowledges that their presence would be unlikely (Bein Frost and Associates 1999).

Chinook salmon are not known to spawn in Littlejohn's Creek, however, individuals of the species attempted to migrate upstream into the North Branch of the South Fork of Littlejohn's Creek in 2003 (pers. comm. Sydney Temple, Questa Engineering Corporation). This occurred in the late fall, immediately after restoration work in the North Branch was completed and the new channel was opened. A flow gate was opened upstream by the Central San Joaquin Water Conservation District to convey water to downstream agricultural fields and this sent a sediment plume downstream. Approximately six to eight Chinook salmon were attracted from the San Joaquin River into the channel, and once flows were shut off, perished in the channel due to the lack of sufficient flows to sustain these animals. This occurrence was reported to CDFW, and reportedly occurred in several other irrigation channels in the County over the



same brief period in fall 2003, and is considered to have been an isolated event (pers. comm. Sydney Temple, Questa Engineering Corporation).

The South Branch of the South Fork of Littlejohn's Creek has less flow than the North Branch, and is dry during most of the year (pers. comm. Sydney Temple, Questa Engineering Corporation). Restoration of this branch of the creek will provide habitat for some semi-aquatic and riparian wildlife species, but is not expected to provide suitable habitat for salmonids due to low flows and the highly modified flow regime.

#### *Giant Garter Snake*

The giant garter snake (*Thamnophis couchi gigas*) is a federally and state-listed Threatened species. Giant garter snake (GGS) is a large dull colored snake endemic to the valley floor wetlands of Sacramento and San Joaquin Valleys of California (USFWS 1999b). Giant garter snakes are highly aquatic and inhabit freshwater marshes, low-gradient streams, drainage canals, and irrigation ditches, especially those associated with rice farming from Butte County to Fresno County. Currently, 13 populations of giant garter snakes are recognized, which correspond to historic flood plains and tributary streams throughout the Central Valley.

San Joaquin County is one of the 11 Counties in the Central Valley where the giant garter snake is still presumed to occur. The abundance and distribution of giant garter snakes has not changed significantly since the time of federal listing: many populations north of Stockton remain stable, while the two known populations south of Stockton remain small, fragmented, and unstable and are probably decreasing (USFWS 2006). The closest records of giant garter snake to the project site are south of Stockton, approximately 7 miles north and east of the project site, within the East Stockton--Diverting Canal and "canals just west of historic Stockton" (CNDDB 2018). In addition, a 55-acre wildlife preserve for giant garter snake and Pacific pond turtle was created on BNSF Railway property approximately 1.5 miles northeast of the study area.

The South Branch of the South Fork of Littlejohn's Creek has little value for the giant garter snake due to the lack of permanent water within the channel and the lack of emergent wetland vegetation as a result of periodic flood maintenance and low flows. Upland refugia habitat is also of poor quality surrounding the creek due to the lack of tall grasses and other vegetation due to mowing for flood control and frequent disturbance of agricultural fields and landfill areas adjacent to the study area.

#### *Sacramento Splittail*

Sacramento splittail (*Pogonichthys macrolepidotus*) is a California Species of Special Concern. The Sacramento splittail inhabits rivers, lakes, sloughs and estuaries of the Sacramento-San Joaquin Delta, Central Valley, Suisun Bay, Suisun Marsh, and the San Francisco Bay. For spawning, Sacramento splittail require shallow water areas with submerged vegetation, habitats typically caused by late winter and spring flooding of natural stream banks. Operation of federal, state, and private water development projects, including water storage, diversions, releases, export and agricultural return flows, reduce the availability and quality of this habitat. Primary threats

to the species also include decline of water quality caused by the export of water from the Sacramento and San Joaquin rivers, drought, introduced aquatic species, and agricultural and industrial pollutants (USFWS 1999a).

Due to the presence of Sacramento splittail within the San Joaquin River and tributaries, this species could possibly get as far upstream in Littlejohn's Creek at the project site during wet years (Bein Frost and Associates, 1999). However, fisheries surveys of the North Branch of the South Fork of Littlejohn's Creek within the study area did not detect this species (A.A. Rich and Associates, 2002). All of the species detected were warm water species that could tolerate high water temperatures. Furthermore, these surveys were conducted during a wet year and likely detected a greater number of fish species than would occur in a dry year (A.A. Rich Associates 2002).

It is unlikely that Sacramento splittail occurs within the study area due to the extreme fluctuating water levels of Littlejohn's Creek, as a result of its use as an irrigation channel for agriculture. Therefore, this species is not further addressed in this section. The relocation and habitat restoration proposed as part of this project to the South Branch of the South Fork of Littlejohn's Creek would improve native riparian habitat for semi-aquatic and terrestrial wildlife, but this is not expected to improve conditions for fisheries due to the extreme fluctuations in water levels (pers. comm. Sydney Temple, Questa Engineering Corporation).

#### *San Joaquin Kit Fox*

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally Endangered and state Threatened species. Critical Habitat has not been designated for this species. A recovery plan was published for the San Joaquin kit fox on September 30, 1998 (USFWS 1998a).

The San Joaquin kit fox is the smallest canid species in North America. Currently there are two recognized subspecies of kit fox: *V. m. mutica* and *V. m. macrotis* (USFWS 1998a). Historically, they occurred extensively throughout California's Central Valley and parts of the Salinas and Santa Clara valleys. They currently inhabit the valley bottom and foothills from southern Kern County north to Contra Costa, Alameda, and San Joaquin Counties on the west, and near La Grange, Stanislaus County on the east side of the Valley and some of the larger scattered islands of natural land on the Valley floor in Kern, Tulare, Kings, Fresno, Madera, and Merced Counties (USFWS 1998a). San Joaquin kit fox occupy habitats with open or low vegetation with loose soils. In the northern portion of their range, they occupy grazed grasslands and, to a lesser extent, valley oak woodlands (USFWS 1998a). Kit foxes are also found in grazed grasslands including areas adjacent to tilled or fallow fields, and suburban settings (USFWS 1998a). San Joaquin kit fox are predominantly nocturnal; hunting and most other activities are restricted to after dark.

Suitable breeding habitat is present within the grasslands located in the southwest portion of San Joaquin County (SJCOG 2000), within the Southwest and Central Southwest Transitional zones of the SJMSCP. The project site is located within the Central Zone of the SJMSCP, and the CNDDB (2018) does not include any recorded observations of kit fox within approximately 20 miles of the project site. Suitable breeding habitat for San Joaquin kit fox is absent within the

study area due to the lack of suitable grassland habitat and rodent burrows. The SJMSCP does not require preconstruction surveys for kit fox within the Central Zone.

#### *Steelhead*

The Central Valley steelhead (*Oncorhynchus mykiss irideus*) ESU<sup>12</sup> is federally listed as Threatened. This ESU covers “all naturally spawning anadromous populations of *O. mykiss* (steelhead) below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs (NOAA 2005). Critical habitat for the Central Valley steelhead Distinct Population Segment (DPS) was designated in 2005 and corresponds with the ESU coverage (NOAA 2005).

The South Branch of the South Fork of Littlejohn’s Creek flows through the study area, and is a tributary to the San Joaquin River. This Branch is dry during most of the year (pers. comm. Sydney Temple, Questa Engineering Corporation), and does not provide suitable habitat for steelhead due its current use as an irrigation channel. The lack of permanent water in the creek precludes steelhead from breeding, however adults could attempt to migrate up the creek during heavy storm events and/or large water releases.

#### *Swainson’s Hawk*

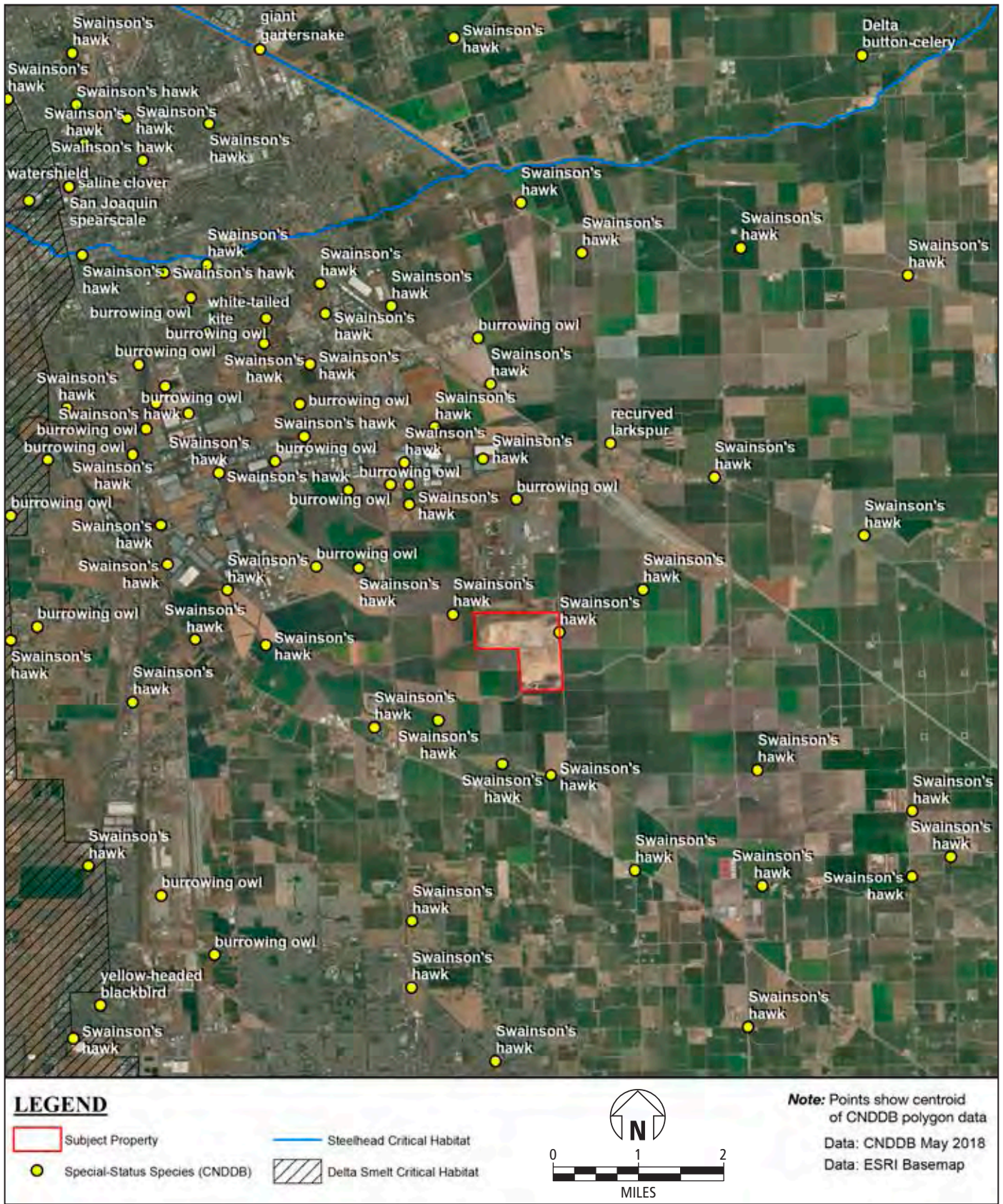
The Swainson's hawk (*Buteo swainsoni*) is a State-listed Threatened species. A great majority of the Swainson's hawks are migrators, nesting in northwestern Canada, the western U.S., and Mexico, then wintering in South America, a round trip which can exceed 14,000 miles. Swainson's hawks are summer breeders in California with approximately 80 percent of the pairs nesting in the southern Sacramento and northern San Joaquin Valleys. The migrating birds return to California between late February and early April.

Swainson's hawks nesting in the Central Valley are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Breeding occurs from late March through late August, with peak activity from late May through July (CDFG 2005). These open fields are the primary foraging areas. Swainson's hawks generally search for prey by soaring and several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations.

The non-native grasslands and disked fields within the study area could be used for foraging by Swainson’s hawk, although the ongoing rodent control program limits the extent of small mammals on the landfill property. As shown in Figure IV.F.1, numerous Swainson’s hawk nests have been documented in the project vicinity, with 6 nests being documented within approximately 1-mile of the project site. WRA (2017) observed an active Swainson’s hawk nest in a valley oak (*Quercus lobata*) tree along Austin Road adjacent to the landfill during surveys

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<sup>12</sup> Evolutionarily Significant Unit



**Figure IV.F-1**  
 Documented Special Status Species  
 Manteca, San Joaquin County

Source: California Natural Diversity Database

conducted in April 2014, June 2015, and June 2017; the nest is approximately 200 feet east of the landfill boundary (WRA 2017).

#### *White-tailed Kite*

White-tailed kites (*Elanus leucurus*) is a state Fully Protected species. It inhabits grasslands, agriculture fields, oak woodlands, savanna and riparian habitats in rural and urban areas. The species typically nests in trees surrounded by open foraging habitat. Based on the CNDDDB (2018), the closest documented nesting location is approximately 4 miles northwest of the project site. The species has been observed foraging over the site and could nest in suitable trees on or adjacent to the study area.

#### ***Other Special-Status Species***

##### *Tricolored Blackbird*

Tricolored blackbird (*Agelaius tricolor*) is a Federal Bird of Conservation Concern and a California Species of Special Concern. This species typically nests in large colonies in dense stands of cattails or tules in freshwater, emergent wetlands. Tricolored blackbird has also been observed nesting in dense stands of willows, blackberry, wild rose, and tall herbs (Zeiner et al. 1990). It is found throughout the Central Valley and along the coast south of Sonoma, and forages on grasslands, cropland, and along edges of ponds for insects, seeds, and grains. The vegetation associated with the North Branch of the South Fork of the Littlejohn's Creek provides potentially suitable nesting habitat for this species.

##### *Burrowing Owl*

The burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and a federal Bird of Conservation Concern. Burrowing owls range throughout the Central Valley, the inner and outer coastal regions, portions of the San Francisco Bay Area, the southern California coast from southern California to the Mexican Border, the Imperial Valley, and in portions of the desert and high desert habitats in southeastern and northeastern California.

Burrowing owls require habitat with three basic attributes: open, well-drained terrain; short, sparse vegetation; and underground burrows or burrow facsimiles. Throughout their range burrowing owls occupy grasslands, deserts, sagebrush scrub, agricultural areas (including pastures and untilled margins of cropland), earthen levees and berms, coastal uplands, urban vacant lots, and the margins of airports, golf courses, and roads (Haug, et al. 1993). Burrowing owls rely on burrows excavated by fossorial mammals or reptiles, including ground squirrels, badgers, skunks, foxes and coyotes. Where the number and availability of natural burrows is limited (for example, where burrows have been destroyed or ground squirrels eradicated), owls will occupy drainage culverts, cavities under piles of rubble, discarded pipe, and other tunnel like structures (Haug, et al. 1993). Breeding typically occurs March through August, with the peak in April and May (CDFG 2005).

As shown in Figure IV.F.1, burrowing owls have been recorded in several locations within 3 miles of the study area, with the closest documented occurrence being approximately 1-mile north of the project site. Portions of the landfill provide potential habitat, but the lack (or low number) of rodent burrows and the consistent control of rodents within the landfill areas reduce the likelihood of burrowing owls finding suitable nesting areas. No burrowing owls or indication of this species' presence was observed on the project site during recent surveys conducted by WRA (2017). Additionally, no ground squirrel burrows (including dilapidated burrows) or ground squirrels were observed.

#### *Northern Harrier*

The northern harrier (*Circus cyaneus*) is a California Species of Special Concern. This species typically nests in shrubby vegetation at the edge of marshes and feeds on voles, small mammals, birds, frogs, small reptiles, crustaceans, and insects. It also occurs in meadows, grasslands, open rangelands, desert sinks, as well as freshwater and saltwater emergent wetlands (CDFG 1990). It is unlikely to nest in the study area due to the lack of preferred habitat, but it could forage in the area.

#### *California Horned Lark*

Although the California horned lark (*Eremophila alpestris actia*) is a common species throughout the Central Valley and coastal valleys and foothills of California, it is considered a Special Animal by the CDFW. Although there are only five records in the project database used to identify occupied habitat, this species can be commonly seen in grasslands throughout San Joaquin County. Suitable habitat has been much reduced by agriculture. California horned larks forage in large groups in open grasslands, nesting in hollows on the ground and may also be found breeding on the Valley floor in suitable habitat (levees, cleared fields, etc.). Breeding occurs from March through July with peak activity in May (CDFG 2005).

#### *Loggerhead Shrike*

Loggerhead shrike (*Lanius ludovicianus*) is a Federal Bird of Conservation Concern and a California Species of Special Concern. It is a resident in the lowlands and foothills throughout California, where its habitat consists of open spaces such as grasslands with scattered trees, shrubs, utility lines, and/or fences for perching. Loggerhead shrikes typically nest in densely vegetated trees and shrubs. This species is treated on a national basis as a single unit; although loggerhead shrike is declining in the east, it is common in California, where it is relatively abundant in virtually all habitats that are suitable.

#### *Moestan and Molestan Blister Beetles*

The moestan (*Lytta moesta*) and molestan blister beetles (*L. molesta*) are poorly understood species that are parasitic on ground nesting bees. Both are considered Special Animals by the CDFG. There are collection records known from the Central Valley, Coast Range, and Sierra Nevada foothill areas. In San Joaquin County, there is one poorly located record for *L. moesta* from Manteca (CNDDDB Occurrence 9; the CNDDDB notes that this occurrence is possibly

extirpated). Habitat for both species includes annual grassland, foothill woodland, and saltbush (*Atriplex*) scrub. It is likely that other populations may occur elsewhere in San Joaquin County (SJCOG, 2000). However, it is not expected that these species would occur within the study area as it is developed as a landfill. Therefore, these species are not further discussed in this section.

#### *Western Pond Turtle*

Western pond turtle (*Actinemys marmorata*) is a California Species of Special Concern. It is the only fresh-water turtle native to greater California. Its range includes much of the west coast of the United States, from the Puget Sound in Washington south to the Baja Peninsula, Mexico.

Based on the CNDDDB (2018), the closest documented occurrence of the species is approximately 14 miles west of the project site. However, habitat for this species is present in the region and it is likely this species is present within some of the riparian and freshwater marsh habitats within the watershed surrounding the study area.

It is unlikely that pond turtles occur within the study area due to the very low water flows during most of the year within the South Branch of the South Fork of Littlejohn's Creek.

#### *Bats*

Various bat species are known from the project region (see Table IV.H-1). It is unlikely that bats roost in the study area given the absence of trees or unused buildings, but bats likely forage over the onsite creeks.

## **Regulatory Overview**

### *Federal*

#### *U.S. Army Corps of Engineers*

*Section 404 of the Clean Water Act of 1972.* Section 404 of the Clean Water Act (CWA)<sup>13</sup> regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act authorizes the USACE to regulate dredging, filling, and construction activities in navigable waters (see below). The primary intent of the CWA is to authorize the USEPA to regulate water quality through the restriction of pollution discharges. The USACE has the principal authority to regulate discharges of dredged or fill material into waters of the U.S. However, the USEPA has oversight authority over the USACE and retains veto power over the USACE's decision to issue permits. Waters of the U.S. include:

- All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of tide;

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<sup>13</sup> 33 U.S.C. 1344

- All interstate waters, including interstate wetlands;
- All other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- Tributaries of the above;
- Territorial seas; and
- Wetlands adjacent to waters defined above.

The South Branch of South Littlejohn's Creek and the wetlands it supports are regulated under the CWA and fall under the jurisdiction of the USACE.

Under Section 404, projects may be authorized under existing general permits (a Nationwide Permit) or may require an Individual Permit. A Nationwide Permit is a more streamlined permit process than an Individual Permit, although supporting compliance efforts, such as for the FESA, are identical regardless of permit type. The requirements of a Section 404 Nationwide Permit allow permanent impacts on less than 0.5 acre over 300 feet of federal-jurisdiction wetlands. For projects resulting in the placement of fill into more than this threshold into federal wetlands, then a Section 404 Individual Permit would automatically be required. The primary differences between authorization under the Nationwide Permit, program and an Individual Permit concern the public interest review, the requirement for an alternatives analysis<sup>14</sup>, and the need for National Environmental Policy Act (NEPA) review.

The proposed relocation of approximately 3000 feet of the South Branch of South Littlejohns Creek to a new 3400 foot channel would require issuance of an Individual Permit by the USACE.

*Section 10 of the Rivers and Harbors Act.* Section 10 of the Rivers and Harbors Act (RHA)<sup>15</sup> authorizes the USACE to regulate dredging, filling, and construction activities in navigable waters. The Rivers and Harbors Act of 1899 makes it a misdemeanor to discharge refuse matter of any kind into the navigable waters of the United States without a permit<sup>16</sup>. The RHA also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, channel, or other jurisdictional areas within without a permit. Although many activities covered by the RHA are regulated under the CWA, the 1899 Act retains independent vitality. The RHA is administered by the USACE.

The South Branch of the South Fork of Littlejohn's Creek is not regulated under the Section 10 of the Rivers and Harbors Act.

*Executive Order 11990, Protection of Wetlands* (May 24, 1977). Executive Order 11990 provides for

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<sup>14</sup> Section 404(b)(1)

<sup>15</sup> 33 USC 201, *et seq.*

<sup>16</sup> This specific provision is known as the Refuse Act.



the protection of wetlands. The administering agency for this Order is the USACE. The wetlands occurring on site are regulated under Executive Order 11990.

*U.S. Fish and Wildlife Service*

*Federal Endangered Species Act.* Section 9 of the federal Endangered Species Act (FESA)<sup>17</sup> prohibits the “take” of federally listed endangered species of fish or wildlife and many plant species<sup>18</sup>. The FESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct”<sup>19</sup>. A “take” can also include habitat modification or degradation that directly results in death or injury to a listed wildlife species. An activity can be defined as “take” even if it is unintentional or accidental. The FESA<sup>20</sup> requires that actions authorized, funded, or carried out by federal agencies (*i.e.*, issuing a permit pursuant to the CWA) do not “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of lands determined by the USFWS or the National Marine Fisheries Service (NMFS) to be ‘critical habitat’” for such species<sup>21</sup>. If a federal agency determines that a proposed federal action (*i.e.*, issuance of a CWA Section 404 permit for wetland fill) “may affect” a listed species and/or designated critical habitat, the agency must consult with the USFWS and/or the NMFS in accordance with Section 7 of the FESA. If the “take” of a federally listed species may occur, the applicant may be required to obtain an Incidental Take Permit from the USFWS and/or NMFS. This permit allows the taking of federally listed species if the “take” is “incidental to and not the purpose of, the carrying out of an otherwise lawful activity”<sup>22</sup>. The USFWS and/or NMFS issues an Incidental Take Permit only if the applicant, to the maximum extent possible, has minimized and mitigated for the impacts of the taking and provided adequate funding for the mitigation plan, and if the taking would not appreciably reduce the likelihood of the survival and recovery of the species in the wild<sup>23</sup>.

Incidental Take permits are obtained through FESA Section 7 consultation between the USACE and USFWS and/or NMFS or under Section 10 through an approved Habitat Conservation Plan. Take authority for federally listed species covered under the SJMSCP would conform to the FESA.

Federally listed species for which take authority may be required and provided by participation in the SJMSCP include giant garter snake.

*Bald and Golden Eagle Protection Act.* The Bald and Golden Eagle Protection Act, as amended

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<sup>17</sup> 16 USC 1531, *et seq.*; 50 CFR Parts 17 and 222

<sup>18</sup> 16 USC 1538 [a][1][B]

<sup>19</sup> 16 USC 1532[19]

<sup>20</sup> § 7(a)(2)

<sup>21</sup> 16 USC 1536[a][2] and 16 USC 1532[5]

<sup>22</sup> 16 USC 1539[a][1][B]

<sup>23</sup> 16 USC 1539[a][2][B]

(BGEPA)<sup>24</sup>, provides protection for the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds, their nests, eggs, or feathers unless expressly authorized by permit pursuant to federal regulations.

The golden eagle is the only species subject to the provisions of the BGEPA that is covered under the SJMSCP. However, because the SJMSCP is based on the more stringent, federal standard for "take" pursuant to the FESA, which includes modification of habitat, Incidental Take Permits for the golden eagle are included in the SJMSCP to allow for the conversion of habitat for the golden eagle with appropriate creation of compensatory habitat for this species. To fulfill the requirements of the BGEPA, however, the Incidental Take Minimization Measures of the SJMSCP for the golden eagle have been designed to avoid "take", as defined by the BGEPA.

While there is no potential for the occurrence of bald eagle on site, suitable foraging habitat for golden eagle is present within the study area, and suitable nesting and foraging habitat for golden eagle is present on surrounding parcels.

*Migratory Bird Treaty Act.* The Migratory Bird Treaty Act of 1918, as amended (MBTA)<sup>25</sup> includes provisions for the protection of migratory birds, including basic prohibitions against any taking not authorized by federal regulation. The MBTA makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird. The administering agency for the above authority is the USFWS. Most bird species occurring within the project region fall under the protection of the MBTA<sup>26</sup>. On December 8, 2004 congress adopted the Migratory Bird Treaty Reform Act (MBTRA)<sup>27</sup>, which excludes from protection all migratory birds that are considered to be non-native or that have been human introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes.<sup>28</sup> As discussed in Section 8.7, Impacts and Mitigation Measures, project implementation would conflict with the MBTA.

Though most of the project area is intensively managed for agriculture, there is a high potential

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<sup>24</sup> 16 U.S.C. 668-668c

<sup>25</sup> 16 USC §703-711; 50 CFR Subchapter B

<sup>26</sup> With the exception of those species that belong to the families not listed in any of the four treaties, such as wrenit (*Chamaea fasciata*), European starling (*Sturnus vulgaris*), California quail (*Callipepla californica*), ring-necked Pheasant (*Phasianus colchicus*) and chukar (*Alectoris chukar*), among others less common in California.

<sup>27</sup> Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108-447.

<sup>28</sup> The MBTRA excludes two additional species commonly observed in the U.S., the rock pigeon (*Columba livia*) and domestic goose (*Anser anser 'domesticus'*).

for the occurrence of migratory birds to nest within vegetation along roadsides and along the banks of the South Branch of the South Fork of Littlejohn's Creek.

*San Joaquin County General Plan*

The San Joaquin County General Plan (SJCGP) outlines objectives, policies and implementation measures related to natural resources within the Project area. Objectives of the SJCGP call for the protection and improvement of vegetation, fish and wildlife resources in the County and to provide undeveloped open space for nature study, protection of endangered species, and preservation of wildlife habitat. Specific policies of the SJCGP calls for the protection of significant biological and ecological resources, including wetlands, riparian areas, rare, threatened, and endangered species and their habitats, potentially rare or commercially important species, vernal pools, significant oak groves and heritage trees. The SJCGP outlines implementation measures intended to protect special-status species and their habitats and trees, to preserve and restore natural habitats for wildlife, to preserved and restore wetlands and riparian habitat, and to seek ways to acquire natural areas.

*San Joaquin County Multi-Species Habitat Conservation and Open Space Plan*

San Joaquin County is a signatory to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP; SJCOG 2000). Participation in the SJMSCP, which is voluntary, satisfies the requirements of federal and State endangered species acts (FESA and CESA), and ensures that potential impacts are mitigated to a less-than-significant level in compliance with CEQA. The SJMSCP provides incidental take authorization for 97 listed and non-listed plant, fish, and wildlife species and provides compensation for habitat losses through collection of fees that are used to preserve habitats elsewhere.

The project proponent proposes to continue participation in the SJMSCP. By participating, the proposed project would be consistent with the Final EIR/ EIS for the SJMSCP, dated November 15, 2000, and certified by the San Joaquin Council of Governments on December 7, 2000. Participation in the SJMSCP provides the project proponent with incidental take authorization for any of 97 covered species, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b). Participation in the SJMSCP also provides "measures to offset not only incidental take pursuant to ESA and CESA, but also provides mitigation to offset cumulative impacts to common plant, fish and wildlife species and to offset other impacts associated with open space conversions (e.g., impacts to agricultural lands, impacts to scenic resources, and similar impacts) which must be addressed pursuant to CEQA) (Section 1.1.4.1).

Participation in the SJMSCP will reduce impacts to covered species and habitats to a level of less-than-significant level. Mitigation fees vary by the type of lands being affected and are based on the habitat type:

Habitat Type Fees<sup>29</sup>

Multi-Purpose Open Space	\$9,701 per acre
Natural	\$19,400 per acre
Agriculture	\$19,400 per acre
Vernal Pool – uplands	\$72,523 per acre
Vernal Pool - wetted	\$116,871 per acre

However, participation in the SJMSCP does not satisfy the requirements of the USACE, RWQCB, CDFW pertaining to impacts to surrounding waterways, wetlands, creeks, channels and streambed alteration; permits for these impacts must be obtained separately. Similarly, participation in the SJMSCP does not address potentially significant impacts to non-covered species. Covered versus non-covered species potentially affected by project implementation are summarized in Table IV.F.1.

In most cases, projects participating in the SJMSCP experience can streamline the process of complying with endangered species laws and reduce the cost of mitigating compared with the undertaking of separate negotiations with each regulatory agency. Participation in the SJMSCP does not, however, satisfy the requirements of the USACE, RWQCB or CDFW pertaining to impacts to stream courses or wetlands; permits for these impacts must be obtained separately, as discussed below.

Forward applied for the consolidated landfill to be included under the provisions of the SJMSCP. Forward's application was approved by the Technical Advisory Committee of the San Joaquin Council of Governments (SJCOG) on April 10, 2002, and by the SJCOG's Board on April 25, 2002. Therefore, provisions of the SJMSCP apply to future landfill development at the site.

*California Department of Fish and Wildlife*

Habitats potentially falling under the regulatory jurisdiction of CDFW are described in the CFGC<sup>30</sup>. Absent a "Lake and Streambed Alteration agreement," as amended in 2003, CFGC Section 1602 provides that "[a]n entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake[.]" The CDFW has traditionally taken a broad view of its jurisdiction under this statute and its predecessors, asserting that the definition of "stream," as used in this context, includes "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife". The proposed relocation of 3000 feet of the South

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<sup>29</sup> 2018 Updated Habitat Fees: <http://www.sjco.org/DocumentCenter/View/3220/2018-Fees-and-Endowment>

<sup>30</sup> Division 2, Chapter 6, Sections 1600–1607

Branch of the South Fork of Littlejohn's Creek to a new 3200 foot channel would require issuance of a Lake and Streambed Alteration Agreement from the CDFW.

Other sections of the CFGC protect various groups of wildlife species, including fish, crustaceans, mollusks, birds, mammals, reptiles, and amphibians.

The CESA<sup>31</sup> includes provisions for the protection and management of species listed by the State as endangered or threatened or designated as candidates for such listing. The CESA states that "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species"<sup>32</sup>. The CESA also contains a general prohibition, applicable generally and not just to state agencies, against the "take" of listed species absent approval of an Incidental Take Permit or, in the case of plants, except in conformity with the California Native Plant Protection Act (CNPPA<sup>33</sup>) and the California Desert Native Plants Act (CDNPA<sup>34</sup>). The California Fish and Game Commission has formally listed plant and animal species as endangered, threatened, or rare<sup>35</sup>.

State law also prohibits the take, possession, purchase or sale of protected furbearers<sup>36</sup>. Additionally, the CDFW maintains lists of "Species of Special Concern" that are defined as species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. The CDFW may provide comments on a Project's CEQA document and may incorporate all CEQA and USFWS/NMFS mitigation measures into the Section 1602 Lake and Streambed Alteration Agreement and Incidental Take Permit<sup>37</sup>.

The CDFW enforces the CFGC, which designates fully protected birds<sup>38</sup>, fully protected mammals<sup>39</sup>, fully protected reptiles and amphibians<sup>40</sup>, and fully protected fish<sup>41</sup>. With the exception of permitted scientific research, no take of any fully protected species is allowed.

The CDFW administers the CNPPA, which allows the California Fish and Game Commission to designate rare and endangered rare plant species and to notify landowners of the presence of such species. It also allows the commission to regulate the "taking, possession, propagation,

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<sup>31</sup> CFGC Sections 2050-2068

<sup>32</sup> CFGC Section 2053

<sup>33</sup> CFGC Sections 1900-1913

<sup>34</sup> CFGC Sections 2080, 2081

<sup>35</sup> 14 CCR 670.2 and 14 CCR 670.5, respectively

<sup>36</sup> 14 CCR Section 460

<sup>37</sup> CFGC Section 2081

<sup>38</sup> CFGC §3511

<sup>39</sup> §4700

<sup>40</sup> §5050

<sup>41</sup> §5515

transportation, exportation, importation, or sale of any endangered or rare native plants<sup>42</sup>. The CNPPA further directs that "... [n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant"<sup>43</sup>. However, the prohibition against "take" of native plants does not apply to "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way by the owner of the land or his agent, or the performance by a public agency or a publicly or privately owned public utility of its obligation to provide service to the public" where the landowner at issue has notified CDFW "at least 10 days in advance of changing the land use to allow for salvage of such plant" and CDFW fails to avail itself of the opportunity to remove the plants<sup>44</sup>.

The CFGC<sup>45</sup> makes it illegal to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided under the code. The CFGC prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls)<sup>46</sup>, the take or possession of fully protected birds<sup>47</sup>, and the take or possession of any migratory nongame bird or part thereof as designated in the MBTA<sup>48</sup>.

The Significant Natural Areas Program<sup>49</sup> was established to encourage the cooperation of federal, state, local, and private sectors, including private organizations and individuals, in efforts to maintain areas containing diverse ecological and geological characteristics, which are vital to the continual health and well-being of the state's natural resources and of its citizens.

### ***Regional Water Quality Control Board***

Pursuant to the Clean Water Act<sup>50</sup> and the guidelines of the U.S. Environmental Protection Agency (USEPA<sup>51</sup>), an applicant for a federal permit to conduct any activity that may result in discharge into navigable waters must provide a certification from the Regional Water Quality Control Board (RWQCB) that such discharge would comply with the state water quality standards.<sup>52</sup> The RWQCB focuses on ensuring that projects do not adversely affect the

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<sup>42</sup> CFGC Section 1907

<sup>43</sup> CFGC Section 1908

<sup>44</sup> CFGC Section 1913

<sup>45</sup> CFGC Section 3503

<sup>46</sup> CFGC Section 3503.5

<sup>47</sup> CFGC Section 3511

<sup>48</sup> CFGC Section 3513

<sup>49</sup> CFGC Section 1930–1940

<sup>50</sup> CWA, Section 401

<sup>51</sup> CWA Section 404(b)(1)

<sup>52</sup> CCR Title 23, Sections 3830, *et seq.*

“beneficial uses” associated with waters of the State.<sup>53</sup> In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration water quality control measures into projects that could result in discharge into waters of the State.

Under the Porter-Cologne Water Quality Control Act<sup>54</sup>, the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State’s waters. “Waste” is broadly defined by the Porter-Cologne Act to include “sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature....”<sup>55</sup>. Concentrated silt or sediment associated with human habitation and harmful to the aquatic environment is “waste” under this section. In addition, the California Attorney General has interpreted this definition to include extraction of sand, gravel or other minerals from a streambed, because it may cause an increase in turbidity and silt in the waters of the stream downstream from the operations. Therefore, even if a project does not require a federal permit (*i.e.*, a Nationwide Permit from the USACE), it may nevertheless require review by and approval of the RWQCB.

## **Potential Impacts and Mitigation Measures**

### **Criteria of Significance**

CEQA Guidelines<sup>56</sup> establish certain “mandatory findings of significance” that function as significance thresholds affecting certain biological resources. Pursuant to that section, a project is deemed to have a significant environmental effect if the project would:

- 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; or
- Substantially reduce the number or restrict the range of an endangered, rare or threatened species.

In addition, based upon the checklist in Appendix G of the *CEQA Guidelines*, implementation of the proposed project would have a significant impact if it were to cause:

- A substantial adverse effect, either directly or through habitat modifications, on any special-status species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the CDFW or USFWS;

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<sup>53</sup> Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state.” (California Water Code Section 13050(e).) These waters include nearly every and all surface or ground water in the state, or tributaries thereto, and include drainage features outside USACE jurisdiction (*e.g.*, dry and ephemeral/seasonal stream beds and channels, *etc.*, isolated wetlands such as vernal pools, seeps, springs and other groundwater-supplied wetlands, *etc.*, and storm drains and flood control channels.

<sup>54</sup> Cal. Water Code Sections 13000-14920

<sup>55</sup> Cal. Water Code Section 13050

<sup>56</sup> Section 15065

- 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 CDFW or USFWS;
- A substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites;
- A conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### Impacts and Mitigation Measures

For the purposes of this section, impacts and mitigation measures already required from past EIRs and project approvals are considered to be part of the proposed project, unless otherwise specified. Note that, for the purposes of document organization, impacts and mitigation measures below are labeled as “F\_”. These correspond to impacts and mitigation measures “H\_” in the Summary section, for consistency with the 2013 EIR.

**Impact F.1. Loss of Wetland Habitat.** On December 18, 2007, the U.S. Army Corps of Engineers (Corps) verified 1.25 acres (54,371 square feet) of waters of the U.S. on the project site along the southern branch of Littlejohn’s Creek. On June 14, 2018, Monk & Associates re-mapped the project site and field verified an equivalent acreage (1.25 acres) of waters of the U.S./State to be present within the stretch of the southern branch of Littlejohn’s Creek running along the northern boundary of the recycling and composting facility.<sup>57</sup>

As part of the proposed project, the South Branch of the South Fork of Littlejohn’s Creek would be relocated along the eastern and southern boundary of the proposed expansion area. This would serve to increase the separation between the landfill and the creek and to accommodate more area for the Forward Landfill. This would result in the filling of approximately 3000 feet of creek channel supporting approximately 1.25 acres of wetlands and open water habitat subject to the jurisdiction of the USACE, CDFW and RWQCB.<sup>58</sup> However, the project would create 1.87 acres of wetland habitat in the longer, relocated creek channel.

To address FAA concerns regarding increasing the risk of bird strikes, it is anticipated that the banks of the relocated creek would be regularly mowed to prevent the establishment of riparian vegetation. This management prescription would mirror the existing management requirements

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<sup>57</sup> The re-verification and jurisdictional determination are pending as of August 27, 2018. Once the delineation map is re-confirmed, the full extent of waters of the United States will be known and the extent of impacts to regulated areas ascertained. This will serve to confirm the acreage of wetlands to be impacted and for which mitigation will be provided.

<sup>58</sup> Ibid



and condition of the existing creek maintained by the Flood Control District. There is no woody vegetation that is allowed to establish and mature in the existing channel. However, similar to the existing condition of this channel, wetland vegetation would be allowed to establish within the creek bed. Given that the relocation of the channel would result in the temporary loss of approximately 1.25 acre of wetland and creek habitat, this would be a *significant impact*. In the long term, the project would increase wetland habitat on the site by creating wetland habitat within the relocated and longer creek channel. During landfill development, the proposed new entrance road would cross the relocated creek channel. The creek crossing would be designed to span the creek, with all work avoiding areas under the jurisdiction of the USACE, CDFW, and RWCQB.

The surface water control plan for the existing Forward Landfill consists of an integrated system of bench ditches, perimeter ditches, and storm water retention basins. The landfill is designed so that surface water would run off via sheet flow until it is intercepted by a bench ditch. Bench ditches subsequently drain toward downdrains, which discharge to perimeter ditches. Finally, the perimeter ditches drain to the sedimentation/detention basin. The proposed project includes the removal and relocation of some of the existing bench ditches, sedimentation ponds, and leachate impoundments. These man-made features appear to have been constructed in upland habitats and therefore are not expected to be subject to USACE jurisdiction. Closure and relocation of these features would be conducted in accordance with applicable regulations and as approved by the regulatory agencies.

**Mitigation Measure F.1.** Prior to site grading, the project sponsor shall obtain re-verification of the jurisdictional delineation conducted for the project; this will ascertain the extent of jurisdictional waters and wetlands on the site, including the creek and potentially onsite storm control features (detention basins, dry ditches). The re-verified jurisdictional delineation will serve to confirm the acreage of wetlands to be impacted and for which mitigation will be provided. Prior to site grading, the project sponsor shall obtain permits under Sections 401 and 404 of the Clean Water Act and Section 1602 of the California Fish and Game Code for all impacts to jurisdictional resources; all permit conditions shall be implemented. At a minimum, an equivalent acreage of wetland habitat to be impacted shall be established within the relocated segment of the South Branch of the South Fork of Littlejohn's Creek (1:1 in-kind replacement of wetlands impacted by the creek relocation), and if required by permit conditions, additional compensatory mitigation will be purchased from an USACE, RWQCB and/or CDFW-approved wetland mitigation bank. These mitigation components are discussed further below.

#### Onsite Replacement of Wetland Habitat

A Wetland Mitigation and Monitoring Plan shall be prepared and submitted for agency review to ensure a "no net loss" of wildlife value or acreage of wetlands. At a minimum, the Plan shall include the creation of the equivalent (in-kind) acreage of wetland habitat within the relocated segment of the South Branch of the South Fork of Littlejohn's Creek. The Concept Design Report (Questa 2017) indicates that approximately 1.87 acres of wetlands would be created in the longer, relocated creek channel, so an increase in wetland habitat (1.87 acres vs. 1.25 acres) is anticipated. The Project Sponsor shall ensure that the mitigation area, along with an

appropriate upland buffer, are preserved in perpetuity via recordation of a conservation easement, or similar deed restriction.

The Wetland Mitigation and Monitoring Plan shall include the following details:

- The location(s) of mitigation areas, including the types and extent of each habitat type to be created.
- Mitigation for loss of existing wetlands shall at a minimum include the creation of equivalent acreage of wetland habitat present within the channel (as determined by the re-verified jurisdictional delineation). Mitigation wetlands shall replace the existing functions and services provided by the impacted channel.
- All graded areas within the habitat restoration area shall be seeded with appropriate mixes of California native grass and forb species, developed by a qualified restoration ecologist.
- The stated goal of the mitigation effort shall be to establish self-sustaining wetland vegetation that shall not require long-term irrigation or maintenance.
- The mitigation site shall include the establishment of a vegetated upland buffer no less than 50 feet wide on both sides of the recreated channel, where practicable.
- Provide grading details, location and quantities of all plant materials to be planted or seeded, native seed mixes to be used on all bare ground surfaces, monitoring procedures and schedules, identification of remedial measures, and performance criteria to be used by the agencies to assess success or failure of the mitigation effort.
- Long-term monitoring over a minimum of five years shall be funded by the Project Sponsor, subject to approval by the regulatory agencies.
- Annual monitoring reports shall be submitted to each permitting agency.
- A wetland delineation and habitat map shall be prepared during the final year of monitoring and included in the final annual report.
- Subject to review and modification by the regulatory agencies, specified success standards shall call for, at a minimum, 80% survival of any plantings and vegetation will be restored to the extent that it currently occurs as detailed in the most recent wetland delineation report, at the end of the monitoring period and after at least two consecutive years of no supplemental irrigation.

#### Off-Site Wetland Mitigation

In addition to the approximately 1.87 acres of wetlands to be created onsite, if required as a permit condition, additional mitigation credits may be purchased from a qualified wetland mitigation bank with a Service Area that covers the project site, or as otherwise approved in advance by the USACE and RWQCB. For example, the expanded Service Area of the Cosumnes Floodplain Mitigation Bank covers the project site. This mitigation bank sells Floodplain Mosaic Wetlands credits (404) credits that would appropriately mitigate impacts to wetlands. This, in combination of the onsite wetland mitigation, would provide opportunities (if needed) to

comply with a higher permit-required replacement ratio for wetland impacts, and also provide opportunities for riparian habitat mitigation.

In lieu of purchasing mitigation credits, if additional wetland mitigation (greater than the 1.87 acres proposed as part of the project) is required as a permit condition, the Sacramento District of the USACE has an "In Lieu Fee Program" to which the project sponsor may make payment.

The fee is based on a fee schedule for various wetland habitat types. The fee is payable to the National Fish and Wildlife Foundation (NFWF) to be deposited in NFWF's Sacramento District Wetlands Conservation Fund.

This mitigation measure would reduce significant impacts to the Creek and associated jurisdictional resources to *less than significant* levels because it would provide restored habitat at an equal or greater value to the lost habitat within the relocated creek segment, and provide for compliance with the conditions of permits to be issued by the USACE, RWQCB, and CDFW.

**Impact F.2. Potential "Take" of Chinook Salmon and Steelhead.** Construction of the realigned channel and abandonment of the existing channel could result in the stranding of fish. In addition, if the relocated channel is opened up immediately prior to a significant rainfall event and/or a significant release of irrigation water, a sediment plume could attract Chinook salmon and/or steelhead from the San Joaquin River into the channel and cause potential mortality to the fish. This is a *potentially significant* impact.

In the long term, restoration of the realigned creek channel would provide habitat for some semi-aquatic and riparian wildlife species, but is not expected to provide suitable habitat for salmonids due to low flows and the highly modified flow regime (pers. comm. Sydney Temple, Questa Engineering Corporation).

**Mitigation Measure F.2-1.** To ensure that no aquatic vertebrates are stranded during abandonment of the existing South Branch of the South Fork of Littlejohn's Creek, the following measures shall be implemented:

- Channel abandonment shall be restricted to the dry season (i.e., between June 15 and October 15).
- Channel abandonment shall occur only when the channel bottom has been dry for at least one week, that is, at least one week after the most recent release of water from Farmington Reservoir or any other sources.
- Prior to initiation of any work within the abandoned channel (e.g., construction of coffer dams, filling, connecting to the realigned channel), a qualified biologist approved by the USFWS and CDFW shall inspect the entire length of the work area for any stranded aquatic vertebrates; any stranded aquatic vertebrates shall be captured and relocated to the nearest body of water in the same stream system.
- Only a qualified biologist with all necessary federal and/or State permits may relocate fish and amphibians. Federally and State-listed species may only be relocated by biologist holding the appropriate federal or State permits. A record shall be maintained and submitted to the USFWS and CDFW of all fish and amphibians captured and relocated.

- Any observed mortalities of species-status species shall be immediately reported to the USFWS and CDFW.

**Mitigation Measure F.2-2.** Water shall be released into the restored South Branch of the South Fork of Littlejohn's Creek gradually to avoid creating a sediment plume downstream that could attract and cause mortality to Chinook salmon or steelhead from the San Joaquin River to enter the channel. After the relocation of the channel is completed and is ready to convey water, initial flows will be released at approximately 2 cubic feet/second (cfs), and shall be monitored to assure that water is released gradually through the channel for the first week after re-opening. This reduced flow would avoid causing a sediment plume. The restored channel shall not be opened prior to or during a significant rainfall event, and initial releases into the channel shall be coordinated with the Central San Joaquin Water Conservation District to insure no significant releases are scheduled during the initial opening of the channel.

Implementation of these mitigation measures would reduce salmon/steelhead impacts to a *less than significant* level because it would avoid causing a sediment plume.

**Impact F.3. Potential "Take" of Giant Garter Snake.** Although the study area does not provide expected habitat for giant garter snake, the species has been recorded in the watershed within approximately 7 miles of the study area. In addition, portions of the Stockton Diverting Canal, Littlejohn's Creek, Lone Tree Creek, and French Camp Slough are considered to have habitat elements for the species (SJCOG 2000). If the species were present in the South Branch of the South Fork of Littlejohn's Creek during construction, a "take" of giant garter snake could occur. This is a *potentially significant* impact. In the long term, restoration of the realigned creek channel, proposed as part of this project, will provide at least equivalent enhance habitat for some semi-aquatic and riparian wildlife species, including for giant garter snake.

**Mitigation Measure F.3.** Participation in the SJMSCP affords the project proponent Incidental Take authorization for giant garter snake pursuant to ESA, CESA and CEQA. Nonetheless, to minimize the potential for "incidental take" of giant garter snake, the following measures required by the SJMSCP (SJCOG 2000) shall be applied:

A) A preconstruction survey for the species shall be conducted according to the requirements of the SJMSCP by a qualified biologist approved by the SJMSCP Technical Advisory Committee (TAC). If a giant garter snake is detected within the study area, the project will undertake Incidental Take Avoidance and Minimization Measures to protect the species as directed by the TAC. The project shall also comply with any mitigation requirements specified for giant garter snake habitat by the SJMSCP TAC (SJCOG 2000). Avoidance and minimization measures may include the following, as specified by the TAC:

1. Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the SJMSCP Joint Powers Authority (JPA), with the concurrence of the Permitting Agencies' representatives on the TAC, shall determine if additional measures are necessary to minimize and avoid take.
2. Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary.

3. Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.
4. Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.
5. In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:
  1. Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
  2. Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and
  3. Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
6. If on-site wetlands, irrigation ditches, marshes, etc. are being relocated in the vicinity: the newly created aquatic habitat shall be created and filled with water prior to dewatering and destroying the pre-existing aquatic habitat. In addition, non-predatory fish species that exist in the aquatic habitat and which are to be relocated shall be seined and transported to the new aquatic habitat as the old site is dewatered.
7. If wetlands, irrigation ditches, marshes, etc. will not be relocated in the vicinity, then the aquatic habitat shall be dewatered at least two weeks prior to commencing construction.
8. Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.
9. Other provisions of the USFWS *Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat* shall be implemented (excluding programmatic mitigation ratios which are superseded by the SJMSCP's mitigation ratios).

These mitigation measures would reduce potential impacts to the giant garter snake to *less than significant* levels because impacts to giant garter snake would be minimized or avoided. . In addition, restoration of the realigned creek channel would provide at least equivalent habitat for giant garter snake.

**Impact F.4. Potential "Take" of Western Pond Turtle.** Though the lack of consistent flows within the South Branch of South Littlejohn's Creek within the study area are unlikely to support western pond turtle, habitat elements for the species are present in other portions of Littlejohn's Creek, and these are hydrologically connected to the study area. If the species were present in the South Branch of the South Fork of Littlejohn's Creek during construction, a "take" of western pond turtle could occur. This is a *potentially significant* impact. In the long term, restoration of the realigned creek channel, proposed as part of this project, will provide at least equivalent enhance habitat for some semi-aquatic and riparian wildlife species, including for western pond turtle.

**Mitigation Measure F.4.** Participation in the SJMSCP affords the project proponent Incidental Take authorization for western pond turtle pursuant to ESA, CESA and CEQA. Nonetheless, to minimize the potential for incidental take of the species, preconstruction surveys for western pond turtles shall be conducted within the project study area by a qualified biologist approved by the SJMSCP TAC. If the species is detected, within the study area, the project shall undertake Incidental Take Avoidance and Minimization Measures to protect the species as directed by the TAC. Avoidance and minimization measures may include the following, as specified by the TAC:

- 1) When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall be indicated by temporary fencing if construction has begun or will begin before nesting periods end (the period from egg laying to emergence of hatchlings is normally April to November). The buffer zones shall be maintained until the nesting season has ended.

These mitigation measures would reduce potential impacts to Pacific pond turtle to *less than significant* levels because impacts to pond turtles would be avoided or minimized. In addition, restoration of the realigned creek channel would provide at least equivalent habitat for western pond turtle.

**Impact F.5. Potential "Take" of Special-status Bird Species.** Construction could adversely affect special-status birds including Swainson's hawk, golden eagle, tricolored blackbird, white-tailed kite, burrowing owl, loggerhead shrike, northern harrier, and California horned lark through direct and indirect impacts. To ameliorate the potential effects of project operations on air traffic safety, the services of a falconer are used to prevent the seasonal aggregation of gulls over the project site, which has potential to affect foraging or breeding behavior of special-status bird species. These impacts are *potentially significant*.

**Mitigation Measure F.5a.** Participation in the SJMSCP affords the project proponent Incidental Take authorization for these species, both for direct impacts and loss of habitat. As specified in the SJMSCP, incidental take avoidance measures have been developed and must be implemented to conform to the SJMSCP; each species is discussed separately, below.

All SJMSCP Covered Bird Species are subject to the MBTA. The SJMSCP is based on the more stringent, federal standard for "take" pursuant to the FESA, which includes modification of habitat. Incidental Take Permits for SJMSCP-covered bird species are included in the SJMSCP, to allow for the conversion of habitat with appropriate creation of compensatory habitat for these species (SJCOG 2000). However, to conform to the MBTA, the Incidental Take Minimization Measures of the SJMSCP may not result in a "take", as defined by the MBTA, of SJMSCP Covered Bird Species. The Incidental Take Minimization Measures in Section 5.2.4 of the SJMSCP have been designed to avoid such a "take".

#### *Swainson's Hawk*

Swainson's hawks have been observed in the project vicinity and there is a known nest site in an oak tree on Austin Road, approximately 200 feet from the landfill boundary. Potentially suitable nest sites are also present near to the project site, particularly along the North Branch of the South Fork of Littlejohn's Creek. The proposed project does not include the removal of any potential nest trees, but construction activities would occur in proximity to a known nest site and potential nest trees. Given the use of the site as a landfill and associated truck traffic and landfill operation activities, baseline noise conditions are high on the site. Initial construction activities (e.g., soil excavation) could temporarily elevate onsite noise levels, thus potentially affecting an active Swainson's hawk nest (should one occur within 500 feet of the construction zone). Participation in the SJMSCP affords the project proponent Incidental Take authorization for Swainson's hawk pursuant to ESA, CESA and CEQA. To conform to the SJMSCP in regards to protecting potentially occurring nearby active nests, the following measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, scheduled to occur during the breeding season (February 16 through August 31), a preconstruction survey for Swainson's hawk nests shall be performed by a qualified biologist.
- If an occupied Swainson's hawk nest is detected, a setback of 500 feet from the nesting area shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. The setback distance may be smaller, subject to CDFW approval. Setbacks shall be marked by brightly colored temporary fencing.
- If a nest tree becomes occupied during construction activities, then all construction activities shall remain a distance of two times the dripline of the tree, measured from the nest.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

### *Golden Eagle*

Although no suitable nesting sites for golden eagle are present onsite, potential nesting habitat occurs on adjacent properties. Participation in the SJMSCP affords the project proponent Incidental Take authorization for golden eagle pursuant to ESA, CESA and CEQA. As outlined in the SJMSCP<sup>59</sup>, when a site inspection indicates the presence of a nesting golden eagle, the following measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the nesting season (*i.e.*, normally approximately February 1 - June 30), a preconstruction survey shall be performed by a qualified biologist.
- If an occupied golden eagle nest is detected, a setback of 500 feet from the nesting area shall be established and maintained during the nesting season (*i.e.*, normally approximately February 1 - June 30) for the period encompassing nest building and continuing until fledglings leave nests.

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<sup>59</sup> SJMSCP Chapter 5.2.4.21

- This setback applies whenever construction or other ground disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied.
- Setbacks shall be marked by brightly colored temporary fencing.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA as described and are consistent with the provisions of the BGEPA.

### *White-tailed Kite*

White-tailed kite has been observed foraging in the project area and suitable nesting habitat is present in the immediate project vicinity. Participation in the SJMSCP affords the project proponent Incidental Take authorization for white-tailed kite in the form of habitat conversion provided the following Incidental Take Minimization Measures, as outlined in the SJMSCP<sup>60</sup>, are followed:

- Prior to the initiation of tree removals/pruning, ground clearing, grubbing, grading or excavation activities scheduled to occur during the nesting season (*i.e.*, normally approximately February 15 – September 15), a preconstruction survey shall be performed by a qualified biologist.
- A setback of 100 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests.
- This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

### *Burrowing Owl*

Although burrowing owls were not detected within the study area during biological surveys in 2005 and a follow up surveys in 2008, 2012, 2014, and 2017, some suitable habitat could occur on the site and in the project vicinity and the species could colonize the site in the future. Participation in the SJMSCP affords the project proponent Incidental Take authorization for burrowing owl pursuant to ESA, CESA and CEQA; this provides both for the taking of the species incidental to otherwise lawful activities as well as the conversion of suitable burrowing owl habitat to non-suitable habitat. Consistent with the measures outlined in the SJMSCP<sup>61</sup> and CDFG 2012, the following impact minimization measures shall be followed:

- Consistent with the protocols outlined by the CDFG (2012 Appendix D), a “Take Avoidance Survey” shall be performed by a qualified biologist (as defined in CDFG 2012, page 5) no less than 14 days prior to the initiation of ground disturbance. A final survey shall be conducted 24 hours prior to ground disturbance.

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<sup>60</sup> SJMSCP Chapter 5.2.4.19

<sup>61</sup> SJMSCP Chapter 5.2.4.15



- Ongoing rodent control measures at the landfill facility shall conform to the guidelines outlined in the SJMSCP, Appendix A<sup>62</sup> (see Impact F.10, below).
- The Project Proponent may plant new vegetation or retain existing vegetation entirely covering the site at a height of approximately 36" above the ground. Vegetation should be retained until construction begins; tall vegetation will discourage colonization of the site by burrowing owl.
- Alternatively, if burrowing owls are not known or suspected on a project site and the area is an unlikely occupation site for red-legged frog, San Joaquin kit fox or tiger salamander, the Project Proponent may disc or plow the entire project site to temporarily close ground squirrel burrows and render the construction site temporarily unusable by burrowing owls.
- During the breeding season (i.e., 1 February through 31 August), occupied burrows shall not be disturbed in accordance with the following restrictions (CDFG 2012):
  - Between 1 April and 15 August, minimum setbacks from occupied burrows shall be 200 m (656 ft) for low disturbance levels, and 500 m (1640 ft) for medium and high disturbance levels.
  - Between 16 August and 15 October, minimum setbacks from occupied burrows shall be 200 m (656 ft) for low and medium disturbance levels, and 500 m (1640 ft) for high disturbance levels.
  - Between 16 October and 31 March, minimum setbacks from occupied burrows shall be 50 m (164 ft) for low disturbance levels, 100 m (328 ft) for medium disturbance levels and 500 m (1640 ft) for high disturbance levels.
- Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owls, or permanently exclude burrowing owls and close burrows after verifying burrows are empty by site monitoring and scoping. During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site may be evicted from the project site by passive relocation as described by the (CDFG (2012). Burrow exclusion and closure is not permitted during the breeding season.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

### *Loggerhead Shrike*

Loggerhead shrike has been observed foraging in the project area. Participation in the SJMSCP affords the project proponent Incidental Take authorization for loggerhead shrike pursuant to ESA, CESA and CEQA. Although little suitable nesting habitat is present on site, as outlined in the SJMSCP<sup>63</sup>, the following incidental take avoidance measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (i.e., February 1 - August 15), preconstruction survey shall be performed by a qualified biologist.

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<sup>62</sup> USEPA 2000, cited in SJMSCP (Appendix A)

<sup>63</sup> SJMSCP Chapter 5.2.4.18

- A setback of 100 feet from loggerhead shrike nest sites shall be established and maintained during the nesting season (*i.e.*, February 1 to August 15) for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

### *Northern Harrier and California Horned Lark*

Although foraging northern harrier has been observed in the project vicinity and there is a potential for foraging by California horned lark, nesting by these species on site is considered unlikely due to the limited extent of grassland habitat. Participation in the SJMSCP affords the project proponent Incidental Take authorization for northern harrier and California horned lark pursuant to CESA and CEQA. Nonetheless, as outlined in the SJMSCP<sup>64</sup>, the following incidental take avoidance measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (*i.e.*, February 1 - August 31), preconstruction survey shall be performed by a qualified biologist.
- A setback of 500 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

### *Tricolored Blackbird*

Suitable nesting habitat for this species does not occur on the project site, but it could nest in the riparian habitat associated with the North Branch of the South Fork of Littlejohn's creek. Participation in the SJMSCP affords the project proponent Incidental Take authorization for tricolored blackbird pursuant to CESA and CEQA. Nonetheless, as outlined in the SJMSCP<sup>65</sup>, the following incidental take avoidance measures shall be followed:

- Prior to the initiation of ground clearing, grubbing, grading or excavation activities, a scheduled to occur during the breeding season (*i.e.*, February 1 - August 31), preconstruction survey shall be performed by a qualified biologist.
- A setback of 500 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that

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<sup>64</sup> SJMSCP Chapter 5.2.4.17

<sup>65</sup> SJMSCP Chapter 5.2.4.17

are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

These Incidental Take Minimization Measures are consistent with the provisions of the MBTA.

**Mitigation Measure F.5b.** Any observations of Swainson’s hawk, Golden eagle, white-tailed kite, burrowing owl, loggerhead shrike and/or California horned lark during the falconry program shall be recorded and monitored by the falconer. If any interactions (i.e. chasing) between the trained falcons and Swainson’s hawks or other special status bird species are observed, this shall be documented and reported to the USFWS Migratory Bird Treaty Office and CDFW within 48 hours of occurrence. Appropriate additional measures to avoid impacts to special status birds shall be determined through consultation with the USFWS Migratory Bird Treaty Office and CDFW.

These mitigation measures would reduce potential impacts to the Swainson’s hawk, Golden eagle, white-tailed kite, burrowing owl, loggerhead shrike, tricolored blackbird, and/or California horned lark to *less than significant* levels because impacts to nesting birds would be avoided.

**Impact F.6. Impacts to Migratory Bird Species.** Pursuant to the MBTA, it is unlawful at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture, or kill any migratory bird, any part, nest, or eggs of any such bird is defined as “take”. Construction-related activities could result in direct mortalities of bird species protected under the MBTA. This is a *potentially significant* impact.

The ongoing bird control program described in the Land Use section would continue under the proposed project for an additional six years. The program has demonstrated to be effective at deterring gulls from foraging on the site. The program includes measures to minimize conflict between the falcons and other bird species, including that falcons are trained to focus on gulls and that a falcon handler monitors the birds to minimize conflicts with non-target species. As evidenced by the recent Swainson’s hawk nesting occurrence adjacent to the site, the bird control program has not excluded Swainson’s hawks from nesting in the area. Further, as part of the bird control program, regular monitoring is conducted to determine if the gulls return to forage on the landfill, and the falcons are only used when required. Given the above, related impacts to migratory birds from continuing the ongoing bird control are considered to be *less than significant*.

**Mitigation Measure F.6.** Preconstruction surveys, consistent with the MBTA and the SJMSCP, shall be conducted for nesting birds during the nesting season (i.e., February 1 – September 1). Appropriate measures to avoid impacts to nesting birds shall be determined through consultation with the USFWS Migratory Bird Treaty Office and CDFW. This mitigation measure would reduce these potential impacts to *less than significant* levels because impacts to nesting birds would be avoided.

**Impact F.7. Temporary Impacts to Foraging Special-status Bat Species.** No active bat roosts are expected to occur within the project footprint. The project does not include the removal of trees, but a few buildings would be removed from the existing composting facility. However,

these buildings are not expected to support an active bat roost because they are actively used and are subject to high baseline noise conditions from ongoing landfill operations. Although no bat roosts are expected to occur, species such as pale big-eared bat, California mastiff bat, western red bat, small-footed myotis, long-eared myotis, fringed myotis, and long-legged myotis may forage over the South Branch of the South Fork of Littlejohn's Creek. Relocation of the South Branch of the South Fork of Littlejohn's Creek could result in a temporary reduction in foraging habitat and a disruption in foraging behavior by special-status bat species such as red bat. However, abundant foraging habitat similar to that being affected is available in the immediate project vicinity. In addition, the proposed project, which includes the relocation of 3,000 feet and creation and restoration of 3,400 feet of South Branch of the South Fork of Littlejohn's Creek, is expected to provide at least equivalent bat foraging habitat. This impact is considered *less than significant* and no mitigation is required.

**Impact F.8. Loss of Nonnative Annual Grassland and Ruderal Vegetation, and Freshwater Emergent Wetland.** The project-related loss of wildlife habitat would be minimal. All construction activities and associated habitat conversions would occur within the boundary of the existing landfill. The proposed northeast landfill development area is regularly disked and was devoid of vegetation at the time of the 2018 site visit; in this condition it provides little wildlife habitat value. This area would be replaced with an active, then capped landfill, which ultimately would provide similar or improved wildlife habitat value. The property owner has already paid the HCP mitigation fees associated with the loss of foraging habitat for this area.

Most of the southeast landfill relocation area currently is used as a composting facility and provides little wildlife habitat value. In this area, the ground is covered with rows/piles of compost and there is no vegetation. This area would be replaced with a capped landfill, which in the long-term would likely provide improved wildlife habitat value. The proposed sedimentation and leachate ponds would be constructed in the vicinity of an existing leachate pond and/or within disturbed habitats; therefore these project components would not substantially alter the current habitat value. Also, the landfill implements a rodent control program, which further detracts from the habitat quality of the site by limiting prey for raptors. The proposed relocation of the South Branch of the South Fork of Little John's Creek would result in a net increase in riparian and wetland vegetation. No trees are located on the project site, and therefore none would be removed as part of the project.

Swainson's hawk (a state-listed species) and other special-status bird species forage over grassland habitat and may use the existing landfill habitats for foraging. However, the value of the property for foraging raptors is limited by the ongoing rodent control program. Additionally, the habitats to be disturbed by the project (i.e., disked areas devoid of vegetation and an active compost facility) provide limited value for foraging raptors. These areas would be replaced with a capped landfill providing similar or improved wildlife habitat value in the long-term. In the short-term, there would be a loss of low-quality habitat potentially used by Swainson's hawks as foraging habitat and the County considers any loss of potential Swainson's hawk habitat to contribute to a significant county-wide impact. While the property owner has already paid the HCP mitigation fees associated with the loss of foraging habitat for the proposed northeast landfill development area, the HCP mitigation fees have not been paid for the 8.6 acres to be developed in the southern portion of the property. Therefore, the loss of

wildlife habitat (including raptor foraging habitat) is considered a cumulatively significant impact.

**Mitigation Measure F.8.** The project shall comply with the SJMSCP mitigation requirements for the conversion of row and field crop lands (SJCOG 2000). Under the SJMSCP (2000), each acre of Swainson's hawk habitat (i.e., Agricultural Habitat Lands) converted to non-open space uses would be mitigated by the establishment of 1 acre of Row and Field Crop/Riparian Preserve (a 1:1 mitigation ratio). This measure would apply to the 8.6 acres of land to be developed in the southern portion of the property. This would reduce this impact to a *less than significant* level.

**Impact F.9. Increase in Existing levels of Night Lighting.** Night lighting is not expected to increase, as all project components would be within the boundaries of the existing active landfill facility area. This is a *less than significant impact* and no mitigation is required.

**Impact F.10. Use of Rodenticides in the Capped Areas of Landfill Could Result in Adverse Impacts to Wildlife.** As part of permits issued to landfills, rodent control is important to maintaining the integrity of the landfill cap and liner to prevent leaching or seepage. Rodent control is conducted through the application of rodenticides that is regulated through the Department of Agriculture. Application of rodenticides could adversely affect predator species, such as raptors and carnivores that feed on rodents on the site. When poisoned rodents are depredated, they can deliver significant doses to the predator. Raptors that eat small mammals in urban and agricultural areas are at risk of secondary poisoning from anticoagulant rodenticides, which can cause internal hemorrhaging and mortality. Some anticoagulants take several days to work (e.g., brodifacoum) even with lethal doses, allowing rodents to forage and be exposed to raptor predation before dying. As a participant in the SJMSCP, Forward proposes to incorporate SJMSCP guidelines developed to minimize potential effects of rodenticides to giant garter snake, burrowing owl, and Swainson's hawk (USEPA 2000, Appendix A of the SJMSCP). However, this is still considered a *potentially significant impact*.

**Mitigation Measure H.10.** Rodenticides and methods of application used at the landfill shall be reviewed by a qualified biologist approved by the SJMSP TAC, to determine if they reflect the most effective and safe methods for controlling rodents. That biologist shall make recommendations for improvement if needed.

This mitigation measure would reduce these potential impacts to *less than significant* levels because rodenticide use would be strictly monitored and limited to TAC-approved methods.

**Impact F.11. Project Effects on Wildlife Corridors.** All proposed project components would be within the boundaries of the existing landfill. Therefore, the proposed project would not create a new barrier to terrestrial wildlife movement. Additionally, the relocation of the South Branch of South Littlejohns Creek to the south of the landfill would maintain a potential movement corridor for terrestrial and aquatic wildlife. Therefore, this impact would be *less than significant* and no mitigation is required.

**Impact F.12. Project Effects on San Joaquin Kit Fox.** Based on the lack of suitable habitat and

any records of the species within the study area and surrounding region, kit foxes are not expected to occur on the site. Additionally, the SJMSCP does not require preconstruction surveys for kit fox in the project area (i.e., Central Zone). Therefore, the project would have *no impact* to this species and no mitigation is required.

## G. HYDROLOGY AND WATER QUALITY

This chapter includes a description of the existing hydrologic and water quality conditions at the current and proposed Forward Landfill, including the proposed expansion areas. This section updates the 2013 EIR's environmental evaluation of the landfill expansion. The currently permitted site includes both the former Forward and Austin Road Landfills, which were consolidated in 2003. While the landfill operates essentially as one unit now, the regulatory history of having to separate landfills under separate Regional Water Quality Control Board (RWQCB) Orders has resulted in some separation still being maintained in that the RWQCB looks at the landfill as having two operable units.

In addition to the two proposed landfill expansion areas (referred to as the north and south expansion areas), the expansion project would include the construction of two new sedimentation basins and two new leachate ponds as shown on Figure III.C-4. The compost pond would be closed, new stormwater and leachate ponds would be added in the entrance facility area, and the existing leachate and stormwater pond in southwest corner would be expanded. The new sedimentation basins and leachate ponds are replacements for existing facilities proposed for closure as part of the expansion project. The implementation of this project also requires the relocation of the South Branch of South Littlejohns Creek, which currently is located on the proposed southern expansion site.

### *Setting*

#### *Regulatory Setting*

#### Federal Agencies and Regulations

##### Federal Water Pollution Control Act

The purpose of the Federal Water Pollution Control Act (Clean Water Act) (administered by the U.S. Environmental Protection Agency [EPA]) is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies.

*Water Quality Standards.* Section 303 of the Clean Water Act establishes water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all Waters of the United States. Under Section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. Impaired waters are those that do not meet water quality standards, even after point sources of pollution have installed the required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waterways on the impaired list and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDLs) that set waste load allocations for point sources and load allocations for non-point source pollutants. The Ducheny Bill (Assembly Bill (AB) 1740) requires the State Water Resources Control Board (WRCB) and its nine RWQCBs to post this list and provide an estimated completion date for each TMDL.

*National Pollutant Discharge Elimination System.* Part of the Clean Water Act provides for the National Pollutant Discharge Elimination System (NPDES), in which discharges into navigable waters are prohibited except in compliance with specified requirements and authorizations. Under this system, municipal and industrial facilities are required to obtain a NPDES permit that specifies allowable limits, based on available wastewater treatment technologies, for pollutant levels in their effluent. In California, the EPA has delegated the implementation of this program to the WRCB and geographically designated RWQCB. The Forward Landfill currently has waste discharge requirements (WDRs), which serve as a NPDES permit. This permit allows for the discharge of the treated groundwater from their groundwater extraction and treatment system that is overseen by the Central Valley RWQCB. Additional information about the treated groundwater and its reuse at Forward Landfill is discussed in subsections below.

Stormwater discharges are regulated somewhat differently. Stormwater runoff from construction areas of one acre or greater requires either an individual permit or coverage under the statewide Industrial General Permit (IGP).

#### Federal Emergency Management Agency (FEMA)

FEMA is an agency of the United States government that provides a single point of accountability for all federal emergency preparedness and mitigation and response activities. On March 1, 2003, FEMA became part of the U.S. Department of Homeland Security. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting a risk-based comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs).

#### *State and Regional Agencies and Regulations*

The WRCB and the RWQCB's share the responsibility under the Porter-Cologne Act to formulate and adopt water policies and plans and to adopt and implement measures to fulfill the Clean Water Act requirements. In the project site vicinity, the *Regional Water Quality Control Plan for the Central Valley Region 5A* (Central Valley RWQCB, 2016) serves to protect water quality consistent with identified beneficial uses (see below) at Forward Landfill. The Porter-Cologne Act requires Reports of Waste Discharges to be filed before the RWQCB issues authorizations for waste discharge. The RWQCB then prescribes waste discharge requirements, which serve as NPDES permits under a provision of the Porter-Cologne Act. The Basin Plan, the Enclosed Bays, and Estuaries Plan (Water Board Basin Plan, 2016 Revision), and the general NPDES permit (discussed above) regulate discharges. AB 162, signed into California law in October 2007, requires cities and counties to address flood-related matters in the land use, conservation, safety, and housing elements of their general plans.



### California Water Resources Control Board

As previously stated, the WRCB administers water rights, water pollution control, and water quality functions statewide. The WRCB also provides policy guidance and budgetary authority to the nine RWQCBs that includes the Central Valley Region 5, which conduct planning, permitting, and enforcement activities. The WRCB and the RWQCB's share the responsibility under the Porter-Cologne Act to formulate and adopt water policies and plans and to adopt and implement measures to fulfill the Clean Water Act requirements. In the project site vicinity, the *Regional Water Quality Control Plan for the Central Valley Region 5E* serves to protect water quality consistent with identified beneficial uses. State policy for water quality control in California is directed toward achieving the highest water quality consistent with maximum benefit to the people of the state. Therefore, all water resources must be protected from pollution and nuisance that may occur from waste discharges. Beneficial uses of surface waters, groundwater, marshes, and mud flats serve as a basis for establishing water quality standards and discharge prohibitions to attain this goal.

One point-source control strategy of the State is the requirement for new development to use site-specific best management practices (BMP) and to follow a Stormwater Pollution Prevention Plan (SWPPP) for construction areas greater than one acre. The SWPPP program measures are intended to prevent or minimize the potential release of toxic or hazardous pollutants in significant amounts to discharge waters. A BMP program is required to include information of potential releases and management of solid and hazardous waste. A SWPPP program is designed to monitor primary collection areas of stormwater and depending on the site use and overall area, analytical testing of stormwater discharge may be required.

### California Regional Water Quality Control Board, Central Valley Region

The Central Valley (Region 5) RWQCB, located in Sacramento, is responsible for the oversight of the currently proposed landfill expansion and the agency reviewing the Forward Landfill application that might affect water quality (such as the expansion of waste cells that might generate leachate or re-routing of the South Branch of South Littlejohns Creek), or otherwise make changes to existing monitoring programs (such as abandoning and replacing monitoring wells). The current RWQCB Order for Forward Landfill is the February 2014 Waste Discharge Requirements (WDRs) R5-2014-0006, which included, among other modifications, the lowering of base grades to the regulatory limit of 5-ft above the historical high groundwater level and the land application of cannery waste in the northern portion of the site (north of the northern creek). Municipal Separate Storm Sewer (MS4) Permit and the regulations contained in the Industrial General Storm Water Permit Order No. 2014-0057-DWQ also may apply. Additional regulatory oversight that could relate to groundwater resources may come from the California Department of Toxic Substances Control (DTSC), the San Joaquin County Public Health Services (SJCPHS), or the California Integrated Waste Management Board (CIWMB).

The RWQCB is now structured to promote a watershed-based approach toward implementation of programs, with particular emphasis on integration of programs within county watershed management areas. The RWQCB issued WDRs for both the Austin Road Landfill and the Forward Landfill. The current Central Valley RWQCB WDR Order No. R5-

2014-0006 and R5-2003-0080 (Monitoring and Reporting Program and Groundwater Treatment System, NPDES No. CA0082911) covers the operation of the Forward Landfill (combined Forward and former Austin Road Landfills) and Discharge of Treated Groundwater (former Austin Road Landfill), respectively.

The RWQCB provides oversight for the protection of surface water and groundwater resources that could be compromised by the landfill operations over time by requiring (as part of the WDRs) the monitoring, sampling, analyses, and reporting of surface water and groundwater. The RWQCB has reviewed or is currently in the process of reviewing the various reports and communication related to the Forward expansion. Conditional approval has been given for of the monitoring well destructions. The RWQCB has issued requests for addressing water quality violations based on monitoring results. All proposed changes to landfill operations and monitoring that affect groundwater or surface water such as, modifying the groundwater treatment system, changes to the landfill gas collection system, surface water (South Littlejohns Creek) modification as proposed for the South Branch of South Littlejohns Creek, definition of groundwater volatile organic compound (VOC) impacts, and new monitoring locations to replace existing wells proposed to be removed during project implementation, are reviewed by the RWQCB. With or without the proposed project, the RWQCB will continue to regulate the Forward Landfill. This oversight continues after the landfill is closed for a minimum post-closure period of 30-years.

#### *San Joaquin County*

The San Joaquin County General Plan has no specific groundwater protection element, but a number of policies in Public Health and Safety element of the General Plan describe the need for protection of water quality. In addition, as described above, the San Joaquin County Public Health Services (SJCPHS) has additional regulatory oversight that could relate to groundwater resources

#### *Landfill Special Waste Program Controls*

Special treatment programs that are ongoing at Forward Landfill include ash disposal, sludge solidification, co-generation plant, asbestos disposal, treated wood waste, groundwater treatment, and landfill gas management. These program elements are summarized in the Project Description. All such programs have required controls, testing, procedures and protocols that are reviewed and approved by the regulators.

#### *Regional Surface Hydrology*

##### *Topography and Geography*

The terrain at the landfill and surrounding vicinity consists of a relatively featureless plain. Both the North and South Branches of South Littlejohns Creek traverse the site, generally flowing from the east to the west, however the North Branch has been relocated north of the landfill footprint and a new future north-south creek crossing is proposed on this Branch. The South Branch of South Littlejohns Creek is proposed to be re-routed as part of the Project. Original

ground surface elevations range from 30 to 40 feet above mean seal level (amsl). Currently developed portions of the Forward Landfill reach a maximum elevation of approximately 194 feet amsl.

### Surface Water Features

The landfill property includes two local drainages, the North and South Branches of South Littlejohns Creek, which are within the Duck-LittleJohns Hydrologic Area and are tributaries to the San Joaquin River. The South Branch of South Littlejohns Creek currently flows east-west across the new proposed new south infill area, thereby requiring the re-routing of the creek to the south and then north to rejoin the old creek channel. Approximately 3,000 feet of the South Branch of the South Fork of LittleJohns Creek is to be relocated to the southeastern boundaries of the site in a new 3,400-foot channel to provide additional separation of the creek from the landfill. The project also would add a bridge crossing on the east side of the South Branch of South Littlejohns Creek as shown on Figure III.C32. The North Branch of South Littlejohns Creek was realigned to the north and west of the Landfill in 2002, in order to place its channel and floodplain outside the footprint of landfill areas.

### Flood Hazards

The proposed expansion areas, including the South Branch of South Littlejohns Creek realignment at Forward Landfill are located within FEMA Flood Insurance Rate Map (FIRM) panels 0635F (October 16, 2009). The south expansion area is within flood zone Flood Zone Designation X, which is an area of minimal flooding.

Flood hazard areas along the North Branch of South Littlejohns Creek are mapped as confined within the relocated creek channel (San Joaquin County Flood Zone Viewer, accessed August 24, 2018). The North Branch has been realigned to the north and west of the landfill fill area, and is now designed to carry the 100-year flood flows. The North and South Branches of South Littlejohns Creek on the site are subject to regular maintenance for flood control. This maintenance consists of clearing trees and shrubs from the banks and dense vegetation from the channel.

A Central Valley Flood Protection Board encroachment permit with endorsement by the San Joaquin County Flood Control and Water Conservation District is required for any work within the channels or within 25 feet of the top of bank of the creeks, and the realignment of the South Branch must be approved by the Board. Questa Engineering Corp (Questa) has developed plans for the realigned South Branch channel. The new channel is designed to carry the 100-year flood flows within its banks. Erosion protection would be provided in areas with high velocities or sharp bends.

### Surface Water Quality

The RWQCB Order R5-2014-006 requires quarterly surface water quality monitoring at four points on the landfill site, when surface water is evident. Two of the sampling locations, FSW-2 and ASW1, are located upstream of the landfill and represents background conditions. The

other sampling points, FSW-1 and ASW-2, are located immediately downstream of the landfill, and are designed to evaluate surface water quality impacts from the landfill. The designated sampling points are within the affected area of the proposed expansion.

Beneficial uses of Littlejohns Creek, per WDR 2014-006, and as specified in the San Joaquin River Basin Plan, are agricultural supply, industrial service and process water, contact and non-contact water, recreation, municipal and domestic supply, warm and cold fresh water habitat, preservation of rare, threatened, and endangered species, and groundwater recharge.

Surface water samples are collected quarterly for field parameters (temperature, specific conductance, pH, and turbidity), and, chloride, sulfate, nitrate as nitrogen, total dissolved solids (TDS), carbonate, , chemical oxygen demand, dissolved metals (calcium, magnesium, sodium, potassium), volatile organic compounds, and total petroleum hydrocarbons (oil and grease). Surface water sampling and analysis are not always performed at the Austin Road and Forward Units because, at times, there is no water to sample at those points.

Surface water discharge from the onsite stormwater/sedimentation ponds to the creek is monitored quarterly. However, surface water discharges from the onsite ponds to the creek only occur during unusually high rainfall season events. Since 2008 time, all surface water has been retained onsite, even during the relatively high rainfall year of 2016-2017. There have been no reported detectable VOCs in the surface water samples collected in the recent samples. A comparison of the upgradient and downgradient surface water samples showed similar inorganic constituent concentrations, suggesting the landfill units are not significantly impacting surface water quality.

#### NPDES Stormwater Monitoring Program

The Forward Landfill has a current NPDES monitoring program and SWPPP in place. These programs, overseen by the RWQCB, include stormwater inspection, sampling, observation, and reporting. Previously, treated groundwater was discharged to receiving waters at LittleJohns Creek but that has been replaced by use of the treated groundwater (as permitted under R5-2005-0080) to: 1) use for onsite dust suppression and other operations uses, or 2) use for artificial recharge reinjection into the local aquifer. As the landfill expands, the facility is required to update its NPDES and SWPPP.

#### *Groundwater*

#### Regional Groundwater Conditions

Underlying San Joaquin County is a portion of the vast subsurface groundwater aquifer system of the Central Valley of California. Groundwater occurs in unconfined and confined conditions. Previous Forward Landfill EIRs have presented the regional hydrogeological conditions, which have not changed. The upper regional aquifer is typically an unconfined aquifer within the Victor Formation geologic unit. A minor perched water table at an elevation of about 20 feet amsl was encountered while drilling one of the site wells; perched water tables in the area are of a limited extent. The Victor Formation consists of over 100 feet of interbedded clay, silt, and fine

to coarse sand and gravel. Sedimentary formations underlying the Victor Formation include additional, productive aquifers. Groundwater within 1 mile of the site is tapped by irrigation and domestic wells, and most such wells in the vicinity are generally drilled to a depth of several hundred feet. Many of the sedimentary formations underlying the Victor formation have productive confined aquifers. In order to develop adequate flow, most of the agricultural irrigation wells in the area are at least 500 feet deep.

Groundwater recharge to the unconfined aquifer, both regionally and locally, is from local rainfall and stream infiltration, while the deeper, confined aquifers are recharged by rivers, reservoirs, and surface runoff along the western base of the Sierra Nevada. The project area is not in a General Plan-designated substantial groundwater recharge area, although some infiltration and percolation to the groundwater system is expected along Littlejohns Creek.<sup>1</sup>

Since before the early 1960s, the San Joaquin hydrologic basin has experienced overdraft as a result of heavy pumping. In the Central San Joaquin Irrigation District, which encompasses Forward Landfill, water levels have dropped approximately 70 feet in the past 40 years. Beyond the trend of historical over-drafting (removing more groundwater than is naturally recharged) from the aquifer, the San Joaquin Valley's groundwater basins have the tendency for water levels to show seasonally variations. Seasonal fluctuations reflect the rainy and dry seasons. Rainy season infiltration raises the water table, and dry season pumping lowers the water table. Seasonal fluctuations in the project area are on the order of 5 to 10 feet due to a distinct rainy season and dry season. During the rainy season infiltration raises the water table and during the dry season drawdown by water well users lowers the water table. The declining water levels throughout the Stockton area have induced the eastward movement of poor-quality water from the delta sediments. Migration of these saline waters had already impacted the utility of groundwater as far east as Stockton at the time of a 1981 study by the U.S. Geological Survey (USGS) (SJCFCWCD, 1990). The San Joaquin County Flood Control and Water Conservation District has documented a decline in water quality for the Stockton area due to a general increase in chlorides. The regional water quality in the area around Forward Landfill meets the State's Drinking Water Standard. The water is a calcium-magnesium/bicarbonate water type, with TDS concentrations under 500 mg/l.

### Groundwater Uses and Supply

The designated beneficial use of the groundwater in the landfill area, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply. Groundwater wells in the area are used primarily to supply water for agricultural and domestic purposes.

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<sup>1</sup> Hydrogeological investigations at the Forward Landfill show that recharge along the course of the south fork of Littlejohns Creek, which crosses that property, has a significant influence on water table depth, gradient, and flow direction in the localized creek area.

Groundwater within 1 mile of the project site is pumped by several existing irrigation and domestic wells and the most recent sampling at the domestic wells show exceedance of the drinking water standards in some wells.

Water supply (non-potable) to the landfill is provided by three onsite wells. The water is used for dust control, compaction, and irrigation. One well, located near the main entrance facility for the Forward Landfill, was drilled to a depth of approximately 135 feet and encounters groundwater at a depth of approximately 70 feet. The well was likely installed before the opening of the landfill, having been previously used for agricultural purposes. It is pumped at a rate of approximately 1,500 gallons per minute (gpm) at a maximum frequency of approximately eight times per hour. Another well is located south of the South Branch of South Littlejohns Creek, and has a capacity of 500 gpm. The third well is located along the northwestern boundary of the former Austin Road Landfill. This well was installed in 1972 and has a production of approximately 60 gpm. Bottled water is supplied for potable water at the landfill. These wells are unaffected by the proposed changes.

#### Site Hydrogeology

The local geology consists of unconsolidated stream channel deposits (younger alluvium) comprised of clay, silt, sands, and gravels that extend from the ground surface up to 100 feet below ground surface (bgs). Underlying the younger alluvium are older alluvial deposits (Victor Formation and the Laguna Formation) that consist of similar interbedded sandy silt, clayey silt and fine to medium-grained sand. Beginning at approximately 100 feet bgs, increasing coarse-grained sands and gravelly lenses have been noted in the boring logs for site monitoring wells. As stream channel deposits, these sedimentary units interfinger and are laterally discontinuous. The Victor Formation is underlain by the Laguna Formation of Plio-Pleistocene age (two million years ago). These older alluvial deposits thicken to about 650 feet in the Stockton area (DWR 2006). The main area of VOC groundwater plume impact from the combined landfill is associated with the northern section of the landfill in the area downgradient of what used to be the Austin landfill Unit, based on the unlined nature of that landfill unit and historical data of the late 1980s and early 1990's collected around the Austin Unit. These data showed significantly higher concentrations of such contaminants of concern (COCs) primarily VOCs found associated with the downgradient (southern) Forward Unit. The deeper water bearing units north of the landfill are likely affected by inputs from both units (GLA 2017a,b,c; GRA 2018a).

As the groundwater cleanup and monitoring are regulated for the Forward Landfill, the source of the contamination does not affect the evaluation of whether the proposed landfill expansion addressed in this EIR would contribute additional impacts to groundwater or require additional mitigation measures. In general, any incremental additional potential impact to groundwater from this relatively small expansion—compared with the overall landfill—would be small.

Hydrogeologic conditions at the site are measured by a series of monitoring wells, as depicted on Figure IV.G-1. Historically high groundwater in the vicinity of the Landfill occurred in 1974 with groundwater being at an elevation of -2 to -5 feet amsl. As discussed in the regional hydrology, and confirmed in quarterly monitoring reports, groundwater flows in the northern

project area are generally to the north, sometimes with a northeast component in response to pumping of agricultural and municipal wells east of Stockton. Figure IV.G-1 shows the most recent groundwater (elevation) contours, published in 2018, which illustrate the generally northward groundwater flow direction, with a local southeasterly gradient beneath the southern half of the Forward Unit, potentially associated with agricultural pumping on adjacent properties (GLA 2018a).

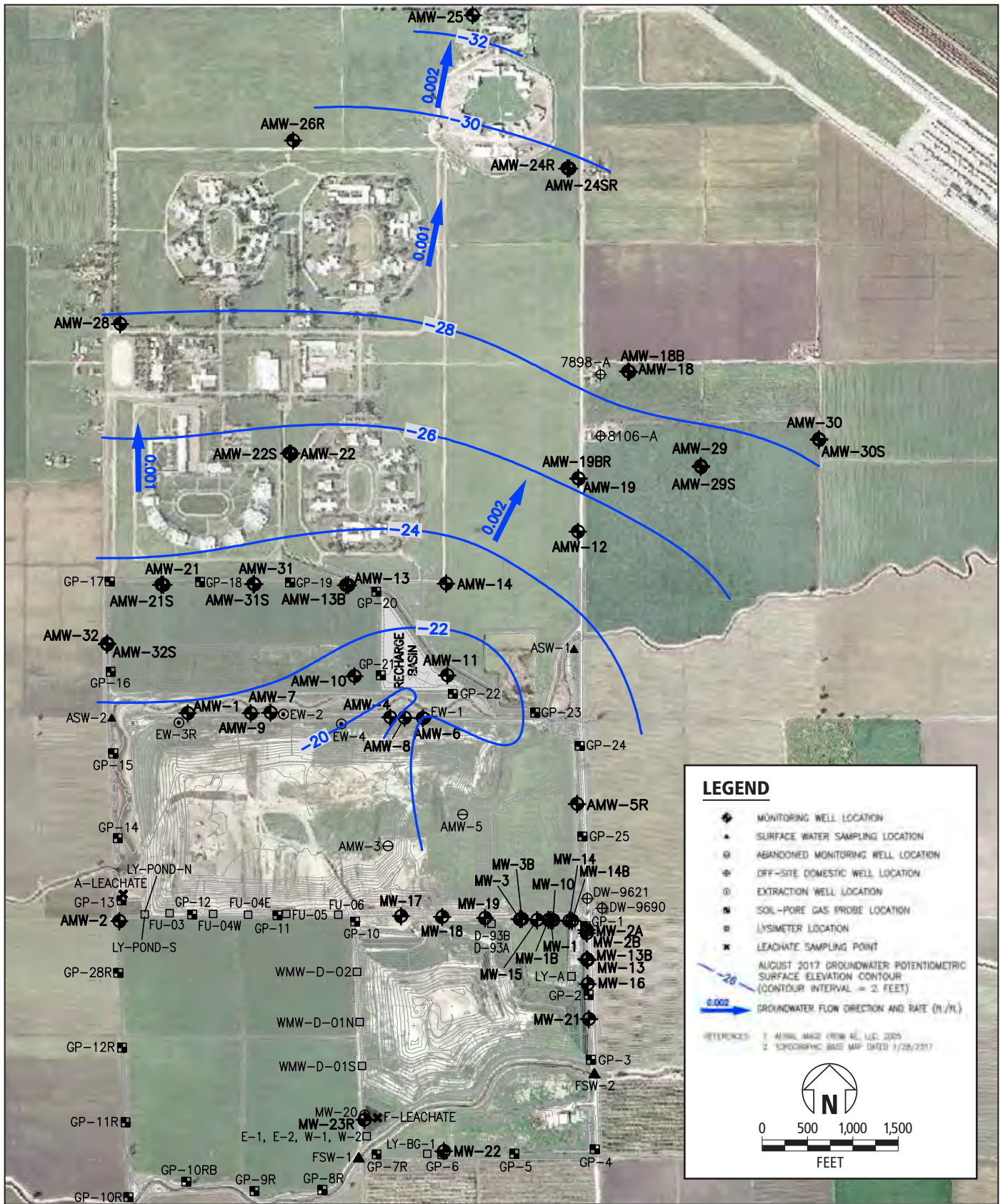
The Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins indicate the site is located in the Duck-LittleJohns Hydrologic Area of the San Joaquin River Basin. The San Joaquin Hydrologic Basin is a major regional aquifer system and groundwater in the basin is used for industrial, domestic, and agricultural purposes.

The first encountered groundwater in the site area ranges from about 60 to 80 feet bgs and the depths to water fluctuate by as much as 15 feet between wet and dry seasons. No regionally continuous fine-grained layers have been identified in the older alluvial formations and groundwater is largely unconfined. However, due to the fluvial depositional environment, laterally discontinuous layers of fine-grained soil are present and local areas of groundwater confinement are known to occur (DWR 2003; GLA 2017a, 2018a, 2018b). The area surrounding the landfill is primarily agricultural and there are numerous supply wells and irrigation distribution tanks with piping networks to discharge pumped groundwater to the crops in the area. Most of the production wells are constructed to depths on the order of 500 feet or more and produce water from the Laguna Formation.

Groundwater at the Forward Landfill is monitored by 50 groundwater monitoring wells, three domestic wells, and five piezometers. The monitoring wells are used to collect water level elevations as well as water quality data. In addition, the current Corrective Action Program (CAP) includes four active groundwater extraction wells. Data from these wells and piezometers indicate uppermost groundwater beneath the landfill occurs at depths that range from about 50 to 80 feet bgs in the younger alluvium and is unconfined.

Groundwater gradient (the steepness of the slope of the groundwater flow) varies seasonally, being reflective of the weather cycles and pumping, with a steeper, north-trending gradient in dry years and a more gentle, northeast gradient in wet years. Data collected by GLA between 2003 and 2018 indicate that, groundwater generally flows to the north and northeasterly at a gradient between 0.001 and 0.003ft/ft. Locally, a southeast gradient has been noted in the southern area of the Original Forward Landfill beginning in May 2011 that is believed to result from adjacent agricultural pumping.

Pump testing performed for extraction wells EW-1 and EW-2 at the Forward Landfill resulted in an estimated hydraulic conductivity of about 250 feet per day (ft/day) for the uppermost aquifer beneath the landfill (CDM, 1999). Assuming an effective porosity of 0.35, the groundwater flow rate is estimated to be about 0.7 to 2.1 ft/day. Depth to water measurements in shallow and deeper well pairs in the Evaluation Monitoring Program (EMP) wells for the Austin Road Unit (ARU) indicate there is no appreciable vertical hydraulic gradient below the Forward Landfill.



**Figure IV.G-1**  
**Forward Groundwater Contours**  
**and Monitoring Wells Map**

Source: Geo-Logic Associates



## Groundwater Quality

Groundwater quality has been impacted by Forward (including Austin) Landfills historical operations. The discussion of groundwater quality at the Forward Landfill is provided for background information regarding the overall site setting. Refuse accumulated at landfills can impact groundwater by leaching out chemicals over time. In the case of the unlined units at the Forward Landfill, the leachate generated had a direct path to the subsurface environment and groundwater. Landfill gas can also move VOCs from the vapor to dissolved groundwater phase. The lined portions of the Forward Landfill have not measurably impacted groundwater.

The groundwater in the area between the Forward and Austin units (near the existing scale-house) shows the most impact from contaminants of concern. Since 2016, low level VOCs have been detected in point of compliance wells MW-13, MW-16, and MW-17. In addition, concentration limits (CLs) for several inorganic constituents have also been consistently exceeded in well MW-10, MW-18, and MW-19. The VOCs and inorganic CL exceedances are believed to be associated with landfill gas. GLA performed an investigation to assess the source and potential impacts of low-level VOCs in groundwater adjacent to the Forward Landfill (GLA 2017c,d). The investigation concluded that the low-level VOCs in groundwater (and lysimeter samples) at the original Forward Landfill are most likely due to landfill gas from unlined unit WMU B. This is based on the fact that WMU B is the only unlined landfill cell and VOCs have typically been concentrated near it; the VOCs measured are typically erratic, low concentrations, characteristic of fluctuating landfill gas conditions; the detected VOCs are typical of landfill gas constituents, VOCs have been detected in upgradient and downgradient wells; and there is generally an absence of notable inorganic constituents that would be associated with a liquid release.

The most prevalent chemicals of concern that affect groundwater quality at typical landfill sites are chlorinated solvents (referred to as VOCs), common to hundreds of consumer products. The origin of the VOCs in landfills is likely the result of a long process of degradation of household waste, containing common solvents such as tetrachloroethene (PCE), and trichloroethene (TCE). The VOCs can be retained in solid state media (by adhering to clay particles as they move down in the unsaturated zone), in soluble form (as a dissolved fraction in surface water or groundwater), or in the form of a gas (circulating in the flux of the other common landfill gases, methane and carbon dioxide). The VOCs can transform easily from the solid, soluble, or gas form depending on the circumstances.

The next cell planned for construction at the landfill is WMU FU-19, which is located between the Forward and Austin units in the area of the current scale-house. This cell is within the permitted footprint of the existing permitted landfill and not part of the expansion areas. Forward Landfill has requested the closure of wells that would be impacted by the construction of WMU FU-19 (Lewis Engineering 2017). RWQCB staff reviewed the January 23, 2018 Request for Relocation and Abandonment of MW-17, MW-18, MW-19 (Republic Services 2017). The request included a groundwater monitoring well installation workplan that proposed to install and monitor replacement groundwater monitoring wells MW-17R and MW-19R prior to properly destroying groundwater monitoring wells MW-17, MW-18, and MW-19.

The well MW-17 is the only one of the three wells to be decommissioned that has a history of VOC hydrochemistry. In Q1-2018 the Well MW-17 showed carbon tetrachloride and chloroform above reporting limits, and trichlorfluoromethane at trace concentrations.

As discussed previously, there are two groundwater monitoring programs for the Forward Landfill, one for the Forward Unit and the other for the Austin Road Unit. The Forward Landfill, initiated in 1973, has had a groundwater-monitoring program since 1977. In accordance with WDR Order R5-20014-0006, there are 33 monitoring wells (including well pairs), 15 associated with the Forward Unit, and 18 associated with the Austin Road Unit. Additional wells have been added to the monitoring program since the WDR Order was issued, however the WDR Order has not yet been modified to reflect these changes. The additional wells are (or will be in the case of the newly installed wells) sampled and reported in quarterly monitoring reports. Both landfill units also have water supply wells. The monitoring and supply well locations are depicted on Figure IV.G-1. The existing monitoring system meets the requirements of the landfill's Detection Monitoring Plan (DMP) for groundwater monitoring, and the CAP for groundwater impact.

### **Austin Road Unit**

The main area of groundwater impact is downgradient of the landfill units, in the California Dept. of Corrections and Rehabilitation (CDCR) property. This facility historically had its own groundwater production wells which pulled the landfill-related plume downgradient towards it until 2011, when well production ceased and municipal water was piped into the facility. The RWQCB has required Forward to evaluate the offsite plume, including vertical sampling and evaluation of wells at Forward Landfill. In April 2018 monitoring wells were completed by GLA in compliance with the Cleanup and Abatement Order (CAO) No. R5-2017-0703, Requirement 4.A. This was done based on the approval of April 28, 2017 West Side Monitoring Well Installation Workplan, and September 15, 2016 Northside Monitoring Well Workplan issued by the RWQCB. Each vertical profile well was drilled to a total depth of 500 bgs and discrete groundwater samples were collected at first water (71 feet) and within observed water-bearing sands depths of 90, 100, 168, and 380 feet bgs. No volatile organic compounds were detected in the groundwater first encounter water or below.

Groundwater quality is summarized in the quarterly and annual monitoring reports. Reports are submitted to the RWQCB and DTSC and can be viewed on the California Geotracker system (<http://geotracker.swrcb.ca.gov/>). The groundwater-monitoring system is designed to detect the presence of contaminants in groundwater by analyzing groundwater chemistry at point-of-compliance wells. Chlorinated hydrocarbons, also referred to as volatile organic compounds, are typically the chemicals of concern that are detected at landfills. Numerous studies and groundwater monitoring events have been completed.

The Forward Landfill extraction and treatment system discharges the treated groundwater to an infiltration basin. However, they recently had a violation cited by the RWQCB (May, 2018). The treatment and discharge of treated groundwater at the Forward Landfill in San Joaquin County is regulated by Waste Discharger Requirements (WDRs) Order R5-2003-0080. The RWQCB noted that the VOC concentrations reported in Q4-2018 and Q1-2018 are a violation of

Discharge Specification B.4. of Order R5-2003-0080, which states "Treated effluent discharged to the infiltration gallery shall have non-detect levels of VOCs using EPA Method 8260."

Various water quality violations have been cited by the Water Board since 2015, which have been addressed by Forward. The RWQCB requested that on or before May 31, 2018, Forward submit a report certifying that the discharge of treated groundwater is in compliance with Order R5-2003-0080. In response, Forward installed a new groundwater treatment system of granular activated carbon (GAC) in May 2018, and the effluent system is now in compliance with the order. Based on totalizing flow meter readings, an estimated 14.9 million gallons of extracted groundwater was treated during the second quarter 2018, yielding approximately 0.28 pounds of VOCs removed during this period.

### **Forward Unit**

The groundwater quality at the Forward Unit, as indicated by monitoring wells has generally been good. Occurrences of low level volatile organic compounds are detected above drinking water standards in the areas of the unlined Forward unit of the Forward Landfill and downgradient of it. More recently, VOCs and some inorganic compounds have been detected at the Forward units that are likely associated with landfill gas. The RWQCB issued a letter, dated May 9, 2018, requesting an evaluation of the exceedances. In addition, the RWQCB requested implementation of interim corrective measures to begin to address the detected VOCs in groundwater. Forward submitted the "Evaluation Monitoring and Interim Corrective Action Workplan" on June 29, 2018, for RWQCB approval. In a letter dated May 10, 2018, the RWQCB also requested a workplan to install additional wells on the southeast side of the Forward Unit to monitor groundwater that is flowing in that direction as a result of adjacent agricultural pumping. Forward submitted the "Forward Landfill Well Installation Workplan" on June 28, 2018 and it is also being reviewed by the RWQCB. These workplans will be implemented following RWQCB approval.

Environmental monitoring for the first quarter of yielded results similar to previous quarters. Currently, water quality impacts at the Forward Unit are limited to a few wells north of the closed Class I WMU A unit that show low level concentrations of VOCs, mainly at trace levels and well below safe drinking water standards. The WMU A unit does not contain a "Subtitle D" liner and LCRS.

Some exceedances of inorganic constituent CLs were detected at the Forward Unit. Historically, similar exceedances of inorganic CLs have been measured and verified in samples collected from detection monitoring program wells. Forward is proposing to perform an evaluation of these exceedances, pending approval of its June 28, 2018 workplan by the RWQCB.

### **Current Groundwater Quality**

To date evaluation monitoring indicates that chlorinated hydrocarbon impacts extend as much as 8,000 feet downgradient of the Austin Road Unit. The zone of groundwater affected by VOCs is shown in Figure IV.G-2 (the principal VOCs of concern include PCE and TCE). As shown in this figure, the limits of affected groundwater appear to be well-constrained both laterally and

vertically on the east by wells AMW-5R, AMW-30S and AMW-30 and partially to the west by wells AMW-28, AMW-32S, AMW-32, and AMW-2. The north and west side EMPs are being performed to define the non-detection or zero. The zero line for the vertical and lateral extent of the plume to the northwest, north, and north-northeast is also under investigation. The overall shape of the VOC-affected plume with respect to groundwater contours and the distribution of VOCs between the shallow and deeper zones indicate the lateral and vertical limits of the VOC affected groundwater have likely been affected by regional flow conditions (agricultural/industrial pumping, recharge rates, etc.).

In addition to the sampling at the CDCR, groundwater samples were collected from 51 residences between February 7 and May 18, 2018. Six of the 51 residential wells showed detected VOCs in the wells as reported by GLA (2018).

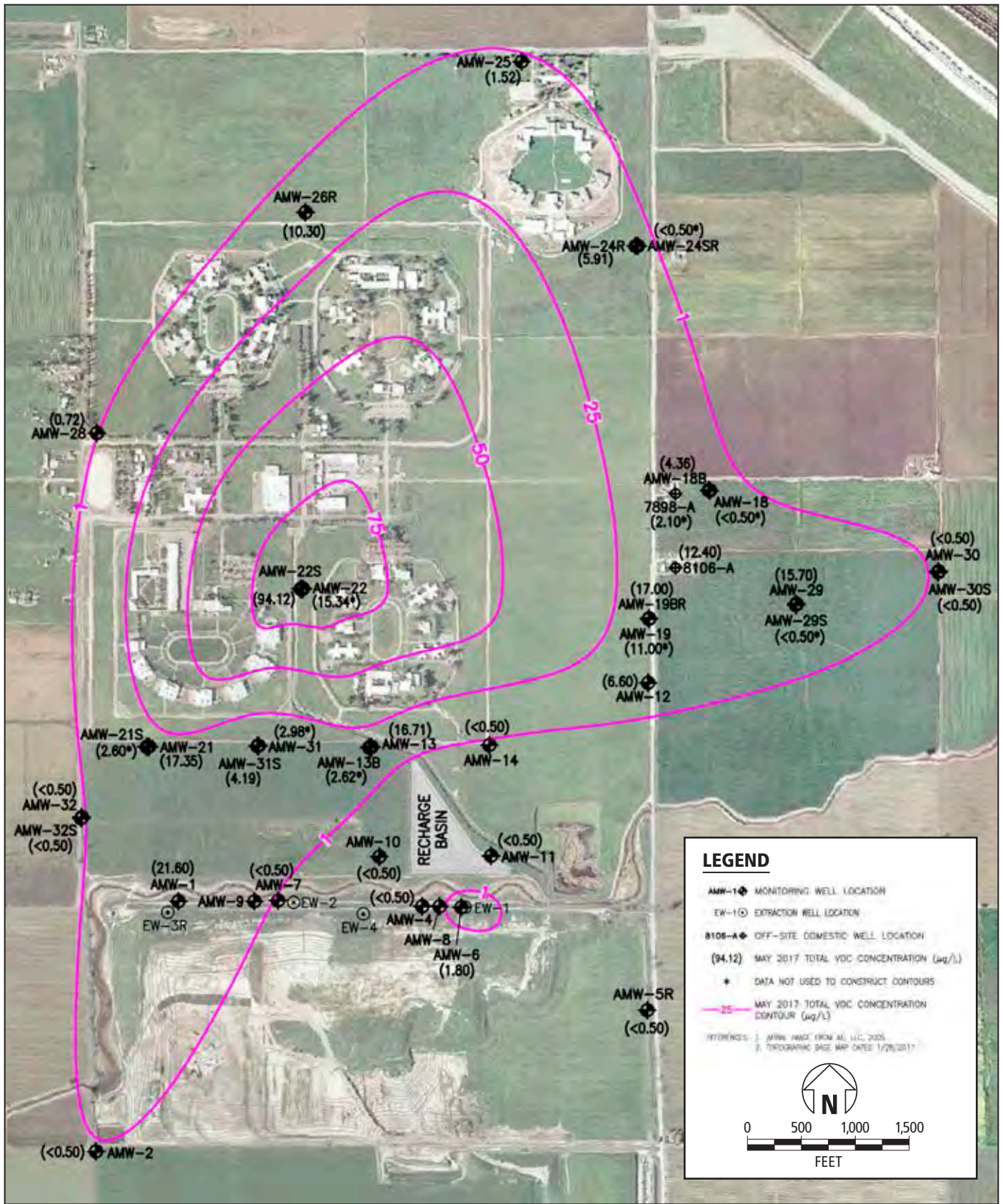
Forward is continuing to assess landfill gas and groundwater issues at the Austin Road Unit and complying with RWQCB requirements for the CAP. The April 2009 installation of two new groundwater extraction wells at Forward increases the volume of groundwater being extracted and treated "at the source" and to an extent draws back the groundwater plume migrating offsite.

#### Leachate Generation, Treatment, and Monitoring

The northeast and southern WMU expansions proposed in this project would have Class II lining and leachate collection designs that comply with current requirements. The Forward Class II Surface Impoundments (i.e, leachate ponds) would be lined with high density polyethylene (HDPE) geomembrane. Both new areas would have the leachate collection and monitoring required (by the RWQCB) of the landfill operations, as described in the project description of the expansion. The new units would have blanket LCRS. The components of the LCRSs are summarized in the Project Description. The blanket LCRS described would be placed on both the base and slopes of the landfill expansion modules. The LCRS is the first line of defense for the protection of groundwater from any leachate generated from the landfill.

There are currently two Class II surface impoundments at the Forward Landfill: WMU F-West and WMU F-North. An additional Class II impoundment, WMU F-South, is permitted but has not yet been constructed. A Compost Pond is located in the southern portion of the site (southern expansion area). Both Class II impoundments have 1:1 (horizontal:vertical) slopes, contain a sump with a side slope riser and a double liner system consisting of, from top to bottom:

- 60-mil HDPE primary geomembrane
- Geonet
- 60-mil HDPE secondary geomembrane.



**Figure IV.G-2**  
 Total Volatile Organic Compound (VOC)  
 Concentration Map

Source: Geo-Logic Associates

- Geosynthetic clay liner (GCL)
- Prepared subgrade

WMU F-North was constructed in 1999 and is an approximately 1.3-acre triangular-shaped impoundment located just north of the South Branch of the South Fork of Little Johns Creek. WMU F-West was constructed in 2003 and is an approximately 0.97-acre rectangular-shaped impoundment located directly west of WMU FU-03.

As part of the proposed expansion, WMU F-North would be clean closed and a new leachate evaporation pond would be constructed in the southwest corner of the expansion area. An additional leachate evaporation pond would be constructed in the current entrance facility area.

Required leachate monitoring consists of daily inspections of the system and sumps for the presence of leachate. If leachate is present, the sumps are pumped and the leachate is disposed. Leachate detected in a previously dry sump is sampled and that sump is added to the semi-annual sampling program. The leachate samples are analyzed for the constituents and parameters listed in the site's WDRs, and include the field parameters discussed in the surface water monitoring. The quantity and quality of leachate pumped from each sump is measured and reported to the RWQCB in gallons per day.

Monitoring devices are also in place beneath the sumps of the leachate collection system to detect if there is leakage through the leachate collection system. These pan lysimeter monitoring devices are sampled and tested for constituents of concern, including VOCs, as required by the RWQCB.

### ***Impacts and Mitigation***

#### *Standards of Significance*

According to CEQA Guidelines, the proposed project could have a significant impact with regard to hydrology and water quality if it would:

- Substantially degrade water quality;
- Contaminate a public water supply;
- Substantially degrade or deplete groundwater resources;
- Substantially interfere with groundwater recharge;
- Cause flooding or subject structures to flood hazards;
- Substantially modify a local or regional drainage feature (i.e., creek alignment);
- Cause significant erosion or sedimentation;
- Generate more leachate than can be handle by the existing or planned control systems; or
- Cause or be subject to substantial flooding, erosion, or siltation.

As described in the Project Description, State and Federal standards have been established for the siting, design, construction, operation, closure, and post-closure of Class II landfills. Similarly, the closed Class I landfill has post-closure monitoring and maintenance requirements. These standards incorporate state-of-the-art engineering requirements that are intended to reduce the risks associated with waste disposal facilities to an acceptable level. An inconsistency between the proposed project and regulations related to surface or groundwater hydrology and water quality also would have the potential to result in significant impacts.

**Impact G.1: If rainfall runoff was not properly controlled, surface water bodies could become contaminated through contact with the landfill refuse.**

If rainwater falling on the new landfill area contacts the landfill refuse and picks up dissolved contaminants and is not controlled by the drainage system, surface water could migrate to Littlejohns Creek and flow downstream to the San Joaquin River. The applicant's report for the relocation of the South Branch of South Littlejohns Creek report (Questa Engineering 2017) recommends a project design feature that would control landfill and site drainage run-on and runoff, so that run-on and run-off would be controlled and channeled to onsite stormwater/sedimentation ponds.

The drainage study utilizes San Joaquin County local rainfall data, and the Rational Method was used to estimate maximum potential runoff from a 1,000-year, 24-hour event. The 1,000-year, 24-hour storm criteria is a RWQCB requirement for Class II landfills. The surface water control system and drainage control structures for the proposed project are sized to accommodate the calculated peak flows. The proposed surface water control system would also divert run-on from properties surrounding the landfill.

The following surface water management procedures are proposed as part of the proposed expansion project:

- The drainage study utilizes San Joaquin County local rainfall data, and the Rational Method would be used to estimate maximum potential runoff from a 1,000-year, 24-hour storm event. The surface water control system and drainage control structures for the proposed project would be sized to accommodate the calculated peak flows.
- As part of the design plans for the proposed landfill expansion, Forward will complete calculations of the 1000-year, 24-hour storm event peak discharges. The hydraulic and drainage study would be used to design appropriate drainage controls. Drainage controls would be designed to prevent contact between surface water and refuse. Site run-on and run-off control facilities consist of drains and perimeter ditches that channel surface water to holding and evaporation ponds on the site. The surface-water collection drain system would be designed to divert the water to the onsite sedimentation basins. All waste at the proposed Forward Landfill would be separated from the North and South Branches of South Littlejohns Creek by a levee system or other acceptable method designed to protect the site from a 100-year flood event.

- Channel design features are proposed as part of the expansion project: The project includes channel reconfiguration and localized flood protection berms to isolate the landfill surfaces from floodwaters.
- The project design shall also include provision of replacement floodplain area and storage volume in an easement along the relocated South Branch of South Littlejohns Creek.
- The channel and floodplain storage easement are designed to accommodate the 100-year, 24-hour storm. The design would also include a three-foot freeboard.

All of these measures have been or will be incorporated into the design of the landfill expansion and the relocated South Branch channel. Therefore, potential surface water drainage impacts would be reduced to a *less than significant* level.

**Mitigation Measure G.1:** None required.

**Impact G.2: If erosion from soil stockpiles and landfill surfaces are not properly controlled, or inadvertent spills of refuse or other substances onsite occurred, surface water could potentially become contaminated.**

If erosion from stockpiles and landfill refuse were not properly controlled, this could create sedimentation in Littlejohns Creek and cause contaminants in the refuse to migrate in the surface water and be deposited downstream. Wet Weather Plans and Erosion Control Plans have historically been in place at the Forward Landfill to protect against such uncontrolled erosion and sedimentation. No new regulatory issues have been identified with regard to management of this erosion potential.

The following procedures are proposed as part of the proposed expansion project:

- The current drainage control structures and monitoring would continue to be implemented to control erosion and sedimentation in the expansion areas. Proposed structural controls include the drainage control system and daily cover. Operational controls include maintenance of the drainage system by keeping ditches clear of debris and excessive vegetation, and making needed repairs to drainage structures. Corrective measures would be implemented if inspections show excessive erosion or damage to drainage channels. Any areas showing erosive effects would be mitigated by removing loose debris followed by replacement, regrading, and compacting the area. Monitoring and protection against sediment from entering the Littlejohns Creek channel would be implemented, including the diversion of part of Littlejohns Creek farther away from the landfilled area.
- In order to minimize sediment transport to Littlejohns Creek, landfill slopes, ridgetops, and peripheral areas would be revegetated to inhibit erosion.

Implementation of these procedures would reduce the impact to a *less-than-significant* level.

**Mitigation Measure G.2:** None required.



**Impact G.3: Potential groundwater impacts could result if the proposed liners and leachate collection systems for the Landfill expansion areas were not properly designed or installed, or if they were to fail.**

Without a properly designed landfill cell liner and LCRS installed in the project expansion areas, landfill leachate could percolate through the ground underlying the landfill units and potentially contaminate groundwater. To address this potential, the expansion areas would have a leachate collection system installed that will meet the federal and state Class II landfill design requirements.

The following groundwater quality protection measures are proposed as part of the project: (as required under CCR Title 27)

- A pan lysimeter (secondary liner) would be installed under the sump area, as previously required by the RWQCB;
- The liner and leachate collection system for the two new expansion areas would meet Title 27 requirements and be reviewed and approved by the RWQCB and new WDRs issued, as warranted;
- The regulatory required separation between the liner and groundwater shall be implemented to allow for chemicals in the leachate to attenuate before reaching the groundwater, should the leachate breach the liner and leachate collection system;
- Leak location testing of the liner in each WMU shall be conducted before waste can be disposed in that Unit, as required by the RWQCB;
- If any modifications to the leachate collection system and associated monitoring are required by the RWQCB, the landfill operator shall implement those changes;
- The liner system will be overlain by a protective operations layer consisting of a one-foot thickness of soil and a one-foot thick gravel layer that serves as the leachate collection layer. This two-foot layer will serve to protect the liner system from sharp or jagged materials in the waste.
- The operator will remove any hazardous materials spotted during delivery, thus minimizing the potential for leachate impacts to groundwater if a break occurs in the liner or the leachate collection system.
- Landfill operations and maintenance are designed with appropriate schedules to identify and correct any failures in the leachate collection system.

In addition, the RWQCB will review the updated Joint Technical Document (JTD), the leachate collection system, and associated monitoring, and could require changes to the planned leachate collection system or monitoring.

Implementation of the described protection measures, long-term operations and maintenance procedures, obtaining new RWQCB Waste Discharge Requirements, and compliance with RWQCB orders would reduce the impact to a *less-than-significant* level.

**Impact G.4: If not properly managed, the volume of leachate generated from the expansion areas could result in potential groundwater impacts.**

More refuse would be generated by the expanded landfill than would be under the existing landfill operating permit, so that there is a potential for more leachate to be produced over time given the additional 8.12 million cubic yards (CY) of landfilling covered by the expansion. The base liner system design would be required to be in compliance with the current WDRs for the existing facilities and in accordance with 27 CCR, Section 20330 requirements for a Class II liner system.

Spacing of LCRS lateral pipes and headers was evaluated by HELP2 leachate generation modeling, and modified by the higher historical indications of leachate volume. Leachate would be collected and discharged to the new onsite leachate ponds in addition to the existing ponds. If during the service life of the landfill, the demand on the leachate impoundment exceeds capacity, Forward would implement an alternative leachate management plan. Leachate in excess of the impoundment's capacity would either be pumped to temporary onsite tanks, trucked for offsite disposal at the City of Stockton Municipal Utility Department wastewater treatment plant, or trucked to another offsite licensed treatment and disposal facility. Leachate stored in the temporary onsite tanks may be released back into the impoundment at a later date.

The following measures are proposed as part of the project:

- The proposed measures to address concerns about additional leachate generation as a result of the expanded landfill will be addressed in the JTD with the presentation of the updated EPA HELP model results based on the projected volumes of refuse, a historical analyses of actual leachate generation volumes (which were at significantly higher volumes than the model predicted for peak year rainfall) and the description of the leachate collection system designed to meet the maximum probable leachate generated. Engineering control systems (leachate collection system, drainage control, groundwater and gas controls), monitoring programs, and institutional controls have been presented in the JTD, which has been reviewed by the RWQCB. Reporting on leachate generation volume and quality is a requirement of the RWQCB-stipulated progress reporting through the various proposed landfilling phases.
- The landfill cell anchor trenches would be elevated 2 to 3 feet above the surrounding land to minimize the possibility of water from major storm events draining into the cells and adding to the volume of leachate.

Implementation of these procedures would reduce the impact to a *less-than-significant* level.

**Mitigation Measure G.4:** None required.

**Impact G.5: The re-routing of the South Branch of South Littlejohns Creek could result in flooding if the new alignment is not designed to accommodate peak flows.**

The updated (April, 2018) design report for the relocation of the South Branch of South Littlejohns Creek includes objectives to provide adequate flood control (i.e., has capacity to

carry the 100-year flow within its banks) in the realigned section of the creek; and provide a stable channel design that meets or exceeds the functions and values of the existing creek. The realigned channel has been designed to carry the 100-year flood flows within its banks. Erosion protection would be provided in areas with high velocities or sharp bends. The U.S. Army Corps of Engineers HEC-RAS hydraulic model was used to determine design water surface elevations and estimate channel velocities and other pertinent flow parameters for stable channel design.

The following measures are proposed as part of the project, as described in the Project Description and design study for the proposed creek realignment:

- The channel must function as a natural corridor, require little or no maintenance once the vegetation is established, and should provide 100-year flood protection.
- The channel slope and depth will be appropriate to the 100-year flood protection. The channel slope and depth are based on the invert elevations of the existing channel at the start and end of the new channel. The slope between these two points along this alignment is designed for 0.00055 ft/ft which translates into a ground surface profile along the alignment a channel depth between 10 and 12 feet.
- The appropriate responsible agencies must review and approve the updated April 2018 design for the relocation of the South Branch of South Littlejohns Creek.

Implementation of these procedures would reduce the impact to a *less-than-significant* level.

**Mitigation Measure G.5:** None required.

**Impact G.6: Adding significant new landfill volume could potentially contribute to the known VOC-contaminated plume and other groundwater contamination.**

The new expansion would add approximately 8.1 million CY over the additional 17.3 acres of landfill in the stages proposed, which would allow for more leachate generation over time. This additional leachate could potentially contaminate the underlying groundwater. This is because additional waste accumulation could result in some additional risk of potential spills, leaks, and leachate control failures, despite the controls in place. Thus, the project could contribute over time to the known VOC-contaminated plume associated with the unlined portion of the former Austin Road Landfill extending north and northeast from the northern edge of the landfill border, and associated potential to contaminate groundwater. That could result in the need to continue to supply water to affected offsite users for a longer time period.

The following measures are proposed as part of the project to minimize this potential impact:

- Forward Landfill has agreed to a short-term and long-term mitigation of the offsite impacts of the existing VOC plume, to provide an alternative source of drinking water to those residents in the downgradient area who are using domestic water wells for drinking water and whose domestic wells may be adversely affected by the VOC plume. A long-term solution currently being investigated by Forward to assist those residents on Newcastle Road, who are already being provided with bottled drinking water by Forward, is for

Forward to provide the property owners on Newcastle Road in the footprint of the downgradient plume with municipal piped water to replace the current use of the supply wells;

- The residences on Newcastle Road would continue to be supplied with bottled water until municipal piped water is provided;
- Residents on Austin Road would continue to be supplied with bottled water from the City of Stockton until municipal piped water is provided.
- Because of the potential for impact from the plume to the downgradient receptors determination of the sampling program frequency and any changes to it, along with the appropriate mitigation, is the responsibility of the RWQCB and must be carried out under their permit authorization; and
- The groundwater capture and remediation system could be augmented to capture the current offsite plume to the satisfaction of the RWQCB based on their review of future source control reports.

Implementation of these procedures and protections would reduce the impact to a *less-than-significant* level.

**Mitigation Measure G.6:** None required.

**Impact G.7: Potential decreases in groundwater resources due to loss of recharge surface area.**

The proposed landfilling over the currently unpaved land in the expansion areas would remove that land from rainwater recharge to local aquifers, resulting in a loss of recharge. As discussed in the setting section, groundwater resources in the Central Valley have historically suffered from overdrafting—where more groundwater is removed than is naturally recharged into the aquifers.

A regional groundwater recharge program is being considered by San Joaquin County Flood Control District and Water Conservation District (SJCFCWCD) for conjunctive use. Such groundwater storage and recharge programs are designed to store excess water for recharge use during the dry summer months. This introduced recharge would not occur during the seasonal high groundwater of the end of the wet weather cycle, and would not result in groundwater elevations that would be higher than historic levels.

The following measures are proposed as part of the project:

- Continued recharge of extracted and treated groundwater. In the GeoLogic 2017 Corrective Action Monitoring Workplan the construction of a storage basin for treatment system effluent that would subsequently infiltrate and recharge the groundwater is proposed. Although the recharge program does not specifically address the loss of infiltration within the expansion area it is designed to generally meet the intent of the water district to minimize overdrafting.

The impact from the loss of direct infiltration over the expansion area is considered to be *less than significant*.

**Mitigation Measure G.7:** None required.

**Impact G.8. Increased sedimentation during the construction phase of the relocation of the South Branch of South Littlejohns Creek.**

Construction and operation of the relocated South Branch of South Littlejohns Creek channel could result in additional sedimentation and surface water quality impact during the construction phase and shortly thereafter if appropriate BMPs to minimize such impact are not adhered to. Constructing the Creek alignment during the dry season would be minimize any sedimentation and water quality impact.

**Mitigation Measure G.8:** Implement the proposed Questa Engineering design specifications and standard construction BMPs during the construction phase of the South Branch of Sough Littlejohns Creek realignment. Construction of the realigned creek channel shall be implemented during the dry season.

The proposed mitigation would reduce potential impact of sedimentation from the proposed creek alignment to a *less-than-significant* level.

## **H. OTHER CEQA TOPICS**

### **Effects Found Not to Substantially Change From 2013 EIR**

A Notice of Preparation (NOP) was circulated for the Project beginning on May 15, 2018. Written comments received on the NOP during the scoping period, which ended on June 14, 2018, were considered in developing the scope and content of the environmental resources and topics to be studied in this Supplemental EIR. The environmental topics analyzed in Sections IV.A through IV.G represent those topics that generated potential controversy and expectation of adverse impacts beyond or different than those described in the 2013 EIR. For the remaining topics, the proposed Project would not result in new significant impacts beyond those already identified in the 2013 EIR.

The discussions for each of the environmental topics listed below identify any applicable mitigation measures from the 2013 EIR, or any changes to those measures that would reduce significant environmental effects of the Project.

#### **Soils and Geology**

The 2018 Expansion Project would reduce the area of fill slopes compared to the 2013 Project, slightly reducing the potential seismic, slope stability, and erosion impacts identified in the 2013 EIR. However, Impacts G.1 through G.3 also would apply to the current Project, and no new or intensified impacts are anticipated. All measures identified in the 2013 EIR as Proposed as Part of the Project would be included in the current Project. Therefore impacts to soils and geology from the 2018 Expansion Project would continue to be less than significant.

#### **Public Services and Utilities**

The overall level of landfill activities, including construction equipment and vehicle operation (the primary sources of noise associated with the Project) would be similar to those considered in the 2013 EIR, but the duration of landfill activities would be substantially reduced due to the earlier closure date. Therefore, during the landfill life, Impacts I.1 through I.5 of the 2013 Project on the County Sheriff's Office, California Highway Patrol, Manteca-Lathrop Fire District, City of Stockton Regional Wastewater Control Facility, schools, parks, and other public facilities would be the same as described in the 2013 EIR. All measures identified in the 2013 EIR as Proposed as Part of the Project would be included in the current Project. Therefore impacts to public services and utilities from the 2018 Expansion Project would continue to be less than significant.

#### **Cultural Resources and Tribal Cultural Resources**

##### ***Cultural Resources***

Cultural resources of the site were evaluated in the 2014 EIR. An updated cultural resources evaluation was conducted for the two parcels comprising the 2018 project as

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part of this SEIR (Solano Archaeological Services [SAS], August 28, 2018). This evaluation included a records search, field survey, and consultation with local tribal representatives.

As with the 2014 project, the 2018 Expansion Project still has the potential to affect unknown cultural resources in the area to the south of the current landfill footprint. The currently proposed Project eliminates the potential for impacts to cultural resources on the Brocchini property.

The records search at the CCIC was negative for cultural resources within a half mile radius of the project area. The NAHC SLF search, however, identified a Sacred land in the project area that was later defined by Ms. Kathy Perez of the Northern Valley Yokuts Tribe to be an unrecorded prehistoric habitation site situated approximately at the location of the proposed southern landfill expansion site, and possibly along the proposed site of the Littlejohns Creek South Fork realignment. During survey no cultural materials were identified, but observation of actual native soil was greatly limited by factors such as vegetation and compost spreading.

The project area is also located in close proximity to Littlejohns Creek South Fork. Past Native Americans commonly inhabited the banks of such waterways to exploit the natural resources typically abundant in such areas. Given the site's location with respect to the creek channel, and the input from Ms. Perez that an unrecorded habitation site existed on the southern project site, it is possible that unknown cultural resources may be encountered during project excavation. Therefore, Impact J.1 from the 2013 EIR would continue to apply to the current Project.

In 2014, representatives of the Yokuts tribe reviewed the previous Mitigation J.1 and recommended some minor changes to that measure. In addition, the 2018 Cultural Resources Evaluation further strengthened to the 2014 EIR's mitigation. All of these changes are shown in underline and strikethrough below:

**Mitigation J.1:** An archaeological monitor and a Native American monitor shall be retained to observe project-related ground disturbing activities in order to identify potentially buried resources. In the event that any of the archaeological site indicators described above are found, work should be halted within a zone established by the project archaeologist and Native American monitor until a plan for the evaluation of the resource under CEQA guidelines has been submitted to the appropriate permitting agency for approval.

If any potential cultural resources are encountered during any ground disturbing activities, the following measures shall be implemented:

(a). If prehistoric archaeological resources are discovered during excavation and construction of the proposed project, the project sponsor along with a qualified archaeologist and Native American monitor shall suspend all work in the immediate vicinity of the find pending site investigation by a qualified archaeologist and a Native American monitor to assess the materials and determine their significance. If the qualified archaeologist and Native American monitor determine that the find has the

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potential to be a historical resource per California Register of Historical Resources (CRHR) criteria, the project sponsor shall provide funding and time to allow recovering an archaeological sample or to implement avoidance measures. Work could continue at other locations while archaeological mitigation takes place.

(b) Evaluative testing, normally consisting of limited hand excavation to retrieve information and materials from the archaeological site, would be needed to demonstrate the eligibility of the resource to be included on the CRHR. If eligibility is established, then a plan for mitigation of impacts to the resource should be submitted to the San Joaquin County Community Development Department for approval before any construction related earthmoving activities are allowed inside the zone designated as archaeologically sensitive by the project archaeologist and Native American monitor. The plan must result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research considerations, must be performed by qualified professionals, and must result in detailed technical reports. Mitigation can take the form of additional data retrieval through hand excavation coupled with archaeological and Native American monitoring of all soils from the archaeologically sensitive zone. Monitoring is aimed at identifying, recording and/or removing archaeological materials and information for analysis, and also serves to limit damage to human remains (non-destructive analysis), a typical component of both seasonal and year-round villages in the valley.

(c) The project sponsor shall allow only a qualified archaeologist, and a Native American monitor to collect any prehistoric cultural resources (except human remains and burial associated grave goods) discovered on the site. During a pre-construction meeting the qualified archaeologist and Native American monitor would review with the construction crews the types of archaeological materials that could be present at the site, and that if any construction personnel observes any potential archaeological materials that they inform the archaeologist and Native American monitor of the location of the potential resource.

Should buried, unforeseen archaeological deposits be encountered during any project construction activity, work shall cease within a 50-foot radius of the discovery. The County shall ensure that a qualified professional archaeologist who meets the federal Secretary of the Interior's Standards in archaeology is retained to assess the significance of the find and recommend avoidance or treatment measures; work shall not resume until appropriate treatment has been completed. In the event that human remains or any associated funerary artifacts are discovered during construction, all work shall cease within 50 feet of the discovery and, in accordance with requirements of the California Environmental Quality Act (Public Resources Code Section 15064.5[e]), Public Resources Code Section 5097.98, and the California Health and Safety Code (Section 7050.5), the San Joaquin County Sheriff/Coroner shall be contacted immediately. If the remains are deemed to be Native American, the Sheriff/Coroner will notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the City and a qualified archaeologist to develop a plan for the proper treatment of the human remains and associated funerary objects. Construction activities shall not resume until treatment has been completed.

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(d) In the event that human remains or any associated funerary artifacts are discovered during construction, all work shall cease within 50 feet of the discovery and, in accordance with requirements of the California Environmental Quality Act (Public Resources Code Section 15064.5[e]), Public Resources Code Section 5097.98, and the California Health and Safety Code (Section 7050.5), the San Joaquin County Sheriff/Coroner shall be contacted immediately. If the remains are deemed to be Native American, the Sheriff/Coroner will notify the NAHC, which will in turn appoint and notify a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the County and a qualified archaeologist to develop a plan for the proper treatment of the human remains and associated funerary objects. Construction activities shall not resume until treatment has been completed. If recommendations are made and not accepted, during the mediation period, the Native American Heritage Commission shall mediate the issue and the Human Remains shall remain in the possession of the MLD.

These revised mitigation measures would be incorporated into this project.

### *Tribal Cultural Resources*

In June 2018, representatives of the Yokuts Tribe requested that a Sacred Lands File (SLF) search be conducted for the project site. A record search of the Native American Heritage Commission (NAHC) SLF was completed for the area of potential project effect (APE) for the project on July 10, 2018. Sacred sites were identified in the project area provided. The NAHC recommended that the County contact the Northern Valley Yokuts Tribe directly for more information about sacred sites and tribal cultural resources within the APE.

On August 7, 2018 SAS emailed a letter and a map depicting the project area to the Native American Heritage Commission (NAHC). The letter requested a records search of the Sacred Lands File (SLF) for the project area, and for a list of local Native American tribal groups that should be contacted about the project. On August 24, 2018, Ms. Sharaya Souza, Staff Services Analyst for the NAHC, replied in an emailed letter that SLF record search results resulted in the identification of a Sacred land in the project area, and that the Northern Valley Yokuts Tribe need to be contacted for more information. Ms. Souza also supplied a list of Native Americans to contact in regard to requesting official project recommendations and information on unrecorded cultural resources that may exist in the project area. On August 21, 2018, SAS mailed letters to the following Native American contacts identified by the NAHC:

- Rhonda Morningstar Pope (Chairperson, Buena Vista Rancheria of Me-Wuk Indians)
  - Sara Dutschke Setchwaelo (Chairperson, Ione Band of Miwok Indians)
  - Katherine Erolinda Perez (Chairperson, North Valley Yokuts Tribe)
  - Gene Whitehouse (Chairperson, United Auburn Indian Community of the Auburn Rancheria [UAIC])
  - Raymond Hitchcock (Chairperson, Wilton Rancheria)
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On August 24, 2018 SAS met with Ms. Perez at the involved property to discuss the Sacred land identified by the NAHC. Also present were Forward Landfill's Ron Scatena and Ruben Ramirez. During the meeting the proposed landfill sites and Littlejohns Creek South Fork realignment design was clarified. Ms. Perez indicated that the unrecorded resource, which consisted of a prehistoric habitation site, lie situated between the existing Littlejohns Creek alignment and the proposed realignment approximately at the proposed location of the southern landfill expansion area. Ms. Perez officially recommended construction monitoring during all Project-related ground-disturbing activities. This monitoring is included in the revised Mitigation Measure J.1., presented above.

In an email dated August 23, 2018, Marcos Guerrero, Cultural Resources Manager for UAIC, stated that the UAIC have no comments for this Project. To date, no other responses have been received.

### **Visual Quality**

The currently proposed Project eliminates the large mound of waste previously proposed for the Brocchini property. However, it would continue to include the creek relocation, expand the existing landfill mound to the south, and add additional bulk to the northeastern landfill mass. It also would replace the existing composting facility with a landfill mound. The potential for off-site litter generation would continue, although over a shorter landfill life compared to the 2013 Project. Therefore, 2013 EIR's Impacts K-1 through K-7 would continue to apply to the currently proposed Project. All measures identified in the 2013 EIR as Proposed as Part of the Project would be included in the current Project. Therefore impacts to visual quality from the 2018 Expansion Project would be similar to those described in the 2013 EIR. Visual impacts associated with the increased landfill mass would continue to be significant and unavoidable. All other visual impacts would be less than significant with implementation of measures proposed as part of the Project identified in the 2013 EIR.

### **Growth Inducement**

The CEQA Guidelines (Section 15125(g)) require that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the Guidelines as "the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this definition are public works projects which remove obstacles to population growth."

The environmental effects of induced growth are secondary, or indirect, impacts of the proposed action. Secondary effects of growth include increased demand on community services and infrastructure, increased traffic and noise, and conversion of agricultural and open space to development use. Inducement of disorderly growth that is inconsistent with local land use plans generally causes significant environmental impacts.

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If the proposed landfill expansion would stimulate growth into the area, then the project would have growth inducing impacts. However, the 2018 Expansion Project, which would be smaller than the previously proposed expansion, involves neither the extension of public service, such as water or sewer lines, nor the creation of a land use that would stimulate adjacent development, the 2018 Expansion Project is not likely to have growth-inducing impacts.

It should also be noted that construction and extended operation period of the 2018 Expansion Project would, because of the resulting environmental impacts, make the Project area less desirable for development. However, this effect would be smaller than for the previously proposed expansion.

The 2018 Expansion Project would be considered growth inducing if, by providing additional disposal capacity, the landfill would encourage development in the area. There is no evidence that available waste disposal capacity is limiting development in the areas that would be served by the Forward Landfill.

### **Cumulative Impacts**

In evaluating potential environmental impacts, CEQA requires that the project be considered within the context of regional development. While the environmental effects resulting from an individual project may appear less than significant when considered alone, they may be significant when added to impacts caused by other projects in the area. Cumulative impacts are defined by CEQA Guidelines Section 15355 as “two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts.”

The cumulative impacts analyses in this document are made on the basis of lists of past, present, and reasonably anticipated future projects, as well as projections of growth that encompass both specific development and other regional growth (for example, in B. Transportation and Circulation).

### **Previously Approved Projects**

The 2013 EIR identified four projects in the vicinity of the project site that had been approved but not yet developed at that time:

- Arch Road Industrial Project, located on the south side of Arch Road between Austin and Newcastle Roads. The project consists of light industrial and warehouse uses on a 63-acre site. This project has been constructed so is part of the cumulative development scenario.
  - Archtown Industrial Project, located on an approximately 70-acre site at the southwest corner of Arch and Newcastle Roads. The project consists of light industrial and warehouse uses. This project has not yet been constructed so is part of the cumulative development scenario.
  - California Health Care Facility, located on a portion of the existing Northern California Youth Correctional Center west of Austin Road between the Forward
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Landfill and Arch Road, consisting of a 1,722-bed health care facility totaling approximately 1.2 million square feet, with housing clusters, diagnostic and treatment centers, armory, warehousing and support facilities, central plant, outdoor recreation fields, gatehouse, regional food service facility, staff training facilities, parking areas, and security fence and lighting. This facility was complete and in operation at the time this SEIR was prepared.

- Northern California Re-Entry Facility and renovation of the former Dewitt-Nelson Youth Correctional Facility, located adjacent to one another east of the Arch Road Industrial Project on the south side of Arch Road between Austin and Newcastle Roads. The Northern California Re-Entry Facility, at the site of a former correctional officer training academy and Northern California Women's Facility, consists of construction of an approximately 16,000-square-foot medical building and renovation of existing buildings for facility program support services, dining and receiving, family visiting, academic and vocational education, and miscellaneous, with a capacity of 500 inmates and 381 staff. The adjacent Dewitt-Nelson Youth Correctional Facility (closed in 2008) will be renovated and reused as a 1,133-bed adult correctional facility with a mental health treatment mission. (It should be noted that the Dewitt-Nelson Youth Correctional Facility portion of this project was not specifically identified in the 2013 EIR.) At the time this SEIR was prepared, these facilities had been constructed.

The 2013 EIR identified one proposed development project in the vicinity of the project site:

- Opus Logistics Center, located northwest of the intersection of Arch and Austin Roads, consisting of subdivision and development of 475 acres within the City of Stockton for industrial uses (Phase I), and rezoning and annexation to the City of Stockton of an adjacent 148 acres (currently within San Joaquin County) for industrial use (Phase II).

After the 2013 EIR was prepared, the Opus Logistics Center was renamed "NorCal Logistics Center", and Phase II of the project (annexation to the City of Stockton of an adjacent 148 acres) was withdrawn from consideration. In 2015, the City of Stockton approved subdivision of approximately 325 acres of the 475-acre Phase I project area within the City of Stockton, with no change to the size or change the industrial development already allowed on the property.

Thus, the currently proposed NorCal Logistics project (Phase I only) is smaller than the project identified in the 2013 EIR (Phases I and II), and does not include new or different uses that were not described in the 2013 EIR. At the time this SEIR was prepared, construction was underway for a portion of the project (McDowell, 2018).

Since the 2013 EIR was prepared, the following project was approved by the City of Stockton:

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- Tidewater Crossing, located west of Highway 99 and north of French Camp Road, an 878-acre residential development with 2,365 dwelling units. This project has not yet been constructed so is part of the cumulative development scenario.

The Mariposa Lakes project, a 3,810-acre residential project with 10,514 dwelling units, located southeast of Stockton city limits, was approved by the City of Stockton, but the project site has not been annexed to the City. It is considered unlikely that this project would be constructed before the anticipated closure date of the proposed Forward Landfill expansion project.<sup>1</sup> Therefore, this project is not included in the cumulative projects evaluated in this EIR.

The cumulative effects of the project together with other existing, approved, and likely development have been considered and discussed in detail in each of the various analyses of Chapter IV. In summary, the following significant and unavoidable cumulative impacts were identified:

- Eight study intersections are projected to operate at unacceptable conditions in the 2035 condition without any improvements. However, a large number of roadway and signalization improvements are required as mitigation or otherwise included in the other approved projects. These are summarized in the 2018 TIA. Implementation of these improvements would reduce the significantly impacted intersections to the following:
  - SR 99 SB On-off Ramps & E. French Camp Rd., (AM and PM peak hours)
  - SR 99 Urban Interchange & Arch Rd. (AM and PM peak hours)
  - SR 99 SB On-off Ramps & Mariposa Rd. (AM and PM peak hours)
  - SR 99 NB On-off Ramps & Mariposa Rd. (PM peak hour)

The project also would contribute to a cumulatively significant impact at the Arch Road and Austin Road intersection, however mitigation measures identified in this EIR would reduce that impact to a less-than0-significant level.

No mitigation measures are available that would reduce the impacts at these intersections to a less than significant level. In the worst case, the 2018 expansion project's contributions to cumulative impacts at these four intersections, as defined by County policy, would be considerable, and would be a *significant unavoidable impact*.

- The cumulative noise analysis found that the near-term and 2036 (based on 2035 traffic models) noise level increases attributed to increased traffic from other planned development and the increased project truck traffic would exceed the significance criteria at many of the roadway segments (see Table IV.C-4 columns

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<sup>1</sup> Mike McDowell, Planning Manager, Planning & Engineering Division, Community Development Department, City of Stockton, email to Pang Ho, PHA Transportation Consultants, 10 April 2018.

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identified as “Change Existing + Project + Cum from Existing”; “Change 2035 Cum NP from Existing NP”; and “Change 2035 + Project from Existing NP”). The table shows that the noise levels would increase in 2036 by a significant amount (compared to the existing levels) before addition of the noise from the increased project truck traffic. The additional truck traffic noise that would be associated with the proposed project would further increase traffic noise and contribute to a significant cumulative noise impact.

Sound barriers are not feasible in the semi-rural areas that would be affected by cumulative traffic increases, because the barriers would be far removed from the activity areas of sensitive receptors and the sound barriers would generally be an unnatural barrier not only to noise but also to distant views now possible in these areas. Thus, no mitigations are available for this cumulative impact other than reducing project operations.

- The project would contribute to a cumulatively significant and unmitigable increase in air pollutant emissions. The proposed project would have a less than significant (project-level) impact on ozone impacts (after implementation of Mitigation Measures IV.D-2a and D-2b). However, cumulative projects within the project vicinity would potentially result in a significant impact for ozone. The residual emissions from the project (emissions after mitigation and emissions from the extended years of landfill operations, and increased daily acceptance rate [above existing actual emissions], as a result of the project) would contribute to the overall ozone impact in the region.

With Mitigation Measure IV.D-2a and D-2b, the impacts of PM<sub>10</sub> from the project individually would be less than significant. However, the project would add to the cumulatively significant impact for particulate matter within the project vicinity. Because the project would result in PM<sub>10</sub> emissions from traffic and operations every day (due to the extended years of landfill operations as a result of the project), the project contribution would be cumulatively considerable.

No cumulatively potentially significant impacts were identified for the following topics: Public Health and Safety, Hydrology and Water Quality, Soils and Geology, Vegetation and Wildlife, Public Services and Utilities, Cultural Resources, and Visual Quality.

#### **H. Significant Unavoidable Adverse Impacts**

After mitigation, project implementation would have the following unavoidable significant adverse impacts:

- Project traffic would contribute to unacceptable Levels of Service at the following intersections under 2035 cumulative conditions:
    - SR 99 SB On-off Ramps & E. French Camp Rd., (AM and PM peak hours)
    - SR 99 Urban Interchange & Arch Rd. (AM and PM peak hours)
    - SR 99 SB On-off Ramps & Mariposa Rd. (AM and PM peak hours)
    - SR 99 NB On-off Ramps & Mariposa Rd. (PM peak hour)
-

Because no mitigation would be feasible at these intersections, this impact would be significant and unavoidable.

- The project would contribute to a cumulatively significant increase in air pollutant emissions (ozone precursors) and PM<sub>10</sub>.
  - The increase in extent and mass of the proposed project would constitute a significant visual impact (per 2013 FEIR- not reevaluated in this SEIR).
  - The project would result in significant and unavoidable project-generated traffic noise on Austin Road.
  - The project's truck traffic would contribute to significant and unavoidable cumulative traffic noise on Austin Road.
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## **V. ALTERNATIVES**

### **A. INTRODUCTION**

Section 15126(d) of the California Environmental Quality Act (CEQA) Guidelines requires that an EIR describe a range of reasonable alternatives to the proposed project, or to the location of the project, which could feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant environmental effects of the project. Chapter V. Alternatives in the 2013 EIR included a summary of the project objectives and described and evaluated the potential impacts of a full range of alternatives to the previously proposed project. That chapter also described alternatives considered but not studied further. Alternatives considered in the 2013 EIR included:

- Alternative 1: No Project Alternative
- Alternative 2A: Reduced Project Alternative
- Alternative 2B: Reduced-Size/Reduced Daily Operations Alternative
- Alternative 3: Expansion of North County Recycling Center and Sanitary Landfill

The currently proposed Expansion Project is another alternative to the project evaluated in the 2013 EIR. As described in this SEIR, the 2018 Expansion Project would have reduced impacts compared with all of the previously considered alternatives other than the no-project alternative.

However, alternatives to the implementation of the 2018 Expansion Project are available. These involve implementing only one of the two fill sites proposed under the Expansion Project and/or not increasing the daily fill rates beyond current levels. The impacts of these three alternatives are compared with the currently proposed project below.

### **B. ADDITIONAL ALTERNATIVES CONSIDERED IN THIS SUPPLEMENTAL EIR**

#### **Alternative 4: Northern Fill Area Only**

Under this Alternative, the Northern fill area would be filled with about 3.3 million cubic yards of wastes, about 41% of that proposed under the 2018 Expansion Project. This alternative would include the existing permitted maximum truck trips (620/day) through the life of the project, with a closure date of 2033 rather than 2036 for the proposed project. Because the South site would not be developed as a landfill under this alternative, no creek relocation or new access driveway/bridge would be required, and the existing composting facility would remain.

As with the Proposed Project and Alternative 2A, the expanded landfill would accept both Class II (designated) and Class III (municipal) waste. Other than the changes described above, this alternative would have the same facilities and operating procedures (other than hours of operation) as the proposed project.

Impacts of this alternative would be similar to those of the proposed project except for the following:



- No creek-relocation-related biological or water quality impacts would occur, however long-term ecological benefits of creek relocation would not be realized.
- Noise, air quality, traffic, and odors impacts would be reduced by three years, from 2036 to 2033.
- Health risk impacts associated with the expansion would be slightly reduced.
- There would be no visual impacts associated with the Southern fill area.

#### **Alternative 5: Southern Fill Area Only**

Under this Alternative, the Southern fill area would be filled with about 4.8 million cubic yards of wastes, about 59% of that proposed under the proposed project. This alternative would include the existing permitted maximum truck trips (620/day) through the life of the project, with a closure date of 2034 rather than 2036 for the proposed project. Because the North site would not be developed as a landfill under this alternative, the existing open space on that site would remain.

As with the Proposed Project and Alternative 2A, the expanded landfill would accept both Class II (designated) and Class III (municipal) waste. Other than the changes described above, this alternative would have the same facilities and operating procedures (other than hours of operation) as the proposed project.

Impacts of this alternative would be similar to those of the proposed project except for the following:

- Noise, air quality, traffic, and odors impacts would be reduced by two years, from 2036 to 2034.
- Health risk impacts associated with the expansion would be slightly reduced.
- There would be no visual impacts associated with the Northern fill area.

#### **Alternative 6: Reduced Daily Operations Alternative**

This Alternative is similar to the 2018 Expansion Project but would include the existing permitted maximum truck trips (620/day) only through the end of the current permit (estimated at 2030). After that time, instead of using the maximum of 620 trucks/day, this alternative would revert to the existing 233 truck trips /day. At projected fill rates, this alternative would have a closure date of approximately 2038 or approximately 2 years later than the 2036 closure date of the expansion project.

Impacts of this alternative would be similar to those of the proposed project except for the following:

- Noise, air quality, traffic, health risk, and odors impacts would not be increased in intensity over existing conditions, but existing landfill traffic, noise, and air pollutant emissions would extend to 2038 instead of ending in 2036.

### C. OTHER ALTERNATIVES CONSIDERED AND REJECTED IN THIS SEIR

An additional alternative, an out-of-county landfill, was requested to be considered in comments on the 2014 Draft SEIR. This alternative was rejected from further consideration in this SEIR as discussed below.

#### Out-of-County Alternative

The County does not have jurisdiction to approve any landfill outside of its jurisdiction, therefore such an alternative would be not be feasible for the lead agency to implement, which is one of CEQA's criteria for considering alternatives (per CEQA Guidelines Section 15126.6(f)(1)). In addition, even though much of the refuse accepted at Forward comes from outside of the County, given the distribution of Class II landfills in the region, the Forward facility may be the nearest facility for much of the out-of-county waste that it accepts. As described in the Project Description, Forward's waste origin for the period 1995-2017 was as follows:<sup>1</sup>

San Joaquin County	31%
Sacramento County (adjacent)	33%
Stanislaus County (adjacent)	12%
Alameda County (adjacent)	5%
Santa Clara County	4%
El Dorado County	3%
All Other Counties Combined	12%

With a relocated, out of county landfill, some wastes would be hauled for shorter distances while other wastes would be hauled farther. Therefore, depending on its location, an out-of-county alternative may not significantly reduce traffic, noise, or air quality impacts compared with the proposed project. In addition, establishing a new landfill, with all related construction and operational activities, typically requires more land and has greater environmental impacts than infilling an existing landfill.

#### Other Off-Site Alternatives

The 2013 EIR and this SEIR do not consider specific off-site landfill sites (other than the possible expansion of two County landfills) in detail because a new landfill would, by necessity, require a substantially larger land area and substantially greater ancillary facilities than would an expansion of an existing landfill. Specifically, a new landfill would require an operations center, weighing station, truck washing facilities, new access and internal circulation roads, a new composting facility, new materials sorting areas, new equipment storage areas, new cover excavation areas, new buffer areas, possible new utility extensions/expansions, possible traffic control infrastructure, and other new facilities essential to constructing and operating a landfill that already exist at existing landfills.

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<sup>1</sup> Sangeeta Lewis, Prinicipal, Lewis Engineering, Letter report to Kevin Basso, General Manager, Forward, Inc., Subject: Forward, Inc. Landfill, Infill Development Project; Summary of Tonnage/Site Life/Waste Origin/Waste Type, August 22, 2018.

The need for space for these facilities and buffers increase the space requirements for a new landfill, which is why the 2013 EIR assumed the need a 500-acre minimum parcel size, even if the actual landfill footprint were similar to the proposed project expansion footprint. For example, the Keller Canyon Landfill in Contra Costa County, permitted in 1992, had a disposal area of 244 acres but a total site area of 2628 acres (CalRecycle, Solid Waste Facility Permit, Keller Canyon Landfill, Permit #07-AA-0032). San Joaquin County's Foothill Landfill has a disposal acreage of 750 acres and a total site area of 800 acres (CalRecycle, Solid Waste Facility Permit, Foothill Sanitary Landfill, Permit #39-AA-0004). The North County Landfill does have a smaller area, 320 acres with a 185-acre waste footprint (CalRecycle, Solid Waste Facility Permit, North County Landfill, Permit #39-AA-0022). However, recently permitted new landfills tend to be larger, for example the Mesquite Regional Landfill in Southern California has a landfill footprint of 2,290 acres out of a total site area of 4,250 acres (CalRecycle, Solid Waste Facility Permit, Mesquite Regional Landfill, Permit #13-AA-0026). It is recognized that each specific site has particular buffer needs and lands not suitable for placement of a landfill, however all have needs for ancillary facilities.

A landfill expansion also would be able to use existing facilities compared to the need for new ones at a new landfill. This need for new ancillary facilities could affect financial feasibility of a new landfill under a certain size. For all of these reasons, the 2013 EIR and this SEIR focus on reduced-project alternatives and expansions of other existing landfills in the county over a new off-site landfill. It should be noted that the comment does not identify any potential alternative off-site locations for consideration. The EIR's range of alternatives is reasonable.

#### **D. ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

The CEQA Guidelines (Sections 15126.6(d), 15126.6(e)) require that an environmentally superior alternative be designated. If the alternative with the least environmental impact is the No Project Alternative, then one of the other remaining alternatives is to be designated as the environmentally superior alternative.

The 2013 FEIR concluded that Alternative 2B would be the Environmentally Superior Alternative. The proposed 2018 Expansion Project would, however be environmentally superior to Alternative 2B, with a much more limited footprint and shorter extension of landfill life. The proposed project, as detailed in this SEIR, would reduce most impacts compared with the previously proposed Project. Alternatives 4 and 5 would further reduce impacts compared to the proposed project. Of these, Alternative 4 would have the lowest impact, because it would not result in creek relocation impacts and would not affect the visual quality of the Southern parcel as viewed from Austin Road.

It should be noted that the Forward Inc. landfill is the only landfill in San Joaquin County that accepts Class II wastes, and under Alternatives 4 and 5, those wastes would need to be disposed of at out-of-county landfills upon the closure of the Forward Landfill earlier than under the proposed project or Alternative 6. This could result in

greater regional air pollutant emissions than with the project, as well as unknown impacts of expanding landfills elsewhere. Because Alternative 4 would not affect the composting facility or require creek realignment, it is considered the environmentally superior alternative. However, long-term benefits of the restored creek and additional Class 2 landfill capacity would not be gained under that alternative.

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APPENDICES

## A. Notice of Preparation



**SAN JOAQUIN COUNTY  
COMMUNITY DEVELOPMENT DEPARTMENT**

1810 E. HAZELTON AVE., STOCKTON, CA 95205-8232  
PHONE: 209/468-3121 FAX: 209/468-3163

**NOTICE OF PREPARATION  
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT NO. PA-0800105 ER  
FORWARD INC.**

The Environmental Review Officer has determined that this project might have a significant impact on the environment and hereby gives notice that a Supplemental Environmental Impact Report is to be prepared in accordance with the provisions of the California Environmental Quality Act (CEQA), as amended.

The San Joaquin County Development Department will be the Lead Agency and will prepare a Draft Supplemental Environmental Impact Report for the project identified above. Please submit the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. The Community Development Department did not prepare an Initial Study for this project.

**Application**

The application being processed is Use Permit Application No. PA-1800090 of Forward Inc. to increase the disposal footprint of the Forward Landfill locate near Stockton, California from approximately 355 acres to 372.3 acres.

The proposed additional development area includes two areas within the currently permitted landfill boundaries. (1) Approximately 8.7 acres in the northeast corner of the site; (2) Approximately 8.6 acres in the south area.

The acreage added in the south area is gained by shifting the existing disposal footprint north and realigning the South Fork of Littlejohns Creek to the southern and eastern boundaries of the site.

The proposed expansion areas are not under a Williamson Act Contract. All the additional expansion acreage is within the boundary facilities currently permitted under Use Permit application No. UP-00-0007. (Use Type: Major Impact Services)

**Current Project**

The major infill development and modifications being proposed are:

- Allow the construction of landfill disposal cells and landfilling operations within those cells on an 8.7-acre parcel that lies in the northeast portion of the site within the currently permitted landfill boundary. In addition, approximately 8.6 acres of landfill disposal area is proposed to be added in the south area by shifting the existing disposal footprint to the north and realigning the South Branch of the South Fork of Littlejohns Creek to the southern and eastern boundary of the site. A total of approximately 17.3 acres of disposal footprint is proposed to be added.
- Increase the remaining landfill capacity by approximately 8.12 million cubic yards (cy), from approximately 16.6 million cy currently permitted to approximately 24.7 million cy. All of the increase would be Class II landfill space, to allow the expansion area to accept both Class II and Class III waste.



- Relocate approximately 2,900 feet of the South Branch of the South Fork of Littlejohns Creek (which currently traverses the landfill) to the southeastern boundaries of the site to provide additional separation of the creek from the landfill. The relocated creek would be 3,300 feet in length.
- Add a bridge crossing on the east side of the South Branch of the South Fork of Littlejohn's Creek

### **Previous Project (History)**

In 2012 Forward proposed a previous expansion project of the landfilling operations onto an adjoining 184.0 acre parcel. This parcel was located within closer proximity to the Stockton Metropolitan Airport than the currently proposed expansion project area, and required a four-fifths vote of the Board of Supervisors to override the County Airport Land Use Commission finding that this proposed expansion project was not in conformity with the 1993 San Joaquin County Airport Land Use Plan. This former project failed to achieve the required four-fifth override vote of the Board of Supervisors. The Board of Supervisors did vote, however, to certify the Forward Landfill Expansion Final Environmental Impact Report (FEIR) as having been prepared in accordance with the California Environmental Quality Act (GC 15151) and adequate for use for decision-making purposes.

In 2014 a new project area for development was proposed within the permitted landfill area and did not include the previously proposed horizontal expansion of landfilling operations onto the adjacent 184.0 acre parcel and no cancellation of the Williamson Act Contract. As determined by the Environmental Review officer a Supplemental Environmental Impact Report (SEIR) was to be prepared to review any potentially significant impacts. On March 27, 2015 the applicant "Forward Inc." requested that the Community Development Department place the proposed 2014 project on hold.

The applicant "Forward Inc." has requested that the previous project request be reinitiated and is proposing an infill development project of 17.3 acres. As determined by the Environmental Review Officer a new SEIR will be prepared to review any potentially significant impacts.

The additional acreage (17.3 acres) being proposed is within the boundary of the 567-acres permitted under UP-00-0007. Additionally, the project area being proposed is not under a Williamson Act Contract and will not include landfilling operations onto the adjacent 184.0 acre parcel previously proposed in 2012.

### **Location**

The project site is located on the west side of Austin Road, 1/2 mile north of Lynch Road, north of Manteca.

### **Environmental Issues to be discussed in the SEIR**

1. **Land Use.** Potential effects of the landfill expansion on local land uses, including potential bird hazards for the Stockton Metropolitan Airport, to an industrial use, and night lighting will be assessed.
2. **Traffic.** Traffic analysis will be provided relative to vehicle traffic at the entry location, and the intersections of Austin Road at Mariposa Road, Arch Road, and French Camp Road.
3. **Noise.** Noise generated at the site will be evaluated relative to the impact on nearby residences and compliance with the County noise ordinance.
4. **Air Quality/Odors.** The SEIR will assess the public health consequences from potential chronic, acute, or accidental release of designated hazardous wastes into the air from the proposed expansion of the disposal footprint.

5. Hydrology and Water Quality. The expansion of the existing landfill will require a revised grading plan. Surface and groundwater impacts will be evaluated. Impacts associated with the landfill's proximity on the relocation of the South Branch of the South Fork of Little Johns Creek will be evaluated. The SEIR will review the proposed landfill development plan, including groundwater monitoring, leachate control, and runoff management plans.
6. Soils and Geology. Slope stability and earthquake issues will be evaluated.
7. Biological Resources. The SEIR will review biological issues relative to the expansion of the existing landfill. The San Joaquin County Multi Species Habitat Conservation and Open Space Plan will be described as it applies to the expansion of the current site.
8. Public Services and Utilities. The SEIR will review impacts relative to police, fire and wastewater.
9. Cultural Resources. The SEIR will summarize the cultural resources analyses and mitigation measures in the previous EIR's.
10. Visual Quality. The SEIR will analyze the visual and aesthetics of the proposed expansion.
11. Climate Change. The SEIR will analyze issues of greenhouse gas emissions related to the operations of the project and the corresponding traffic.

**Review and Comment Period:**

Due to the time limits mandated by State law, your response must be sent at the earliest date, but not later than 30 days after receipt of this notice.

**Review Begins:** May 15, 2018  
**Review Ends:** June 14, 2018  
**Contact Person:** John Funderburg, Principal Planner  
San Joaquin County Community Development Department  
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**2018 FORWARD LANDFILL NOP SEIR DISTRIBUTION LIST  
PA-0800105 ER**

**State Clearinghouse**

Department of Conservation  
Department of Fish and Game #3  
Department of Water Resources  
Department of Aeronautics  
California Department of Transportation District 10  
Public Utilities Commission  
Energy Commission  
Dept. of Resources Recycling and Recovery  
Central Valley Regional Water Quality Control Board #5  
San Joaquin River Conservancy  
State Lands Commission  
Corrections  
California Highway Patrol  
Delta Protection Commission  
Native American Heritage Commission  
Office of Historic Preservation  
Department of Toxic Substances Control

**Federal Agencies**

Army Corps of Engineers  
Fish and Wildlife Service  
Federal Aviation Administration  
Environmental Protection Agency  
US Department of Agriculture

**Local Agencies**

*Project Referral List (see Planning Application); and*

City of Stockton, Public Works  
City of Stockton, Planning  
Environmental Health Department, Robert McClellon  
Public Works, Public Services, Alex Chetley  
Public Works, Transportation, Jeff Levers  
Public Works, Solid Waste, Desi Reno  
San Joaquin Valley Air Pollution Control District  
Council of Governments  
Stockton Metropolitan Airport  
Sheriff  
Lathrop-Manteca Fire District  
Stockton Unified School District  
Manteca School District  
All Aerial Services  
Kathy Perez  
Airport Land Use Commission  
San Joaquin Farm Bureau, Bruce Blodgett  
Office of Emergency Services  
Agricultural Commissioner Office  
AT&T  
PG&E  
Sierra Club  
Audubon Society  
California EPA  
California Farm Bureau  
County Clerk

## Interested Persons

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Nancy MacKenzie, Chief  
Environmental Planning Section  
Planning, Acquisition and Design Branch  
Division of Facility Planning, Construction, and Management, CDCR  
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Sacramento, CA 95827  
916-255-2159 FAX (916) 255-3030

Joan Richards  
8648 Robin Lane  
Stockton, CA 95212  
(Campaign for Common Ground)

#### **Others**

Planning Commissioners  
County Counsel  
Applicant: Forward Inc.  
Agent: Lewis Engineering  
Surrounding property owners within 1400' feet



## B. Responses to Notice of Preparation

## NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department  
1550 Harbor Blvd., Suite 100  
West Sacramento, CA 95691  
Phone (916) 373-3710  
Email: [nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
Website: <http://www.nahc.ca.gov>  
Twitter: @CA\_NAHC



May 29, 2018

John Funderburg  
San Joaquin County Community Development Project  
1810 E. Hazelton Avenue  
Stockton, CA 95205

RE: SCH#2008052024, Forward Landfill Expansion/Supplemental EIR, San Joaquin County

Dear Mr. Funderburg:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b))). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1))). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

**CEQA was amended significantly in 2014.** Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

#### AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or

tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
  - b. The lead agency contact information.
  - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
  - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).
2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).
3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
- a. Alternatives to the project.
  - b. Recommended mitigation measures.
  - c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).
4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
- a. Type of environmental review necessary.
  - b. Significance of the tribal cultural resources.
  - c. Significance of the project's impacts on tribal cultural resources.
  - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).
5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).
6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
  - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).
7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
  - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).
9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).
10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
  - a. Avoidance and preservation of the resources in place, including, but not limited to:
    - i. Planning and construction to avoid the resources and protect the cultural and natural context.
    - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - i. Protecting the cultural character and integrity of the resource.
    - ii. Protecting the traditional use of the resource.
    - iii. Protecting the confidentiality of the resource.
  - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
  - e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
  - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).
11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
  - a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
  - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
  - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

## SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf)

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at:  
<http://nahc.ca.gov/resources/forms/>

#### NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([http://ohp.parks.ca.gov/?page\\_id=1068](http://ohp.parks.ca.gov/?page_id=1068)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have been already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
  - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
3. Contact the NAHC for:
  - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.



**CENTRAL VALLEY FLOOD PROTECTION BOARD**

3310 El Camino Ave., Ste. 170  
SACRAMENTO, CA 95821  
(916) 574-0609 FAX: (916) 574-0682



May 21, 2018

Mr. John Funderburg  
San Joaquin County Community Development Department  
1810 E. Hazelton Avenue  
Stockton, California 95205

Subject: Forward Landfill Expansion (PA-1800090)/Supplemental EIR (PA-0800105),  
Notice of Preparation, SCH Number: 2008052024

Location: San Joaquin County

Dear Mr. Funderburg,

Central Valley Flood Protection Board (Board) staff has reviewed the subject document and provides the following comments:

The proposed project is within Little John's Creek, a regulated stream under Board jurisdiction, and may require a Board permit prior to construction.

The Board's jurisdiction covers the entire Central Valley including all tributaries and distributaries of the Sacramento and San Joaquin Rivers, and the Tulare and Buena Vista basins south of the San Joaquin River.

Under authorities granted by California Water Code and Public Resources Code statutes, the Board enforces its Title 23, California Code of Regulations (Title 23) for the construction, maintenance, and protection of adopted plans of flood control, including the federal-State facilities of the State Plan of Flood Control, regulated streams, and designated floodways.

Pursuant to Title 23, Section 6 a Board permit is required prior to working within the Board's jurisdiction for the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee.

Permits may also be required to bring existing works that predate permitting into compliance with Title 23, or where it is necessary to establish the conditions normally imposed by

Mr. John Funderburg  
May 21, 2018  
Page 2 of 2

permitting. The circumstances include those where responsibility for the works has not been clearly established or ownership and use have been revised.

Other federal (including U.S. Army Corps of Engineers Section 10 and 404 regulatory permits), State and local agency permits may be required and are the applicant's responsibility to obtain.

Board permit applications and Title 23 regulations are available on our website at <http://www.cvpfb.ca.gov/>. Maps of the Board's jurisdiction are also available from the California Department of Water Resources website at <http://gis.bam.water.ca.gov/bam/>.

Please contact James Herota at (916) 574-0651, or via email at [James.Herota@CVFlood.ca.gov](mailto:James.Herota@CVFlood.ca.gov) if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Andrea Buckley". The signature is written in a cursive style with a large initial 'A'.

Andrea Buckley  
Environmental Services and Land Management Branch Chief

cc: Office of Planning and Research  
P.O. Box 3044, Room 113  
Sacramento, CA 95812-3044





EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

## Central Valley Regional Water Quality Control Board

7 June 2018

John Funderburg  
San Joaquin County  
Community Development Department  
1810 East Hazelton Avenue  
Stockton, CA 95205

CERTIFIED MAIL  
91 7199 9991 7039 6992 0784

### **COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT, USE PERMIT APPLICATION NO. PA-1800090 OF FORWARD INC. PROJECT, SAN JOAQUIN COUNTY**

Pursuant to the San Joaquin County Community Development Department's 15 May 2018 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Supplemental Environmental Impact Report* for the Use Permit Application No. PA-1800090 of Forward Inc. Project, located in San Joaquin County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

#### **I. Regulatory Setting**

##### **Basin Plan**

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan

KARL E. LONGLEY ScD, P.E., CHAIR | PATRICK PULUPA, EXECUTIVE OFFICER

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amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/).

### **Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:

[http://www.waterboards.ca.gov/centralvalleywater\\_issues/basin\\_plans/sacsjr.pdf](http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf)

In part it states:

*Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.*

*This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.*

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

## **II. Permitting Requirements**

### **Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to

restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/constpermits.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml).

### **Phase I and II Municipal Separate Storm Sewer System (MS4) Permits<sup>1</sup>**

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/municipal\\_permits/](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/).

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/phase\\_ii\\_municipal.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml)

### **Industrial Storm Water General Permit**

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/storm\\_water/industrial\\_general\\_permits/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml).

### **Clean Water Act Section 404 Permit**

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the

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<sup>1</sup> Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

**Clean Water Act Section 401 Permit – Water Quality Certification**

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

**Waste Discharge Requirements – Discharges to Waters of the State**

If USACOE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:  
[http://www.waterboards.ca.gov/centralvalley/help/business\\_help/permit2.shtml](http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml).

**Dewatering Permit**

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board’s Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver)

R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2003/wqo/wqo2003-0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf)

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/waivers/r5-2013-0145\\_res.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf)

### **Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: [http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/for\\_growers/apply\\_coalition\\_group/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/for_growers/apply_coalition_group/index.shtml) or contact water board staff at (916) 464-4611 or via email at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at [IrrLands@waterboards.ca.gov](mailto:IrrLands@waterboards.ca.gov).

### **Low or Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to*

*Surface Waters (Low Threat General Order) or the General Order for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order).* A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0074.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf)

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2013-0073.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf)

### **NPDES Permit**

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:

[http://www.waterboards.ca.gov/centralvalley/help/business\\_help/permit3.shtml](http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml)

If you have questions regarding these comments, please contact me at (916) 464-4644 or [Stephanie.Tadlock@waterboards.ca.gov](mailto:Stephanie.Tadlock@waterboards.ca.gov).



Stephanie Tadlock  
Environmental Scientist

July 17, 2018

John Funderburg  
County of San Joaquin  
Community Development Department  
Development Services Division  
1810 East Hazelton Avenue  
Stockton, CA 95305

**Agency Project: PA-1800090 (UP) Forward Inc. Landfill Expansion / Preparation  
of a Supplemental Environmental Impact Report (SEIR)  
(PA-0800105 ER) SCH # 2008052024**

**District CEQA Reference No: 20180683**

Dear Mr. Funderburg:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Use Permit application to increase the disposal footprint of the existing Forward Landfill from approximately 355 acres to 372.3 acres. A total of approximately 17.3 acres of disposal footprint is proposed to be added. The proposed additional development area includes two areas within the currently permitted landfill boundaries. All the additional expansion acreage is within the boundary facilities currently permitted under Use Permit application No. UP-00-0007. The major infill development and modifications being proposed for this project are the following: (1) Increase the existing disposal footprint from approximately 355 acres to 372.3 acres, (2) Realigning the South Branch of the South Fork of Littlejohns Creek to the southern and eastern boundary of the site; and (3) Increase the remaining landfill capacity by approximately 8.12 million cubic yards (cy), from approximately 16.6 million cy currently permitted to approximately 24.7 million cy. Per the Notice of Preparation (NOP), all of the increase would be Class II landfill space, to allow the expansion area to accept both Class II and Class III waste.

The project area being proposed will not include the landfilling operations onto the adjacent 184.0 area parcel previously proposed in 2012. The project site is located on the west side of Austin Road, ½ mile north of Lynch road, north of Manteca, CA. (APN/Address 181-150-07, -08, -09, & -10 and 201-060-01, -02, 03, -05, -06, & -07 / 9999 South Austin Road, Manteca, CA.)

In 2018, Forward Inc. requested that the previous proposed project request be reinitiated and is proposing an infill development project of 17.3 acres. Per the County,

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

---

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (661) 392-5500 FAX: (661) 392-5585

the current SEIR is to (1) replace the 2014 project's Draft Supplemental EIR, and (2) is being developed for the current proposed landfill project.

The environmental issues to be discussed in the SEIR include (1) Air Quality/Odors and (2) Climate Change. The District offers the following comments:

1. The SEIR should consider the following:
  - a) Criteria Pollutants: Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.
    - i. Construction Emissions: Construction emissions are short-term emissions and should be evaluated separately from operational emissions. For reference, the District's annual criteria thresholds of significance for construction are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NO<sub>x</sub>), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SO<sub>x</sub>), 15 tons per year of particulate matter of 10 microns or less in size (PM<sub>10</sub>), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM<sub>2.5</sub>).
    - ii. Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. For reference, the annual criteria thresholds of significance for operation of permitted and non-permitted sources each are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NO<sub>x</sub>), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SO<sub>x</sub>), 15 tons per year of particulate matter of 10 microns or less in size (PM<sub>10</sub>), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM<sub>2.5</sub>).
    - iii. Recommended Model: Project related criteria pollutant emissions from construction and operation non-permitted (limited to equipment not subject to District permits) should be identified and quantified. Emissions analysis should be performed using CalEEMod (**California Emission Estimator Model**), which uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors.
  - b) In addition to the item identified above, the SEIR should also include the following:
    - i. A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA



requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the SEIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

- ii. A discussion of the components and phases of the Project and the associated emission projections, (including ongoing emissions from each previous phase).
2. The proposed project is subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review). Since this facility is currently permitted with the District (N-339 Forward Inc Landfill), any modification that would result in a change in emissions or change in method of operation/equipment requires the submittal of an Authority to Construct Permit application. As such, the District recommends the applicant contact the District's Small Business Assistance (SBA) office to determine whether an Authority to Construct (ATC) and Permit to Operate (PTO) are required, and to identify other District rules and regulations that apply to this project. SBA staff can be reached at (209) 557-6446.
  3. Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions) - The Project will be subject to Regulation VIII. The Project proponent is required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan, if applicable, prior to commencing any earthmoving activities as described in District Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*. Information on how to comply with Regulation VIII can be found online at: [http://www.valleyair.org/busind/comply/PM10/compliance\\_PM10.htm](http://www.valleyair.org/busind/comply/PM10/compliance_PM10.htm)
  4. Health Risk Assessment – In 2015, OEHHA revised their risk assessment guidelines. All calculations of risk should be made in accordance with OEHHA's current guidance. It is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk or 1.0 for the Acute and Chronic Hazard Indices.

More information on toxic emission factors and HRAs can be obtained by:

- E-Mailing inquiries to: [hramodeler@valleyair.org](mailto:hramodeler@valleyair.org); or
- The District can be contacted at (559) 230-6000 for assistance, or
- Visiting the Districts website (Modeling Guidance) at [http://www.valleyair.org/busind/pto/Tox\\_Resources/AirQualityMonitoring.htm](http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm)

5. Ambient Air Quality Analysis - An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

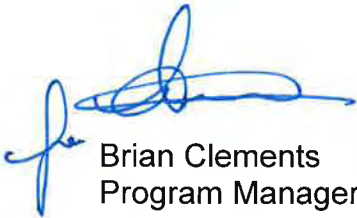
If an AAQA is performed, the analysis should include emissions from both Project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis. Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website [www.valleyair.org/ceqa](http://www.valleyair.org/ceqa).

6. The District recommends that a copy of the District's comments be provided to the Project proponent.

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this Project. If you have any questions or require further information, please call Georgia Stewart at (559) 230-5937 or email [georgia.stewart@valleyair.org](mailto:georgia.stewart@valleyair.org). When calling or emailing the District, please reference District CEQA number 20180683.

Sincerely,

Arnaud Marjollet  
Director of Permit Services



Brian Clements  
Program Manager

AM: gs



## DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027  
P.O. BOX 4025, SACRAMENTO, CALIFORNIA 95812

June 18, 2018

Mr. John Funderburg  
San Joaquin County Community Development Department  
1810 E. Hazelton Ave.  
Stockton, CA 95205  
[jfunderburg@sjgov.org](mailto:jfunderburg@sjgov.org)

Governor's Office of Planning & Research  
JUN 18 2018  
STATE CLEARINGHOUSE

**Subject: SCH No. 2008052024** – Supplemental Environmental Impact Report (EIR) for the Forward Landfill Expansion, SWIS No. 39-AA-0015, San Joaquin County

Dear Mr. Funderburg:

Thank you for allowing the Department of Resources Recycling and Recovery (CalRecycle) staff to provide comments for this proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

### PROJECT DESCRIPTION

Use permit for application for infill expansion project to expand an existing landfill disposal footprint from approximately 355 acres to 372.3 acres. The proposed additional development area includes two areas within the currently permitted landfill boundaries.

The proposed additional development area includes two areas within the currently permitted landfill boundaries

- (1) Approximately 8.7 acres in the northeast corner of the site; and
- (2) Approximately 8.6 acres in the south area.

The acreage added in the south area is gained by shifting the existing disposal footprint north and realigning the South Fork of Littlejohns Creek to the southern and eastern boundaries of the site.

The landfill capacity will increase by approximately 8.12 million cubic yards (cy) from 16.6 million cy to approximately 24.7 million cy. All of the increase would be Class II landfill space to allow the expansion area to accept both Class II and Class III waste.

### Comments

The Solid Waste Facilities Permit will need to be revised including updated Preliminary Closure Postclosure Maintenance Plans and Non-Water Corrective Action Plan. CalRecycle and the solid waste Local Enforcement Agency (LEA) will need to use the Supplemental EIR to support the permit approvals required. The LEA contact is Robert McClellon of the San Joaquin County Environmental Health Department at (209) 468-0332.





# SAN JOAQUIN COUNCIL OF GOVERNMENTS

555 E. Weber Avenue • Stockton, California 95202 • P 209.235.0600 • F 209.235.0438 • www.sjcog.org

## San Joaquin County Airport Land Use Commission

June 14, 2018

John Funderburg  
Community Development Department  
1810 East Hazelton Avenue  
Stockton, CA 95205

*Katherine Miller*

CHAIR

*Robert Rickman*

VICE CHAIR

*Andrew T. Chesley*

EXECUTIVE DIRECTOR

### Member Agencies

CITIES OF  
ESCALON,  
LATHROP,  
LODI,  
MANTECA,  
RIPON,  
STOCKTON,  
TRACY,  
AND  
THE COUNTY OF  
SAN JOAQUIN

### Re: PA-0800105 ER (Deadline: 6/14/18)

Dear John Funderburg,

The San Joaquin Council of Governments (SJCOCG), acting as the Airport Land Use Commission (ALUC), has reviewed a Notice of Preparation (NOP) application for a supplemental environmental impact report to increase the disposal footprint of the Forward Landfill from approximately 355 acres to 372.3 acres east of Austin Road, north of French Camp Road, Stockton.

### AIRPORT LAND USE COMMISSION'S REVIEW

Forward Inc. previously submitted that indicated the following expansion plans:

*"The proposed development plans for the landfill include two areas within the currently permitted landfill boundary, as shown on the attached figure; approximately 8.7-acres in the northeast corner of the site and approximately 8.6-acres in the south area. The acreage added in the south area is gained by shifting the existing disposal footprint north and realigning the existing creek to the southern and eastern boundaries of the site. The maximum elevation of refuse fill in the additional development areas would be approximately 190 feet above mean sea level (MSL), lower than the currently permitted existing Forward Landfill maximum height of 210 feet MSL. Both landfill development areas are greater than 10,000-ft from the end of the nearest runway (11L/29R) and airport operations area."*

In addition, Forward, Inc. submitted plans to the Federal Aviation Administration and received a "Determination of No Hazard to Air Navigation" in response.

Table 3A, Safety Zone Matrix, states the following under "Prohibited Uses" for Zone 7A:

- Hazards to flight<sup>6</sup>
  - <sup>6</sup> Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds or other wildlife hazards to increase is also prohibited. Such uses (e.g. stormwater management facilities, other waterways, golf courses) are further detailed in FAA Advisory Circular 150/5200-33B or subsequent advisory (Hazardous Wildlife Attractants On or Near Airports). See Appendix D.
- New dumps and landfills or the expansion of existing dumps or landfills subject to applicable law and implementing advisories<sup>7</sup>

- o <sup>7</sup> New dumps or landfills and the expansion of existing dumps or landfills are subject to FAA notification and review and are further subject to restrictions and conditions outlined in U.S. Code Title 49, Subtitle VII, Part A, Subpart iii, Chapter 447, Section 44718; 40 CFR Section 258.10; FAA Advisory Circular 150/5200-34A or subsequent advisory (Construction or Establishment of Landfills Near Public Airports); FAA Advisory Circular 150/5200-33B or subsequent advisory, (Hazardous Wildlife Attractants On or Near Airports). See Appendix D.

SJCOG's interpretation of the language "New dumps and landfills or the expansion of existing dumps or landfills subject to applicable law and implementing advisories" in Table 3A is that it does not indicate a blanket prohibition of these uses. Rather, it is meant to indicate the condition that these uses must adhere to all applicable law and implementing advisories.

SJCOG has reviewed the FAA Advisory Circulars referenced in the footnotes. 150/5200-34A refers to new landfills, thus does not apply to this project because it is an existing landfill. 150/5200-33B recommends a separation distance of 10,000 feet between wildlife attractants and the airport operations area (AOA). The AOA is defined as any area of the airport used or intended to be used for landing, take-off, or maneuvering of aircraft.

SJCOG observes that:

- FAA notification and review has occurred.
- The FAA issued a "Determination of No Hazard to Air Navigation," indicating that the project does not constitute a "hazard to flight" in the view of the FAA.
- Forward, Inc.'s plans appear to be consistent with FAA Advisory Circular 150/5200-33B. Specifically, all expansions of landfill operations are located more than 10,000 feet from the AOA.

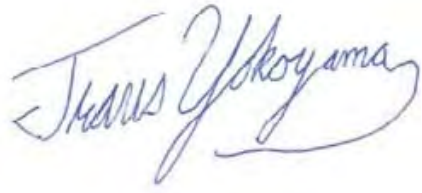
In light of the above observations, SJCOG's determination is that the Forward Infill Project is compatible with conditions with the adopted Stockton Metro ALUCP. Conditions of approval include, but are not limited to:

- Submit finalized plans to the FAA and Caltrans Division of Aeronautics for review upon filing a development application with San Joaquin County.
- Comply with all applicable law and implementing advisories as indicated in the ALUCP.

SJCOG will provide a full determination on required conditions of approval upon review of the project application when submitted by San Joaquin County.

Thank you again for the opportunity to comment. Please contact CMA and ALUC staff Travis Yokoyama (209-235-0451 or yokoyama@sjcog.org) if you have any questions or comments.

Sincerely,

A handwritten signature in blue ink that reads "Travis Yokoyama". The signature is written in a cursive style with a large, sweeping flourish at the end.

Travis Yokoyama



**PROGRAM COORDINATORS**

Robert McClellon, REHS

Jeff Carruesco, REHS, RDI

Willy Ng, REHS

Muniappa Naidu, REHS

Michael Kith, REHS

July 25, 2018

To: San Joaquin County Community Development Department  
Attention: John Funderburg

From: Steven Shih; (209) 468-9850  
Lead Senior Registered Environmental Health Specialist

RE: **PA-1800090 (UP), SU0011836**  
**9999 South Austin Road, Manteca**

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The following requirements have been identified as pertinent to this project. Other requirements may also apply. These requirements cannot be modified.

- A. Submit application to revise Solid Waste Facility Permit (SWIS 39-AA-0015) and Reports of Facility Information (RFI) 180 days prior to implementing propose changes.
- B. Any geotechnical drilling shall be conducted under permit and inspection by The Environmental Health Department (San Joaquin County Development Title, Section 9-1115.3 and 9-1115.6).
- C. Before any hazardous materials/waste can be stored or used onsite, the owner/operator must report the use or storage of these hazardous materials to the California Environmental Reporting System (CERS) at [cers.calepa.ca.gov/](http://cers.calepa.ca.gov/) and comply with the laws and regulations for the programs listed below (based on quantity of hazardous material in some cases).
  1. Any amount but not limited to the following hazardous waste; hazardous material spills, used oil, used oil filters, used oil-contaminated absorbent/debris, waste antifreeze, used batteries or other universal waste, etc. – **Hazardous Waste Program** (Health & Safety Code (HSC) Sections 25404 & 25180 et sec.)
  2. Onsite treatment of hazardous waste – **Hazardous Waste Treatment Tiered Permitting Program** (HSC Sections 25404 & 25200 et sec. & California Code of Regulations (CCR), Title 22, Section 67450.1 et sec.)
  3. Reportable quantities of hazardous materials-reportable quantities are 55 gallons or more of liquids, 500 pounds for solids, or 200 cubic feet for compressed gases, with some exceptions. Carbon dioxide is a regulated substance and is required to be reported as a hazardous material if storing 1,200 cubic feet (137 pounds) or more onsite in San Joaquin County – **Hazardous Materials Business Plan Program** (HSC Sections 25508 & 25500 et sec.)
  4. Any amount of hazardous material stored in an Underground Storage Tank – **Underground Storage Tank Program** (HSC Sections 25286 & 25280 et sec.)

- If an underground storage tank (UST) system will be installed, a permit is required to be submitted to, and approved by, the San Joaquin County Environmental Health Department (EHD) before any UST installation work can begin.
  - Additionally, an EHD UST permit to operate is required once the approved UST system is installed.
5. Storage of at least 1,320 gallons of petroleum aboveground or any amount of petroleum stored below grade in a vault – **Aboveground Petroleum Storage Program** (HSC Sections 25270.6 & 25270 et sec.)
- **Spill Prevention, Countermeasures and Control (SPCC) Plan requirement**
6. Threshold quantities of regulated substances stored onsite - **California Accidental Release Prevention (CalARP) Program** (Title 19, Section 2735.4 & HSC Section 25531 et sec.)
- **Risk Management Plan requirement for covered processes**





## SJCOG, Inc.

555 East Weber Avenue • Stockton, CA 95202 • (209) 235-0600 • FAX (209) 235-0438

*San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)*

### **SJMSCP RESPONSE TO LOCAL JURISDICTION (RTLJ) ADVISORY AGENCY NOTICE TO SJCOG, Inc.**

**To:** John Funderburg, San Joaquin County, Community Development Department

**From:** Laurel Boyd, SJCOG, Inc.

**Date:** July 26, 2018

**-Local Jurisdiction Project Title:** PA-1800090 (UP)

**Assessor Parcel Number(s):** 181-150-07 to -10; 201-060-01 to -05

**Local Jurisdiction Project Number:** PA-1800090 (UP)

**Total Acres to be converted from Open Space Use:** Unknown

**Habitat Types to be Disturbed:** Urban and Natural Habitat Land

**Species Impact Findings:** Findings to be determined by SJMSCP biologist.

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Dear Mr. Funderburg:

SJCOG, Inc. has reviewed the project referral for PA-1800090 (UP). This project consists of a Use Permit application to increase the disposal footprint of the existing Forward Landfill from approximately 355 acres to 372.3 acres. The proposed additional development area includes two areas within the currently permitted boundaries. (1) Approximately 8.7 acres in the northeast corner of the site; (2) Approximately 8.6 acres in the south area. The acreage added in the south area is gained by shifting the existing disposal footprint north and realigning the South Fork of Little Johns Creek to the southern and eastern boundaries of the site. All the additional (17.3 acres) expansion acreage being proposed is within the facilities boundary of 567 acres currently permitted under Use Permit Application No. UP-00-0007. The project site is south of Arch Road and west of Austin Road, Stockton (APN/Address: 181-150-07 to -10; 201-060-01 to -05; 9999 South Austin Road, Manteca).

San Joaquin County is a signatory to San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP satisfies requirements of both the state and federal endangered species acts, and ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA). **The LOCAL JURISDICTION retains responsibility for ensuring that the appropriate Incidental Take Minimization Measure are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP.** Although participation in the SJMSCP is voluntary, Local Jurisdiction/Lead Agencies should be aware that if project applicants choose against participating in the SJMSCP, they will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP.

***This Project is subject to the SJMSCP.*** This can be up to a 30 day process and it is recommended that the project applicant contact SJMSCP staff as early as possible. It is also recommended that the project applicant obtain an information package. <http://www.sjco.org>

Please contact SJMSCP staff regarding completing the following steps to satisfy SJMSCP requirements:

- Schedule a SJMSCP Biologist to perform a pre-construction survey **prior to any ground disturbance**
- SJMSCP Incidental take Minimization Measures and mitigation requirement:
  1. Incidental Take Minimization Measures (ITMMs) will be issued to the project and must be signed by the project applicant prior to any ground disturbance but no later than six (6) months from receipt of the ITMMs. If ITMMs are not signed within six months, the applicant must reapply for SJMSCP Coverage. Upon receipt of signed ITMMs from project applicant, SJCOG, Inc. staff will sign the ITMMs. This is the effective date of the ITMMs.
  2. Under no circumstance shall ground disturbance occur without compliance and satisfaction of the ITMMs.
  3. Upon issuance of fully executed ITMMs and prior to any ground disturbance, the project applicant must:
    - a. Post a bond for payment of the applicable SJMSCP fee covering the entirety of the project acreage being covered (the bond should be valid for no longer than a 6 month period); or
    - b. Pay the appropriate SJMSCP fee for the entirety of the project acreage being covered; or
    - c. Dedicate land in-lieu of fees, either as conservation easements or fee title; or

- d. Purchase approved mitigation bank credits.
4. Within 6 months from the effective date of the ITMMs or issuance of a building permit, whichever occurs first, the project applicant must:
  - a. Pay the appropriate SJMSCP for the entirety of the project acreage being covered; or
  - b. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
  - c. Purchase approved mitigation bank credits.

Failure to satisfy the obligations of the mitigation fee shall subject the bond to be called.

- Receive your Certificate of Payment and release the required permit

*It should be noted that if this project has any potential impacts to waters of the United States [pursuant to Section 404 Clean Water Act], it would require the project to seek voluntary coverage through the unmapped process under the SJMSCP which could take up to 90 days. It may be prudent to obtain a preliminary wetlands map from a qualified consultant. If waters of the United States are confirmed on the project site, the Corps and the Regional Water Quality Control Board (RWQCB) would have regulatory authority over those mapped areas [pursuant to Section 404 and 401 of the Clean Water Act respectively] and permits would be required from each of these resource agencies prior to grading the project site.*

If you have any questions, please call (209) 235-0600.



## S J C O G , I n c .

*San Joaquin County Multi-Species Habitat Conservation & Open Space Plan*

555 East Weber Avenue • Stockton, CA 95202 • (209) 235-0600 • FAX (209) 235-0438

### **SJMSCP HOLD**

**TO:** Local Jurisdiction: Community Development Department, Planning Department, Building Department, Engineering Department, Survey Department, Transportation Department, Other: \_\_\_\_\_

**FROM:** Laurel Boyd, SJCOG, Inc.

**DO NOT AUTHORIZE SITE DISTURBANCE  
DO NOT ISSUE A BUILDING PERMIT  
DO NOT ISSUE \_\_\_\_\_ FOR THIS PROJECT**

The landowner/developer for this site has requested coverage pursuant to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). In accordance with that agreement, the Applicant has agreed to:

- 1) SJMSCP Incidental Take Minimization Measures and mitigation requirement:
  1. Incidental Take Minimization Measures (ITMMs) will be issued to the project and must be signed by the project applicant prior to any ground disturbance but no later than six (6) months from receipt of the ITMMs. If ITMMs are not signed within six months, the applicant must reapply for SJMSCP Coverage. Upon receipt of signed ITMMs from project applicant, SJCOG, Inc. staff will sign the ITMMs. This is the effective date of the ITMMs.
  2. Under no circumstance shall ground disturbance occur without compliance and satisfaction of the ITMMs.
  3. Upon issuance of fully executed ITMMs and prior to any ground disturbance, the project applicant must:
    - a. Post a bond for payment of the applicable SJMSCP fee covering the entirety of the project acreage being covered (the bond should be valid for no longer than a 6 month period); or
    - b. Pay the appropriate SJMSCP fee for the entirety of the project acreage being covered; or
    - c. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
    - d. Purchase approved mitigation bank credits.
  4. Within 6 months from the effective date of the ITMMs or issuance of a building permit, whichever occurs first, the project applicant must:
    - a. Pay the appropriate SJMSCP for the entirety of the project acreage being covered; or
    - b. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
    - c. Purchase approved mitigation bank credits.

Failure to satisfy the obligations of the mitigation fee shall subject the bond to be called.

Project Title: PA-1800090 (UP)

Assessor Parcel #s: 181-150-07 to -10; 201-060-01 to -05

T \_\_\_\_\_, R \_\_\_\_\_, Section(s): \_\_\_\_\_

Local Jurisdiction Contact: John Funderburg

**The LOCAL JURISDICTION retains responsibility for ensuring that the appropriate Incidental Take Minimization Measures are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP.**



Zimbra

jfunderburg@sjgov.org

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**RE: Forward Landfill**

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**From :** Nikolaos Zois <Nikolaos.Zois@stocktonca.gov>

Mon, Jun 11, 2018 11:16 AM

**Subject :** RE: Forward Landfill

📎 1 attachment

**To :** John Funderburg <jfunderburg@sjgov.org>

John you are welcome

*Nikolaos D. Zois, Assistant Planner*City of Stockton, Community Development  
345 N Eldorado Street, Stockton CA 95202  
Office: 209.937.8955 | Fax: 209.937.8893**From:** John Funderburg [mailto:jfunderburg@sjgov.org]**Sent:** Monday, June 11, 2018 11:08 AM**To:** Nikolaos Zois <Nikolaos.Zois@stocktonca.gov>**Subject:** Re: Forward Landfill

Hello Nick,

Hope all is well. Thanks for providing staff with the information. I will let everyone know you said hello...take care...

John

**John Funderburg**  
**Principal Planner**  
**San Joaquin County**  
**Community Development Department**  
**209-468-3160**

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**From:** "Nikolaos Zois" <[Nikolaos.Zois@stocktonca.gov](mailto:Nikolaos.Zois@stocktonca.gov)>**To:** "John Funderburg" <[jfunderburg@sjgov.org](mailto:jfunderburg@sjgov.org)>**Sent:** Monday, June 11, 2018 10:56:40 AM**Subject:** Forward Landfill

John hello,

This is Nick that I used to work there, at the counter.

Regarding the supplemental EIR No. PA-0800105 ER, the General Plan of the City of Stockton designates APN 201-060-03 as Industrial Use.

Please say hello to the group.

Thank you,



*Nickolaos D. Zois, Assistant Planner*

City of Stockton, Community Development  
345 N Eldorado Street, Stockton CA 95202  
Office: 209.937.8955 | Fax: 209.937.8893

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**From :** John Funderburg <jfunderburg@sjgov.org> Mon, Jun 11, 2018 11:08 AM  
**Subject :** Re: Forward Landfill 📎 1 attachment  
**To :** Nickolaos Zois <Nickolaos.Zois@stocktonca.gov>

Hello Nick,

Hope all is well. Thanks for providing staff with the information. I will let everyone know you said hello...take care...

John

**John Funderburg**  
**Principal Planner**  
**San Joaquin County**  
**Community Development Department**  
**209-468-3160**

---

**From:** "Nickolaos Zois" <Nickolaos.Zois@stocktonca.gov>  
**To:** "John Funderburg" <jfunderburg@sjgov.org>  
**Sent:** Monday, June 11, 2018 10:56:40 AM  
**Subject:** Forward Landfill

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*Nickolaos D. Zois, Assistant Planner*

City of Stockton, Community Development  
345 N Eldorado Street, Stockton CA 95202  
Office: 209.937.8955 | Fax: 209.937.8893

**From :** Nikolaos Zois <Nikolaos.Zois@stocktonca.gov>  
**Subject :** Forward Landfill  
**To :** jfunderburg@sjgov.org

Mon, Jun 11, 2018 10:56 AM

 1 attachment

John hello,  
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Regarding the supplemental EIR No. PA-0800105 ER, the General Plan of the City of Stockton designates APN 201-060-03 as Industrial Use.  
Please say hello to the group.  
Thank you,



*Nikolaos D. Zois, Assistant Planner*

City of Stockton, Community Development  
345 N Eldorado Street, Stockton CA 95202  
Office: 209.937.8955 | Fax: 209.937.8893

**Zimbra****jfunderburg@sjgov.org**

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**Re: Airport response to Notice of Preparation Forward Inc.**

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**From :** John Funderburg <jfunderburg@sjgov.org>  
**Subject :** Re: Airport response to Notice of Preparation Forward Inc.

Tue, Jun 12, 2018 04:46 PM

**To :** Stark, Russell <rstark@sjgov.org>

**Cc :** Ronald Elliott <relliott@sjgov.org>

Hello Russell,

Thanks for forwarding staff your comments on the Notice of Preparation. You are on the notification list to receive any additional project mailings and a copy of the Draft Supplemental Environmental Impact Report when available. If you have any additional comments or questions regarding the project, please e-mail or call me.

John

**John Funderburg**  
**Principal Planner**  
**San Joaquin County**  
**Community Development Department**  
**209-468-3160**

---

**From:** "Stark, Russell" <rstark@sjgov.org>  
**To:** "John Funderburg" <jfunderburg@sjgov.org>  
**Cc:** "Ronald Elliott" <relliott@sjgov.org>  
**Sent:** Monday, June 11, 2018 11:23:01 AM  
**Subject:** Airport response to Notice of Preparation Forward Inc.

John, In response to the Notice of Preparation Supplemental Environmental Impact Report No. PA-0800105 ER, Land Use (page 2), Stockton Metropolitan Airport does not object to the proposed developments at the Forward landfill provided that these developments do not encroach into navigable airspace in accordance with the appropriate FAA documents, does not cause a night time flying hazard due to lighting and does not cause increased bird hazards to the traffic flying into Stockton Airport or transitioning through the overlying airspace.

Thank you,

Russell

Russell Stark, C.M.  
Airport Director  
Stockton Metropolitan Airport

(office) 209-468-4709  
(fax) 209-468-4730

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**From :** Stark, Russell <rstark@sjgov.org>

Mon, Jun 11, 2018 11:23 AM

**Subject :** Airport response to Notice of Preparation Forward Inc.

**To :** Funderburg, John <jfunderburg@sjgov.org>

**Cc :** Elliott, Ronald <relliott@sjgov.org>

John, In response to the Notice of Preparation Supplemental Environmental Impact Report No. PA-0800105 ER, Land Use (page 2), Stockton Metropolitan Airport does not object to the proposed developments at the Forward landfill provided that these developments do not encroach into navigable airspace in accordance with the appropriate FAA documents, does not cause a night time flying hazard due to lighting and does not cause increased bird hazards to the traffic flying into Stockton Airport or transitioning through the overlying airspace.

Thank you,

Russell

Russell Stark, C.M.  
Airport Director  
Stockton Metropolitan Airport  
(office) 209-468-4709  
(fax) 209-468-4730

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June 18, 2018

John Funderburg  
1810 E Hazelton Ave  
Stockton, CA 95205

Re: PA-0800105 ER  
9999 S. Austin Rd, Manteca

Dear MR. Funderburg:

Thank you for giving us the opportunity to review your plans. The proposed PA-0800105 ER is within the same vicinity of PG&E existing operating facilities that serve this property. PG&E has existing distribution facilities that impact this property. Please contact PG&E's Service Planning department for any modification, relocation, and mapping requests or for any additional services you may require: [www.pge.com/cco](http://www.pge.com/cco).

If you have any questions regarding our response, please contact me at [jult@pge.com](mailto:jult@pge.com).

Sincerely,

Tony Lopez  
Land Management  
925-328-6116



May 22, 2018

John Funderburg  
1810 E Hazelton Ave  
Stockton, CA 95205

Ref: Gas and Electric Transmission and Distribution

Dear Mr. Funderburg,

Thank you for submitting PA-0800105 ER plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: [https://www.pge.com/en\\_US/business/services/building-and-renovation/overview/overview.page](https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page).
2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.
3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851 filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team  
Land Management



## **Attachment 1 – Gas Facilities**

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: <http://usanorth811.org/wp-content/uploads/2017/05/CA-LAW-English.pdf>

1. **Standby Inspection:** A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.
2. **Access:** At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.
3. **Wheel Loads:** To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. **Grading:** PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.
5. **Excavating:** Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [ $24/2 + 24 + 36/2 = 54$ ] away, or be entirely dug by hand.)



Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line 'kicker blocks', storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E's ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4') in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an "Impressed Current" cathodic protection system. Any proposed facilities, such as metal conduit, pipes,



service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.



## Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as **"RESTRICTED USE AREA – NO BUILDING."**
2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.
3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&E's facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.
4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.
5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.
6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.
7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.
8. Streets and Roads: Access to facilities to be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for



proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (<https://www.dir.ca.gov/Title8/sb5g2.html>), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 ([http://www.cpuc.ca.gov/gos/GO95/go\\_95\\_startup\\_page.html](http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html)) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.



Delta-Sierra Group  
Mother Lode Chapter  
P.O. Box 9258, Stockton CA 95208

July 26, 2018

To: San Joaquin County Community Development Department via email: [jfunderburg@sjgov.org](mailto:jfunderburg@sjgov.org)

Re: Application Number: PA-1800090 (UP) Forward Landfill

I realize that the due date for comments on the scoping document were due on 7.23.18 and these comments may not be considered when determining whether or not to do additional analysis. I will briefly describe Sierra Club's position on landfill expansions and request a CEQA analysis to disclose the environmental impacts relating to the expansion and continued operation of the landfill.

The Eastern San Joaquin Subbasin is critically overdrafted and is a high priority basin currently developing a Groundwater Sustainability Plan. The expansion should have CEQA analysis of groundwater, along with analysis of procedures for removing usable materials from the waste stream, air pollution conditions: proposed and existing, increased green house gases, and describing how the expansion will tie into existing operations. Furthermore, increased vehicles traveled should be analyzed. Both project based and cumulative impacts should be analyzed.

Thank you for your consideration. Please contact me if I can answer any questions regarding the concerns expressed herein.

Sincerely,

Mary Elizabeth, M.S., R.E.H.S.  
Delta Sierra Group Conservation Chair  
[elizabeth@marric.us](mailto:elizabeth@marric.us)





**CALIFORNIA PILOTS ASSOCIATION**  
1414 K ST., 3RD FLOOR, SACRAMENTO, CA 95814

July 23, 2018

***VIA EMAIL (jfunderburg@sjgov.org)***

John Funderburg, Principal Planner  
San Joaquin County Community Development Department  
1810 East Hazelton Ave  
Stockton, CA 95295

***Re: Notice of Preparation of a Supplemental Environmental Impact Report (SEIR)  
App. No. PA-1800090 (UP) – Forward Landfill Expansion Project  
Comment On Scope Of SEIR***

Dear Mr. Funderburg:

The California Pilots Association (“CalPilots”) submits this comment letter in response to the above-referenced notice of preparation of a SEIR. Comments were requested by July 23, 2018. CalPilots submits these comments in compliance with the Department’s request.

Stockton Airport is a vital economic link for the Central Valley. It currently provides non-stop airline service to Mesa, AZ, Las Vegas, NV, and San Diego, CA (Allegiant Airlines). The airport is equipped with an ILS/Localizer approach and an RNAV (GPS) approach. As a result, it routinely serves as a training airport for instrument pilots. Many central valley airports do not have an ILS approach, meaning those airports with such approaches serve an important purpose, allowing aircraft to land during the Tule fog months. As a result, those approaches which bring aircraft low over the ground are critical for aviation safety during those months.

The site of the current landfill is approximately 2 miles from the end of Runway 29 at Stockton Airport. The site is offset to the north of the final approach course. According to your notice, the plan is for the landfill to expand both to the northeast and to the south. The southern expansion would bring the landfill closer, or potentially under, the final approach course for the ILS, Localizer, and the GPS approaches. In each approach, aircraft will be at an altitude at or above 500’ (RNAV) or 520’ (ILS/LOC) above ground level when abeam or over the landfill site.

Landfills have numerous qualities that interact poorly with aviation, two of which are wildlife and lighting. They attract birds, who present a danger to low flying aircraft as Captain Sully learned by losing two engines. They often operate 24/7, requiring the use of light towers and lights to illuminate the work area, lights that may confuse pilots as they descend through fog looking for lights.



**CALIFORNIA PILOTS ASSOCIATION**  
1414 K ST., 3RD FLOOR, SACRAMENTO, CA 95814

These issues are just some of the issues that should be addressed by an aviation study as part of the SEIR. CalPilots request such a study be included in the SEIR.

Please keep me informed of all notices, hearings, staff reports, briefings, meetings, and other events related to the proposed project. In addition, please notify me of the release of the draft supplemental EIR for the proposed landfill project to ensure CalPilots has an opportunity to comments.

Regards,

/s/Karl Schweikert

Karl Schweikert  
General Counsel  
California Pilots Association

Via Email ([Counsel@CalPilots.org](mailto:Counsel@CalPilots.org))

SHUTE, MIHALY  
& WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102  
T: 415 552-7272 F: 415 552-5816  
www.smwlaw.com

LAUREL L. IMPETT, AICP  
Urban Planner  
impett@smwlaw.com

May 22, 2018

**Via Electronic Mail**

John Funderburg, Principal Planner  
San Joaquin County Community Development  
Department  
1810 East Hazelton Avenue  
Stockton, CA 95295

Re: Notice of Preparation of a Supplemental Environmental Impact Report No. PA-0800105 -- Forward Landfill Expansion Project

Dear Mr. Funderburg:

We write on behalf of Clean San Joaquin to comment on the Notice of Preparation (NOP) of a supplemental environmental impact report (EIR) for the Forward Landfill Expansion Project (Landfill Project or Project). Clean San Joaquin has followed closely the County's processing of the applicant's proposals to expand the landfill. To this end, it commented extensively during the applicant's 2012 proposal to expand the landfill. In 2014, it also commented on the NOP for a landfill expansion project.

Although the applicant now proposes a reduced disposal footprint in comparison to the 2012 proposal, it is clear that the current project would result in extensive environmental harm. Indeed, the County anticipates providing supplemental analysis for many, if not all, of the same environmental impact categories that were included in the 2012 EIR. Consequently, inasmuch as we anticipate similar issues to accompany the applicant's current proposal, we recommend the County review our April 6, 2012 letter on the prior NOP. This letter is attached and is hereby incorporated by reference. Our August 12, 2014 letter to the County is also attached.

Please keep me informed of all notices, hearings, staff reports, briefings, meetings, and other events related to the proposed Project. In addition, please notify me of the release of the draft supplemental EIR for the proposed landfill expansion project.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Laurel L. Impett, AICP, Urban Planner

Exhibits:

Letter from L. Impett to John Funderburg, April 6, 2012  
Letter from L. Impett to John Funderburg, August 12, 2014  
cc: Jeannie and Michael LaForge

April 6, 2012

**Via Electronic Mail**

John Funderburg, Principal Planner  
San Joaquin County Community  
Development Department  
1810 East Hazelton Avenue  
Stockton, CA 95295

Re: Notice of Preparation of an Environmental Impact Report No. PA-0800105 ER -- Forward Landfill Expansion Project

Dear Mr. Funderburg:

We write on behalf of Jeannie and Michael La Forge to comment on the Notice of Preparation (NOP) of an environmental impact report (EIR) for the Forward Landfill Expansion Project (Landfill Project or Project). The La Forges have followed closely the County's processing of the applicant's proposal to expand the landfill. To this end, the La Forges commented on the January 2010 Draft EIR for the prior version of the Project (2010 EIR). In addition, the Project's responsible, trustee and other public agencies also commented on the 2010 EIR.

In light of the extensive comments on the 2010 EIR, we expected this NOP to provide adequate and reliable information regarding the nature of the proposed Project and its probable environmental impacts in order to "solicit guidance from public agencies as to the scope and content of the environmental information to be included in the EIR." California Environmental Quality Act (CEQA) Guidelines § 15375; *see also* CEQA Guidelines § 15082. Unfortunately, the NOP provides so little information about the proposed Project or its potential environmental impacts that it fails to achieve CEQA's simple mandate. Consequently, it is not possible to provide a comprehensive response to the NOP or the scope of the EIR. We respectfully request that the County revise and recirculate an NOP. In the meantime, set forth below are our initial comments relating to the information that has been provided.

**I. The NOP Lacks Necessary Detail Regarding the Project and its Probable Environmental Impacts.**

**A. Description of the Project.**

Project EIRs are often inadequate due to omissions in the project description. One of CEQA's fundamental requirements is that an EIR contain an accurate and complete project description. *See County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185 (1977); *see also* 14 Cal. Code Regs. § 15124 (CEQA Guidelines). A clear and comprehensive project description is the sine qua non for meaningful public review. Without it, the public cannot be assured that the environmental impacts of the project have been considered in the EIR.

As mentioned above, numerous regulatory agencies provided extensive comment on the 2010 EIR. The vast majority of these agencies criticized the 2010 EIR for its failure to identify and describe facilities, operations, processes, procedures and equipment associated with the proposed Project. Many of the agencies commented that without the fundamental information about the existing landfill operations and details relating to the characteristics of the proposed Project, it was not possible to evaluate or mitigate the Project's environmental impacts. *See* 2010 EIR Public Agency Comments.<sup>1</sup> Unfortunately, this NOP suffers from the same defect. The document contains so little information about the facilities and operations that would be implemented as a result of the proposed Project that it is not possible for the public, let alone responsible and trustee agencies, to provide meaningful input as to the scope and content of the forthcoming EIR.

The County elected not to prepare an initial study for the proposed Project. The purpose of an initial study is to assist the lead agency in preparing the EIR by identifying impacts of the project that are likely to be significant. *See* CEQA Guidelines § 15063(c)(3)(A). Although CEQA permits the County to proceed directly to preparation of an EIR without first preparing an initial study, in this case, the lack of an initial study has contributed to the troubling lack of detail and focus evidenced in the NOP. If the EIR suffers from the same lack of detail and focus, it will be legally inadequate under CEQA.

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<sup>1</sup> [http://www.sjgov.org/commdev/cgi-bin/cdyn.exe/handouts-planning\\_ForwardLandfillDEIR~ments?grp=handouts-planning&obj=ForwardLandfillDEIR~ments](http://www.sjgov.org/commdev/cgi-bin/cdyn.exe/handouts-planning_ForwardLandfillDEIR~ments?grp=handouts-planning&obj=ForwardLandfillDEIR~ments)

The Project evaluated in the 2010 EIR proposed substantial modifications to the existing landfill's operations and procedures. These changes included solidification of non-hazardous higher liquid content wastes, an increase in the amount of beneficial reuse materials and a change in permitting terms regarding the same, an increase in the permitted number of daily vehicles, and lowering the base grade on the currently permitted landfill site. 2010 EIR at III-2. Although the NOP does not identify these Project operations and procedures as being included in the revised Project, it is unclear whether they are no longer being proposed or whether they were simply omitted from the NOP. The prior Project also included expansion of the existing landfill gas-to-energy plant (LFGTE) at the landfill site (*Id.* at III-34), yet the NOP does not explain whether the current Project also includes additional electricity generation with landfill gas. Inasmuch as the existing LFGTE plant is permitted to operate only until April 30, 2013, does the applicant intend to expand the plant? If not, would this plant be shut down? All of these Project details must be clearly identified and described.

We understand the County prepared an initial study/negative declaration in August 2011 for a new LFGTE plant and that the County may have already approved this project. Inasmuch as Forward was contemplating increasing its LFGTE capacity as part of the prior Project, why did the County not wait to process the LFGTE facility in the context of the current Project? Clearly, as the 2010 EIR makes clear, the LFGTE and the landfill expansion Project are related actions and their environmental effects must be collectively evaluated. CEQA prohibits piecemealed review of these projects.

In addition to the concerns identified above, it is apparent that the only way the public and agencies can understand the proposed Project is for the revised NOP and EIR to clearly identify and describe the landfill's existing operations. To this end, the County should provide information including but not limited to the following:

- Description of the methodology, and the documentation, used to determine the assumption that under, average fill rates, the landfill would close in 2021. This documentation must distinguish between Class II and Class III disposal demand and in-county and out-of-county demand. This same information should be provided for the proposed Project's expected landfill closure date of 2039;<sup>2</sup>

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<sup>2</sup> In order to avoid confusion, it will be important for the revised NOP and the draft EIR to consistently reference landfill waste and materials in either tons or cubic yards, or both.

- Identification of the 2011 average daily, average weekly and yearly tonnage received at the Forward Landfill for: (1) disposal; (2) beneficial reuse (green waste, ash, cement and shredded tires); and (3) material recovery;
- Identification of the maximum allowable inflow rate (daily, weekly and yearly) pursuant to Forward's: (1) existing Solid Waste Facilities Permit (SWFP); and (2) proposed modification to the SWFP. This data should be provided for: (a) disposal; (b) beneficial reuse; and (c) material recovery;
- Identification, by type and quantity, of the existing wastes accepted at the Forward landfill, beneficial reuse, and at the material recovery facility, and the wastes that would be accepted under the proposed Project. This documentation should include at a minimum: (1) hazardous waste; (2) high moisture content wastes; (3) cannery waste; and (4) sewage sludge;
- Identification of the amount and percentage of Class II and Class III waste accepted by the landfill in 2011 and the amount that would be accepted under the proposed Project. This latter data should be provided for five year increments through 2039;
- Identification of: (1) the amount and percentage of Class II waste received at the landfill that was generated from in-County sources in 2011 and the amount and percentage that would be received from in-County sources under the proposed Project; (2) the amount and percentage of Class II waste received at the landfill that was generated from out-of-County sources in 2011 and the amount and percentage that would be received from out-of-County sources under the proposed Project; (3) the amount and percentage of Class III waste received at the landfill that was generated from in-County sources in 2011 and the amount and percentage that would be received from in-County sources under the proposed Project; (4) the amount and percentage of Class III waste received at the landfill that was generated from out-of-County sources in 2011 and the amount and percentage that would be received from out-of-County sources under the proposed Project;
- Identification of each of the jurisdictions that send waste to the landfill and the amount of waste (in tons/year and cubic yards) that each jurisdiction sends. Identify this same information for wastes to be received under the proposed Project;

- Identification of the waste diversion rates, pursuant to AB 939, for each of the jurisdictions that currently sends waste to Forward Landfill or that would be expected to send waste to the landfill under the proposed Project;
- Information regarding the landfill's program for groundwater quality monitoring (e.g., down gradient well sampling program including the identification of the specific location of wells);
- Documentation of the landfill's existing leachate monitoring, collection, treatment, and disposal program and a detailed description of the leachate program associated with the proposed Project;
- Information regarding the landfill's existing gas collection and monitoring system and a detailed description of the proposed gas collection and monitoring system that would be implemented by the proposed Project; and,
- Identification of the average number of vehicles using the landfill on a daily basis and the number of vehicles that would use the landfill under the proposed Project. This information should be classified by heavy-duty trucks, light-duty trucks, and vehicles.

It is also important to point out that the NOP fails to define the specific objectives for the proposed Project. Inasmuch as the project objectives are intended to state the true underlying purpose of a project, the absence of objectives is particularly troubling. Moreover, without a thorough understanding of the proposed Project's purpose, it is all but impossible to identify and evaluate reasonable and feasible Project alternatives.

The information requested above must be provided in order for the County to systematically identify and analyze the significant effects of the proposed Project and the feasible mitigation measures or alternatives that will avoid or substantially lessen such significant effects.

## **B. Environmental Impacts.**

Analysis of environmental impacts must be guided by CEQA's fundamental purpose of "inform[ing] the public and responsible officials of the environmental consequences of their decisions before they are made." *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Cal.*, 6 Cal. 4th 1112, 1123 (1988). To



accomplish this purpose, an EIR must be detailed, complete, and reflect a good faith effort at full disclosure. CEQA Guidelines § 15151. It must contain facts and analysis, not just an agency's bare conclusions. *See Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 568 (1990). In short, the document should provide a sufficient degree of analysis to inform the public about the proposed project's adverse environmental impacts and to allow decision makers to make intelligent judgments about whether or how the project should proceed. CEQA Guidelines § 15151.

The NOP fails to provide sufficient information describing the probable environmental effects of the proposed Project. In fact, the document indicates only certain environmental issue areas will be discussed in the EIR. It does not provide any indication of what the County believes to be the probability that the proposed Project will result in various environmental impacts. This approach is acceptable if the County has actually concluded that there is a high probability that the proposed Project will result in potential environmental effects in every issue area listed (land use, traffic, noise, air quality and odors, hydrology and water quality, soils and geology, biological resources, public services and utilities, cultural resources, visual quality, and climate change). If this is the case, the EIR prepared by the County should provide an exhaustive and detailed analysis of the Project's impacts in all of these environmental issue areas. If the County does not, in fact, intend to prepare a full analysis of the Project's potential impacts in all issue areas, it should have made that clear in its NOP. In the absence of such a statement from the County, we can only assume that the EIR will provide an exhaustive and detailed analysis of the Project's impacts in all of the above-listed environmental issue areas.

In order to fully disclose the proposed Project's potential environmental impacts, the County must provide a thorough description of the environmental setting, including the landfill's existing regulatory framework and compliance record. At a minimum, the following information should be provided in the draft EIR:

- Specific data regarding surface and ground water quality in the area;
- Information regarding the landfill's existing groundwater remediation program, including sampling results for each well, and documentation regarding the status of compliance with all permits, regulatory orders and lawsuits;
- Delineation of the Project site pursuant to the Federal Emergency Management Agency Flood Insurance Rate Map;

- Documentation regarding all accidental releases, explosions or fires at the Forward landfill;
- Specific data regarding the landfill's: (1) existing emissions (criteria air pollutants, toxic air contaminants including asbestos, and odors); and (2) air quality regulatory compliance record, including its complaint history; and,
- Documentation regarding any regulatory non-compliance for the last five years from agencies including the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, CalRecycle, California Department of Toxic Substances Control, California Department of Water Resources, California Department of Fish & Game, California Regional Water Quality Control Board, Central Valley Regional Water Quality Control Board, Central Valley Flood Protection Board, San Joaquin County, and San Joaquin County Unified Air Pollution Control District.

In addition to evaluating the proposed Project's environmental impacts, the EIR must also assess the cumulative impacts of the Project when viewed in connection with the effects of past projects, other current projects and probable future projects. CEQA § 21083(b)(2). A complete cumulative impacts analysis is important because the full environmental impacts of a proposed project such as the expansion of the landfill cannot be gauged in a vacuum.

## **II. The NOP Fails to Identify Any Project Alternatives.**

An EIR must describe a range of alternatives to the proposed project, and to its location, that would feasibly attain the project's basic objectives while avoiding or substantially lessening the project's significant impacts. Pub. Res. Code § 21100(b)(4); CEQA Guidelines § 15126.6(a). A proper analysis of alternatives is essential for the County to comply with CEQA's mandate that significant environmental damage be avoided or substantially lessened where feasible. Pub. Res. Code § 21002; CEQA Guidelines §§ 15002(a)(3), 15021(a)(2), 15126.6(a); *Citizens for Quality Growth v. City of Mount Shasta*, 198 Cal. App. 3d 433, 443-45 (1988). As stated in *Laurel Heights Improvement Association v. Regents of University of California*, "[w]ithout meaningful analysis of alternatives in the EIR, neither the courts nor the public can fulfill their proper roles in the CEQA process. . . . [Courts will not] countenance a result that would require blind trust by the public, especially in light of CEQA's fundamental goal that the public be fully informed as to the consequences of action by their public officials." 47 Cal. 3d 376, 404 (1988).

The County's NOP does not identify *any* alternatives to the proposed landfill expansion. Nor, as discussed above, does the NOP identify the objectives for the proposed Project. In the absence of clearly defined project objectives, it is not possible for members of the public or public agencies to identify or provide meaningful input on alternatives.

The County's evaluation of alternatives to the expansion of the Forward landfill will be a critically important exercise. In developing Project alternatives, the County must clearly acknowledge that the vast majority of the waste stream at the Forward landfill comes from jurisdictions outside San Joaquin County. In fact, almost every region throughout California is a source of waste processed, or disposed of, at the Forward landfill. Consequently, the County cannot restrict its identification and evaluation of alternative sites and/or landfills to San Joaquin County itself; it must assess alternative locations across the state.

This alternatives analysis must also necessarily evaluate various options for meeting waste demands. For example, the County should evaluate an alternative where Class III waste is diverted from Forward Landfill to other landfills.

### **III. Conclusion**

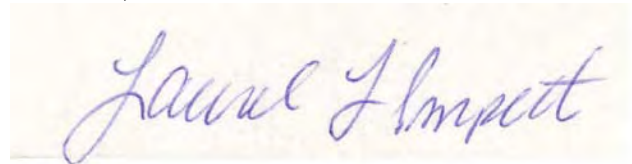
In light of the lack of detailed information in the NOP concerning the proposed Project and Project setting, the public should have an opportunity to review and comment on a revised NOP. If the County chooses to forego this option and proceed directly with a draft EIR, we respectfully request that all of the aforementioned information is included in the document so as to provide the basis for a comprehensive analysis of environmental impacts and the identification of feasible mitigation measures and Project alternatives.

John Funderburg  
April 6, 2012  
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We appreciate the opportunity to provide these comments. Please keep me informed of all notices, hearings, staff reports, briefings, meetings, and other events related to the proposed Project. In addition, please notify me of the release of the revised NOP and/or the draft EIR for the proposed landfill expansion Project.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Laurel L. Impett, AICP, Urban Planner

cc: Jeannie and Michael LaForge

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Urban Planner  
impett@smwlaw.com

August 12, 2014

**Via Electronic Mail**

John Funderburg, Principal Planner  
San Joaquin County Community Development  
Department  
1810 East Hazelton Avenue  
Stockton, CA 95295

Re: Notice of Preparation of a Supplemental Environmental Impact Report  
No. PA-0800105 ER -- Forward Landfill Expansion Project

Dear Mr. Funderburg:

We write on behalf of Clean San Joaquin to comment on the Notice of Preparation (NOP) of a supplemental environmental impact report (EIR) for the Forward Landfill Expansion Project (Landfill Project or Project). Clean San Joaquin has followed closely the County's processing of the applicant's proposals to expand the landfill. To this end, it commented extensively during the applicant's 2012 proposal to expand the landfill.

Although the applicant now proposes a reduced disposal footprint in comparison to the 2012 proposal, it is clear that the current project would result in extensive environmental harm. Indeed, the County anticipates providing supplemental analysis for many, if not all, of the same environmental impact categories that were included in the 2012 EIR. Consequently, inasmuch as we anticipate similar issues to accompany the applicant's current proposal, we recommend the County review our April 6, 2012 letter on the prior NOP. This letter is attached and is hereby incorporated by reference.

Please keep me informed of all notices, hearings, staff reports, briefings, meetings, and other events related to the proposed Project. In addition, please notify me of the release of the draft supplemental EIR for the proposed landfill expansion Project.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Laurel L. Impett, AICP, Urban Planner

cc: Jeannie and Michael LaForge

### C. Forward Landfill Waste Origins and Type Figures

FIGURE 1  
FORWARD LANDFILL  
TONNAGE HISTORY

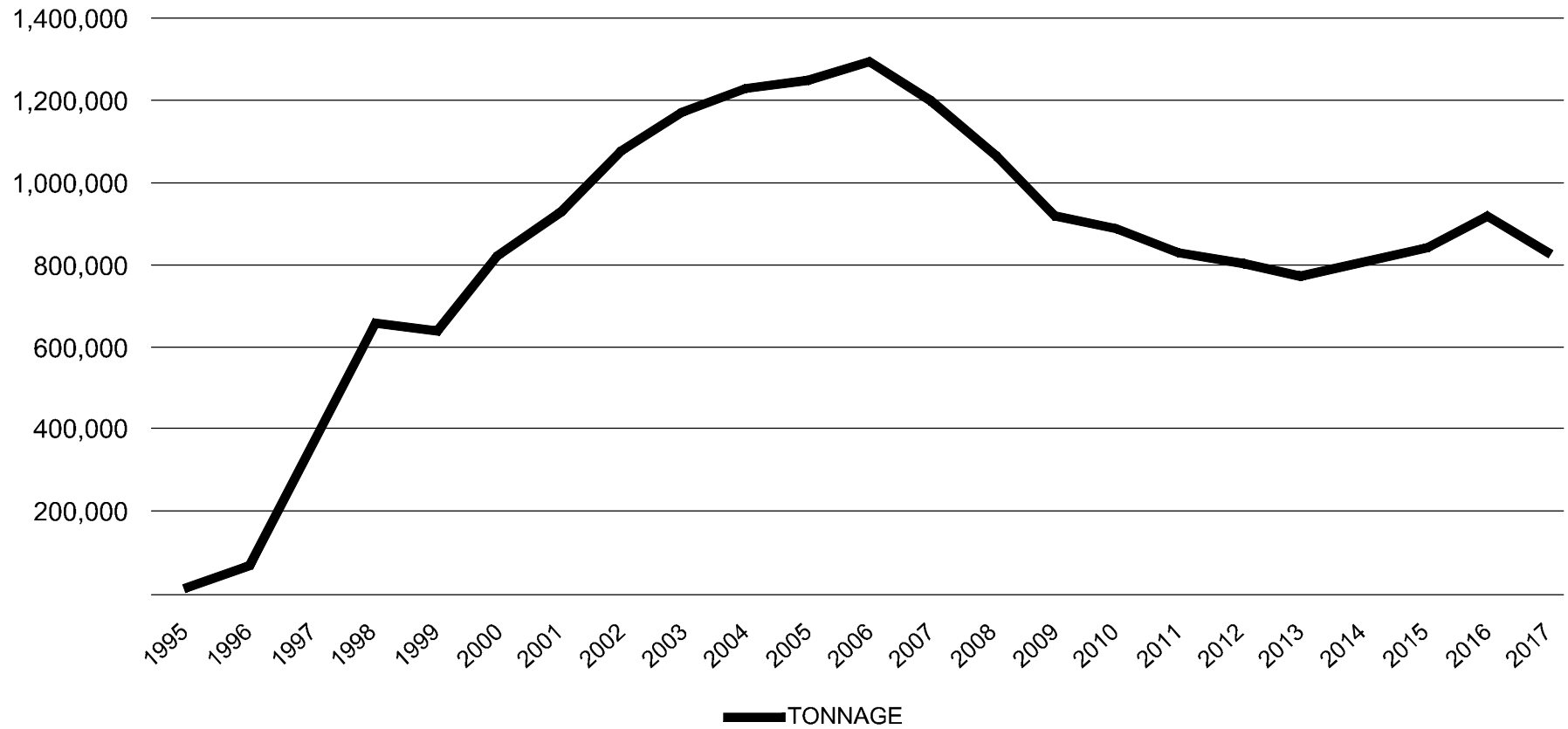


Figure 1

FIGURE 2  
FORWARD LANDFILL  
AIRSPACE CONSUMED

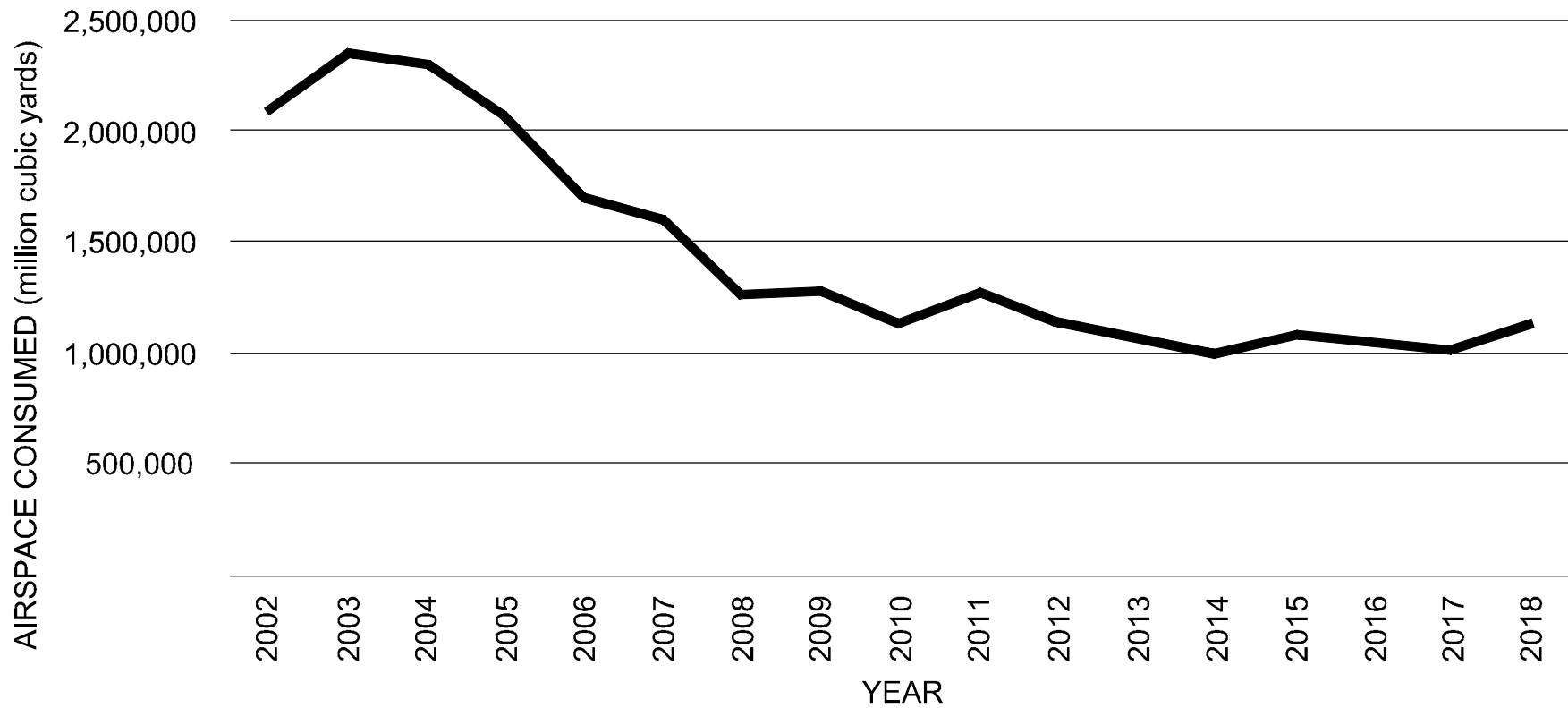


Figure 2



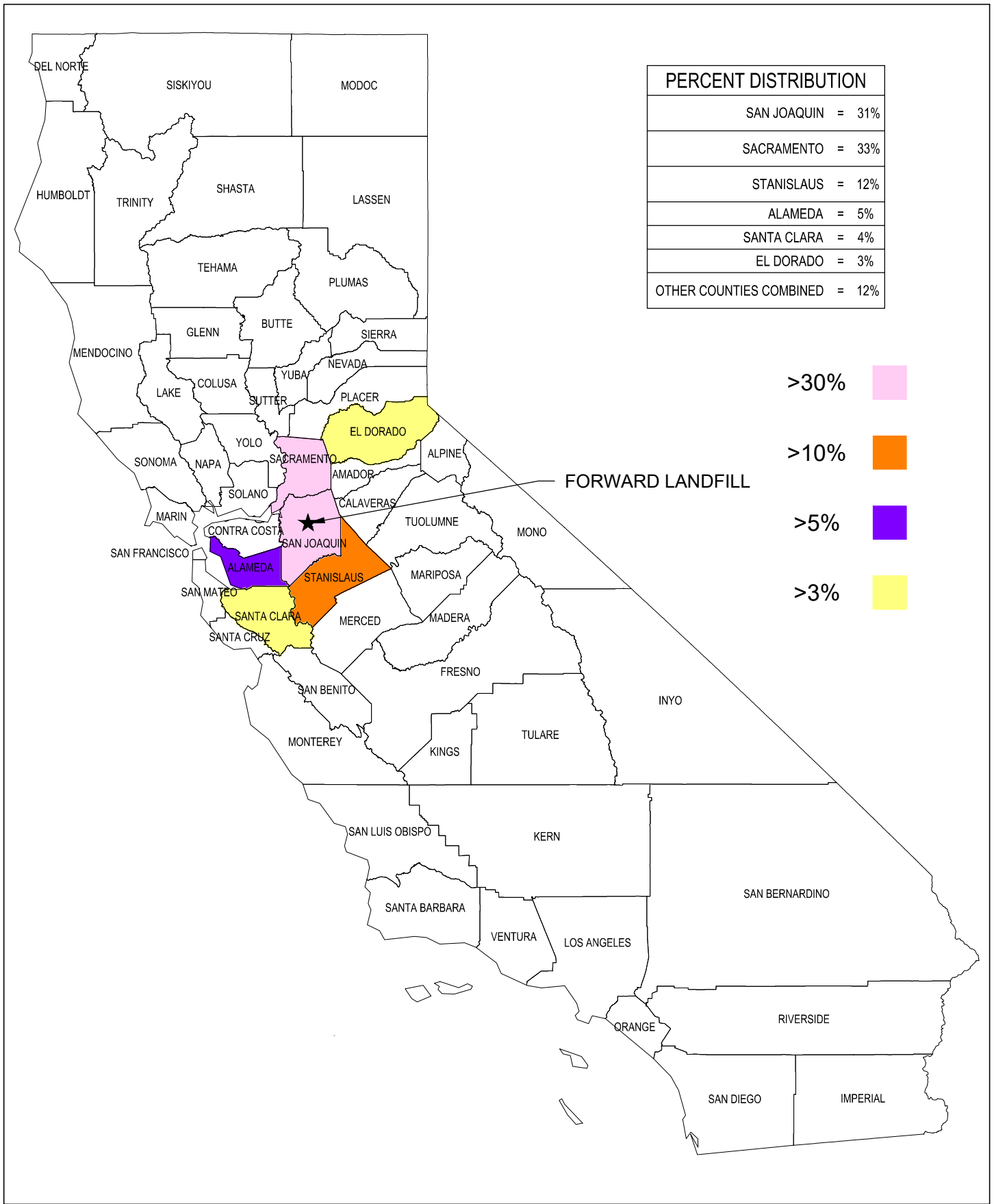


Figure 3

Forward Landfill Origin of Waste Disposed

Source: CalRecycle Disposal Capacity Report, Forward Landfill, 1995 to 2017

**FIGURE 4  
FORWARD LANDFILL  
WASTE DISTRIBUTION  
2013-2017**

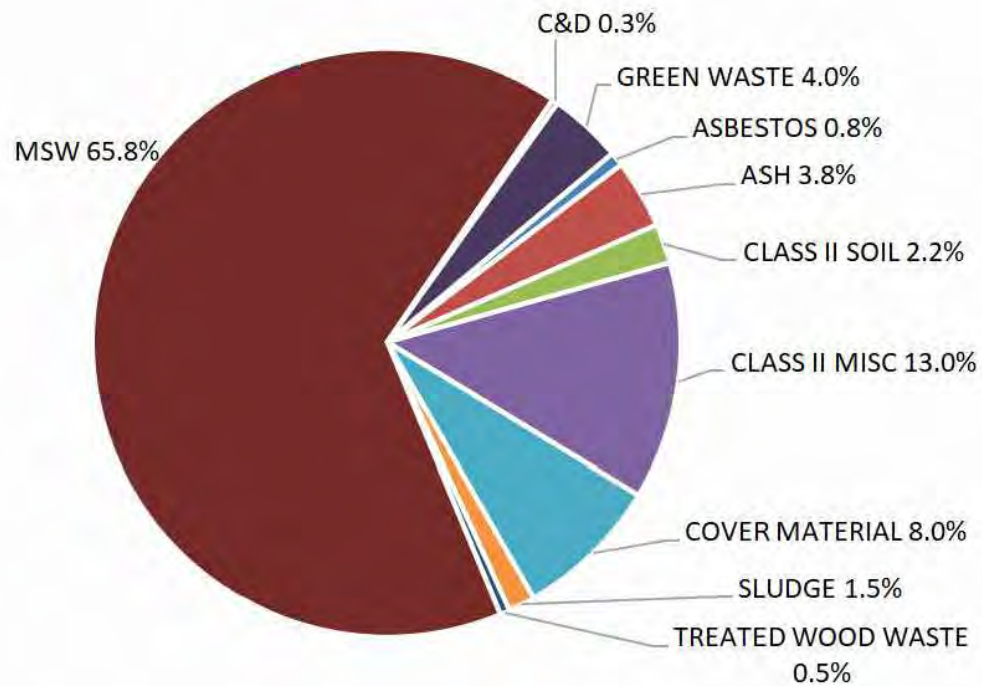


Figure 4

D. Bird Control Program and Gull Monitoring Reports (on file with the Community Development Department and available at the Community Development Department website. <http://www.sjgov.org/commdev>)

E. Transportation Report (on file with the Community Development Department and available at the Community Development Department website.  
<http://www.sjgov.org/commdev>)

F. Noise Calculations (on file with the Community Development Department and available at the Community Development Department website.  
<http://www.sjgov.org/commdev>)

G. Health and Air Quality Report (on file with the Community Development Department and available at the Community Development Department website.  
<http://www.sjgov.org/commdev>)

## H. Mitigation Monitoring and Reporting Program (to be included in Final SEIR)