

5 OTHER CEQA CONSIDERATIONS

This section includes a detailed analysis of the 2035 General Plan’s cumulative impacts, growth-inducing impacts, significant irreversible environmental changes, and significant and unavoidable effects.

5.1 CUMULATIVE IMPACTS

This section of the draft environmental impact report (DEIR) provides an analysis of cumulative impacts of the General Plan, taken together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the California Environmental Quality Act Guidelines (State CEQA Guidelines).

The goal of such an exercise is twofold:

- ▶ first, to determine whether the overall long-term impacts of all such projects, when considered together, would be cumulatively significant; and
- ▶ second, to determine whether the General Plan itself would cause a “cumulatively considerable” (and thus significant) incremental contribution to any such cumulatively significant impacts. (See State CEQA Guidelines Sections 15130[a]-[b], Section 15355[b], Section 15064[h], Section 15065[c]; *Communities for a Better Environment v. California Resources Agency* [2002] 103 Cal.App.4th 98, 120.)

In other words, the required analysis intends to first create a broad context in which to assess the project’s incremental contribution to anticipated cumulative impacts, viewed on a geographic scale beyond the City’s Planning Area itself, and then to determine whether the project’s incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., “cumulatively considerable” according to CEQA).

Pursuant to Section 15130 of the State CEQA Guidelines, “(t)he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impacts to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.” The proposed project is considered to have a significant cumulative effect if:

1. The cumulative effects of development without the project are not significant and the project’s additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
2. The cumulative effects of development without the project are already significant and the project contributes measurably to the effect. The term “measurably” is subject to interpretation. The standards used herein to determine measurability are that either the impact must be noticeable to a reasonable person, or must exceed an established threshold of significance.

Mitigation measures are to be developed to reduce the project’s contribution to cumulative effects to a less-than-significant level or otherwise to the degree it is feasible to do so. The State CEQA Guidelines acknowledge that sometimes the only feasible method for mitigating or avoiding significant cumulative effects is to adopt ordinances or regulations that apply to all projects that contribute to the cumulative effect.

5.1.1 METHODS OF ANALYSIS

The State CEQA Guidelines Section 15130(b)(1) provides two approaches to analyzing cumulative impacts. The first is the summary approach (also known as the “plan” approach) wherein the relevant projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions are summarized. The second is the list approach, which requires a listing of past, present, and reasonably anticipated future projects producing related or cumulative impacts. For this EIR, the plan approach is more appropriate.

5.1.2 GEOGRAPHIC SCOPE

The geographic scope that could be affected by a proposed project varies depending on the issue topic. The geographic area associated with different environmental effects was used to define the area considered for cumulative impacts. The cumulative geographic scope for air pollutant impacts, such as those related to emissions of ozone precursors, is very broad, encompassing large areas within the same air basin. The cumulative geographic scope for stationary source noise impacts, on the other end of the spectrum, is relatively narrow, since noise attenuates substantially with distance, making impacts more localized.

The environmental impact analysis throughout this EIR describes the environmental impacts of implementing the 2035 General Plan. The topic-specific impact analysis throughout this EIR takes into account impacts throughout the City’s Planning Area over a long period of time, allowing the City to take into account certain cumulative environmental effects.

The geographic scope for the analysis of cumulative effects generally includes the City’s Planning Area, the City of Fairfield, and other nearby areas of Solano County. The cumulative scenario analyzed throughout this section is called “the cumulative plans” and “the related projects.”

For some environmental issues, the cumulative scope used in this EIR was even broader than a countywide scope of analysis. This is appropriate given the regional context of traffic, air quality, and climate change issues, analysis of these topics also includes potential impacts from projects occurring in surrounding counties and cities. Traffic noise is also considered at this regional scale, keyed to the areas where General Plan-generated traffic could affect noise levels along roadways. The issues considered in the regional context are done so because all are based on the traffic model assumptions, which are inherently regional in nature.

Population and employment estimates from the Association of Bay Area Governments (ABAG) provide the context for cumulative analysis presented in this section. The transportation analysis uses 2035 forecasts from the Fairfield Travel Demand Model, which takes into account development in Fairfield and Suisun City, as well as regional growth, and the effects of new roadway connections and local and regional roadway capacity expansion projects.

5.1.3 REGIONAL GROWTH PROJECTIONS

Table 5-1 lists the estimated number of households and number of jobs in the incorporated cities and the unincorporated county in 2010 and the projections for the same in 2040.

Table 5-1
Households and Employment 2010 and 2040

Jurisdiction	Households		Employment	
	2010	2040	2010	2040
Benicia	10,690	12,250	14,240	18,930
Dixon	5,860	6,430	4,460	5,780
Fairfield	34,480	46,430	39,300	53,310
Rio Vista	3,450	3,950	1,790	2,340
Suisun City ¹	8,920	10,490	3,080	4,520
Vacaville	31,090	35,860	29,800	41,120
Vallejo	40,560	44,900	31,660	43,070
Subtotal—Incorporated Cities	135,050	160,310	124,330	169,070
Unincorporated Solano County	6,710	8,400	8,010	10,870
Total Solano County²	141,760	168,700	132,350	179,930

Notes:
¹ The estimates for Suisun City are from Plan Bay Area and do not reflect full buildout of the 2035 General Plan. ² The total may not equal the sum of jurisdictional totals due to rounding.

Sources: ABAG 2013

The County's population is anticipated to continue to grow, along with employment through 2040, adding roughly 26,940 households and 47,680 jobs between 2010 and 2040. Job growth in the county and each of the cities is forecast to outpace growth in the number of households. The estimates, which are provided by ABAG as a part of Plan Bay Area, show the strongest percentage employment growth of any city in Solano County is within Suisun City.

The total county's household to job ratio is anticipated to decrease from approximately 1.07 in 2010 to 0.94 in 2040. The forecasts for Suisun City in Plan Bay Area, however, do not include full buildout of the 2035 General Plan, which is the focus of analysis throughout this EIR.

5.1.4 CUMULATIVE IMPACT ANALYSIS

AESTHETICS

Assessment of visual quality is a subjective matter and reasonable people may differ as to the aesthetic value of the open space and grazing lands, scenic vistas, and even the aesthetic value of the built environment. Some would believe a subject project enhances the visual environment, while others may believe the same project would constitute a substantial degradation of the existing visual character or quality of a site and its surroundings.

Growth and development in Solano County and in the region as a whole would substantially change visual conditions as open viewsheds, including views of agricultural landscapes, are replaced with urban development. New development would also lead to increased nighttime light and glare in the region and more limited views of the nighttime sky and skyglow effects. With changes in energy efficiency requirements and the use of different types of lighting, such as light-emitting diode (LED) lighting, skyglow effects may incrementally change in Suisun City and nearby communities. As development occurs at the fringes of cities, the visual separation between the communities will be reduced.

Although general plans and other adopted community design standards include design, architectural, development, and lighting standards to ensure that development in the region complies within certain aesthetic guidelines, there is no mechanism to allow regional development, while also avoiding the conversion of local viewsheds to urban development. The change of views and visual resources in the region attributable to urban development and supportive infrastructure and the associated increase in nighttime light and glare are considered **significant cumulative impacts**.

Implementation of the 2035 General Plan would incrementally contribute to this change in regional visual conditions. The 2035 General Plan establishes that the City does not consider urban development that is consistent with the General Plan to represent a degradation of visual character for the purpose of environmental impact analysis. The City's built environment, such as the historic architecture around the Downtown Waterfront Area, makes a very important and positive contribution to the community's visual character. Suisun City's unique waterfront location and proximity to Suisun Marsh, the Vaca Mountains, Cement Hill, and the Coastal Range, provide for scenic views. The General Plan also acknowledges the visual importance of key gateways into the community, including elevated views of the Downtown Waterfront Area from State Route (SR) 12; along Pennsylvania Avenue, Sunset Avenue, and Walters Road from Fairfield; and from SR 12 southeast of the intersection with Walters Road. The General Plan provides both general design guidance and also specific design policies for infill opportunity areas.

Regardless, implementation of the 2035 General Plan will change some scenic vistas and locally important visual resources and will contribute light and glare and skylight effects. Policies and programs of the 2035 General Plan are intended to preserve and enhance scenic views of the Suisun Marsh, the Coastal Range, Cement Hill, the Potrero Hills, and the Vaca Mountains; ensure new developments contribute positively to the community's visual character; and reduce or avoid light or glare effects associated with land use change accommodated under the General Plan. But, no feasible mitigation beyond the policies and programs of the 2035 General Plan is available that could fully address impacts associated with adverse impacts on scenic vistas, degradation of the existing visual character, and the contribution of nighttime lighting and daytime glare, while also accommodating long-term growth needs of the City. The incremental contribution of new development accommodated under the 2035 General Plan is **cumulatively considerable and significant and unavoidable**.

AGRICULTURAL RESOURCES

Past development in Solano County and other nearby agricultural counties has converted thousands of acres of farmland, including Important Farmland, land with agricultural zoning, and lands protected by Williamson Act contracts. Development throughout Solano County would convert additional agricultural land to urban and other uses. The conversion of agricultural land to urban use is a **significant cumulative impact**.

Approximately 1,987 acres of land within the Planning Area are under Williamson Act contracts. Of this total, 1,410 acres of land are under active Williamson Act contracts, whereas 577 acres are in the process of nonrenewal. The 2035 General Plan could accommodate land use change that could require cancellation of active Williamson Act contracts. Existing contracts will expire between 2012 and 2015. The 2035 General Plan could accommodate land use change in these areas, potentially prior to the time when the current contracts would expire. Lands in the eastern and western portions of the City's Planning Area are currently in unincorporated Solano County and have agricultural zoning designations. Lands west of the City limits in the Planning Area are zoned "A-40," which is "Exclusive Agriculture" with a 40-acre minimum parcel size. Lands east of City limits

and north of Peterson Road are zoned “A-20,” which is “Exclusive Agriculture” with a 20-acre minimum parcel size. Lands east of City limits and south of Peterson Road are zoned “A-160,” which is “Exclusive Agriculture” with a 160-acre minimum parcel size (Solano County 2012). Implementation of the 2035 General Plan could accommodate land use change to a non-agricultural use for parcels with current Solano County agricultural zoning designations. Impacts related to the actual loss of farmland could be considered cumulative, but the separate impacts related to the Williamson Act and agricultural zoning are not cumulative.

Implementation of the 2035 General Plan would not convert Important Farmland to nonagricultural uses or result in changes that could convert Important Farmland to nonagricultural uses. The Solano County Important Farmland map designates the Planning Area and surrounding lands as Urban and Built-Up Land and Grazing Land. These farmland designations are not considered Important Farmland. There is **no cumulative** contribution.

The 2035 General Plan could allow recreational, retail and commercial service, offices, and light industrial uses in areas adjacent to grazing lands. These land uses are not known to create indirect pressure to convert adjacent grazing lands to urban use. Grazing lands are not generally associated with dust, noise, spraying, and other activities that would result in compatibility issues with the adjacent land uses anticipated under the 2035 General Plan. It is possible that outdoor recreational uses may conflict with intensive grazing operations. The Open Space and Conservation Element requires new developments adjacent to ongoing agricultural operations to include design, construction, and maintenance techniques to minimize conflicts, including odor conflicts. Implementation of the 2035 General Plan would not result in any substantial compatibility conflicts between the proposed land use changes and adjacent grazing activities. The impact is **less than cumulatively** considerable.

AIR QUALITY

Construction Emissions

Construction activities throughout the region would emit criteria air pollutants from earthmoving activities and construction equipment, resulting in a significant cumulative impact. During the horizon of the General Plan, through 2035, daily construction emissions would contribute criteria air pollutant and precursor emissions to the region that when added to the other emissions occurring within the San Francisco Bay Area Air Basin (SFBAAB). Pollutant emissions, taken together could cause an exceedance of a National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS). This is a **significant cumulative** impact.

The 2035 General Plan requires implementation of applicable emission control measures recommended by the BAAQMD for construction, grading, excavation, and demolition. BAAQMD has different “tiers” of recommended mitigation to address projects with different levels of construction-related pollutant emissions. The application of such mitigation would reduce air pollutant emissions associated with the 2035 General Plan. In addition, emissions from construction equipment throughout California and the United States will be reduced over time due to a final rule promulgated by EPA in January 2001 that reduces emissions for heavy-duty diesel engines in 2007 and subsequent model years. These emissions standards represented a 90% reduction in oxides of nitrogen (NO_x) emissions, 72% reduction of nonmethane hydrocarbon emissions, and 90% reduction of particulate matter (PM) emissions in comparison to the emissions standards for the 2004 model year. In December 2004, ARB adopted a fourth phase of emission standards (Tier 4) in the Clean Air Non-road Diesel Rule that are nearly identical to those finalized by EPA on May 11, 2004. As such, engine manufacturers are now required to meet after-treatment-based exhaust standards for NO_x and PM starting in 2011 that are more than 90% lower than

current levels, putting emissions from off-road engines virtually on par with those from on-road heavy-duty diesel engines. As construction equipment continues to turnover and/or be retrofitted over time, diesel PM emissions associated with construction will continue to decrease. Nonetheless, the land use change estimates included as a part of the 2035 General Plan include a substantial amount of development and if enough development is occurring simultaneously, this could represent a **cumulatively considerable** contribution to the significant cumulative construction emissions impact. Other than the application of relevant standard mitigation and enforcing current standards and regulations, there is no additional feasible mitigation. The impact is **significant and unavoidable**.

Operational Emissions

Operations of developments throughout the region would emit criteria air pollutants, resulting in a significant cumulative impact. Operational emissions would have a long-term impact on a region's emission profile and ability to attain and maintain NAAQS and CAAQS. The cumulative effects long-term criteria air pollutants generated from the proposed 2035 General Plan, combined with related projects, creates a **significant** cumulative impact.

A project's operational emissions are considered long-term and would occur for the lifetime of the project. Similar to construction emissions, BAAQMD considers a project that would generate operational emissions that exceed the thresholds of significance on a project-level to also have a cumulatively considerable contribution to air pollutants in the region. BAAQMD thresholds for project operations are intended to be used to judge whether or not the subject project would have a cumulatively considerable impact. Ozone precursor thresholds are set at a level that would, with compliance, prevent further deterioration of ambient air quality and a regionally cumulative significant impact (e.g., worsened status of non-attainment). Particulate matter thresholds for use at the project level were designed by BAAQMD to represent the emission levels above which a project's individual emissions would result in a cumulatively considerable contribution to the region's existing air quality conditions.

The General Plan's operational emissions would exceed the BAAQMD's threshold of significance for ROG and NO_x. Therefore, it is anticipated that the General Plan would have a **cumulatively considerable** contribution to air pollutants in the region. It is also important to consider the regional air quality benefits of the General Plan that are not illustrated through an assessment of the mass emissions thresholds of significance. The General Plan includes strategies to reduce long-term cumulative mobile-source emissions, which represent the majority of countywide NO_x emissions. Promoting development of the Downtown Waterfront Area with access to regional mass transit, along with facilitating higher-density residential development, compact non-residential development, and mixed-use development, with supportive bicycle, pedestrian, and transit facilities will help to reduce vehicle miles traveled (VMT) and therefore reduce air pollution. Nevertheless, operational emissions would exceed the BAAQMD thresholds of significance and therefore would have a cumulatively considerable contribution to this significant cumulative impact. There is no additional feasible mitigation other than the policies and programs identified throughout the 2035 General Plan. The impact is **significant and unavoidable**.

Toxic Air Contaminants

Increased vehicular traffic and rail traffic along the region's roadway and railroad lines could create substantial pollutant concentrations, representing a **significant cumulative** impact.

The BAAQMD has developed cumulative significance thresholds related to exposure of sensitive uses to substantial pollutant concentrations. According to the CEQA Air Quality Guidelines, Increased Cancer Risk to Maximally Exposed Individual (MEI) Emissions from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of carcinogenic TACs from any source result in an increased cancer risk greater than 100.0 in one million. The 100 in a million threshold is based on EPA guidance for conducting air toxics analyses and community risk management. EPA guidance is designed to protect public health with an ample margin of safety. EPA strives to provide maximum feasible protection against risks to health from hazardous air pollutants by limit.

Cumulative non-cancer impacts would be considered significant where ground-level concentrations of non-carcinogenic TACs result in an increased chronic Hazard Index from any source greater than 10.0. The Air District has developed an Air Toxics Hot Spots (ATHS) program that provides guidance for implementing the Air Toxics “Hot Spots” Information and Assessment Act (California Health and Safety Code § 44300, et. al.). The ATHS provides that if the health risks resulting from the facility’s emissions exceed significance levels established by the air district, the facility is required to conduct an airborne toxic risk reduction audit and develop a plan to implement measures that will reduce emissions from the facility to a level below the significance level. The Air District has established a non-cancer Hazard Index of ten (10.0) as ATHS mandatory risk reduction levels. These requirements would be applied to any new sources that could be established within the City’s Planning Area, as well as new sources off-site.

Cumulative impacts related to PM_{2.5} concentrations from a new source or emissions affecting a new receptor would be considered significant where ground-level concentrations of PM_{2.5} from any source would result in an average annual increase greater than 0.8 µg/m³.

Stationary Sources

The City does not anticipate that the General Plan would involve establishment of any new substantial stationary source of TACs that could expose receptors to increased cancer risk greater than 100 in one million. Land uses include a range of residential densities, civic and open space uses, commercial service and retail, office uses, and light industrial uses. It is possible that commercial and industrial uses would include sources of TAC emissions, such as emergency generators (i.e., diesel PM) and miscellaneous operations (e.g., benzene, hexavalent chromium, perchloroethylene [perc]). However, emergency generators as part of industrial and commercial land uses would be permitted by BAAQMD, which has established regulatory limits on operation, testing, and maintenance activities that is designed to be protective of the public health. BAAQMD Regulation 11, Hazardous Pollutants includes rules and regulations developed to minimize the exposure of TACs such as benzene, hexavalent chromium, and perc from operational activities. All commercial and industrial land uses developed as part of the General Plan are required to comply with these rules and regulations. Commercial and industrial uses proposed in areas near the City’s Planning Area would also be required to comply with existing regulations designed to ensure against significant impacts. The impact is **less than cumulatively considerable**.

Roadways

The General Plan would contribute traffic along roadways, which would combine with past, present, and future development projects to increase pollutant concentrations. Increased vehicle trips associated with the General Plan would add an incremental amount of TAC emissions associated with diesel-fueled vehicles, which would be dispersed throughout the Planning Area and region.

According to risk analysis published by BAAQMD the increased cancer risk at 300 feet north of the segment of SR 12 west of Marina Boulevard in Suisun City is approximately 12.6, while at 400 feet north of this segment, the risk is 9.5 in one million (at 6 feet above ground surface). South of this segment at 400 feet, the risk is approximately 10.8 in one million. At 500 feet south of this segment, the increased risk is 8.9 in one million (BAAQMD 2011). At an elevation of 20 feet, risk levels are reduced somewhat. At 300 feet north of this segment, the increased cancer risk level is 12.2 and at 400 feet, it is 9.3 in one million. At 400 feet south of this segment at a 20-foot elevation, the risk level is 10.4 and at 500 feet it is 8.6 in one million. There are existing residential properties within the areas along this highway segment that are estimated to have increased risk levels of 10 in one million or greater and the potential for additional residential development in this area under the 2035 General Plan, including multiple-story residential developments where the risk level at 20 in elevation may be helpful in assessing risk.

Between Marina Boulevard and Sunset Avenue, emissions along SR 12 are lower. The increased cancer risk 100 feet south of this segment is 11.4, while at 200 feet, the risk level drops to 7.3 in one million. North of this segment, at 200 feet, the increased risk is 11.3 and at 300 feet the risk level drops to 8.3 in one million. There are existing residential properties within the areas along this highway segment that are estimated to have increased risk levels of 10 in one million or greater.

Between Sunset Avenue and the extension of Hummingbird Way, the risk levels are lower yet. At 75 feet south of this segment, the increase cancer risk is 11.2 and at 100 feet, it is 9.7. At 100 feet north of this segment, the risk is 14.3, but the risk level drops to 9.2 at 200 feet north of this segment. There are existing residential properties within the areas along this highway segment that are estimated to have increased risk levels of 10 in one million or greater.

Between the extension of Hummingbird Way and Walters Road, at 50 feet south of SR 12, the increased cancer risk level is 10.1, while at 75 feet the risk level is 8.3. North of the highway, at 100 feet, the risk level is 12.3 and at 200 feet, the risk level is 8.1 in one million. There are existing residential properties within the areas south of this highway segment that are estimated to have increased risk levels of 10 in one million or greater.

East of the intersection with Walters Road, the risk levels associated with traffic along SR 12 are relatively lower. At 25 feet west of SR 12 in this location, the increased cancer risk level is 11.5 and at 50 feet west, the risk level is 8.2 in one million. At 75 feet east of the highway, the risk level is 10.6 and at 100 feet, the risk level is 8.9 in one million. It does not appear that there are existing residential properties within these areas.

Buildout of the 2035 General Plan would increase traffic levels along SR 12 and other regional roadways that may have existing residential properties exposed to substantial pollutant concentrations in excess of the levels recommended in the BAAQMD Air Quality Guidelines. Increased traffic – particularly increases in diesel truck traffic – from past, present, and future projects, along with buildout of the 2035 General Plan could result in increased risk. The impact is **cumulatively considerable**.

For potential housing developed along SR 12 and in other areas affected by substantial pollutant concentrations, the Public Health and Safety Element provides policy guidance, mitigation strategies, and performance outcomes to ensure against significant impacts – both those attributable to the 2035 General Plan, as well as related past, present, and future projects. The City will communicate BAAQMD to identify sources of toxic air contaminants and determine the need for health risk assessments for new developments and mitigation strategies.

Since 1990, the health risk associated with diesel PM has been reduced by 36% in the SFBAAB (ARB 2010). The California Air Resources Board (ARB) has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators) that would improve air quality and reduce risk in the Planning Area and along major roadways elsewhere in California. In February 2000, ARB adopted a new public-transit bus fleet rule and emissions standards for new urban buses. These new rules and standards provide (1) more stringent emission standards for some new urban bus engines beginning with 2002 model year engines, (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies, and (3) reporting requirements under which transit agencies must demonstrate compliance with the public-transit bus fleet rule. Milestones include the low-sulfur diesel fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than current vehicles. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, diesel PM) have been reduced significantly, and they will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's risk reduction plan, it was estimated that diesel PM concentrations will be reduced by 85% in 2020 from the estimated year 2000 level. The City does not control fuel content, diesel exhaust control requirements, fleet mix requirements, or other factors that could potentially reduce exposure of sensitive receptors to substantial pollutant concentrations along SR 12 and other regional roadways affected by traffic from the 2035 General Plan. The impact is **significant and unavoidable**.

Railroad

Particulate matter concentrations of 0.35 µg/m³ could extend out from the Union Pacific Railroad line up to approximately 1,200 feet north of the railroad line, and 1,100 feet south of the Union Pacific railroad line. This level of particulate matter concentration is associated with excess cancer risks of approximately 10 in 1 million. The Code of Federal Regulations Title 40: Protection of Environment, Part 1033, "Control of Emissions from Locomotives" dictates emission standards and related requirements for freight and commuter rail. With this existing regulation, TAC emissions rates will decrease from traffic along the UPRR. Existing regulations require cleaner burning diesel locomotive engines over time. This requirement will result in substantially improved concentrations of toxic air contaminants adjacent to the railroad line and train station.

It is possible that during buildout of the General Plan, freight and passenger movement could increase. Increases would be dependent on economic activity beyond the control of the City and the relative competitiveness of regional rail commuting and rail freight use compared to other available modes. Demand for rail freight deliveries associated with past, present, and future development, including development anticipated under the 2035 General Plan, may lead to an increase in traffic along this railroad line. This is a **significant cumulative** impact.

For potential housing developed along the railroad line, the Public Health and Safety Element provides policy guidance, mitigation strategies, and performance outcomes to ensure against significant impacts – both those attributable to the 2035 General Plan, as well as related past, present, and future projects.

The City does not have the authority to impose mitigation related to freight or passenger rail operations in the Planning Area and other areas affected by cumulative growth in demand. The impact is **significant and unavoidable**.

Odors

Construction activities associated with buildout of the 2035 General Plan and related future projects would generate diesel exhaust from heavy-duty trucks and off-road construction equipment, which could be considered offensive to some individuals. However, such odors dissipate rapidly with distance and even at the most equipment-intense phases, there would not be a constant source of odor emissions generated from construction sites, under normal conditions. Odors associated with architectural coating- and asphalt paving-related volatile organic compound (VOC) emissions would be reduced through compliance with Regulation 8, Rule 3 (Architectural Coatings) and Regulation 8, Rule 15 (Emulsified and Liquid Asphalts).

Typical facilities that generate odors during operational phases include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities. The City does not anticipate the development of any such facilities in physical proximity to existing or future odor-generating facilities in a way that would create any significant cumulative impact.

For projects under the 2035 General Plan that include food service, compliance with industry standard waste disposal methods and BAAQMD Regulation 7 (Odorous Substances) would limit any potential odor exposure. Any proposed food service uses would also be required to comply with the BAAQMD's Regulation 6 Rule 2 (Commercial Cooking Equipment), to minimize emissions from commercial charboiler equipment – both for projects developed under the 2035 General Plan and related future projects. There is **no significant cumulative impact**.

BIOLOGICAL RESOURCES

Impacts on biological resources resulting from the buildout of the 2035 General Plan would contribute to historic and ongoing losses of these resources in Solano County and the Greater San Francisco Bay region. Past development and land conversion, including urban development, agriculture, roads, and water projects, has resulted in substantial regional losses of natural habitat, including vernal pool (a.k.a. valley floor grasslands), freshwater and saline emergent wetlands, riparian habitats, and natural waterways. These habitat losses have contributed to the decline of a number of special-status plant and wildlife species that are dependent on these habitats and the overall effect of land use conversion on native plants, animals, and habitats has been substantially adverse. The combination of past, present, and reasonably foreseeable future development, including land use conversion described under the Solano County, City of Fairfield, and City of Vacaville general plans, results in a cumulatively significant impact to valley floor grasslands, wetlands, and special-status species associated with these habitats. Although many future projects proposed in the County would be required to mitigate substantial impacts on biological resources, in compliance with CEQA, the Federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) and other relevant state, local, and federal statutes, it may not be possible to mitigate all of these impacts in a manner that results in no net loss of these resources within the County and region because there is a finite amount of land and habitat available to compensate for unavoidable losses. Furthermore, as development progresses across the landscape, remaining habitats become more and more fragmented and vulnerable to habitat degradation, due to the indirect effects of surrounding development. Therefore, it can be expected that the net loss of native habitat for plants and wildlife, agricultural lands, and open space areas that support important biological resources in Solano County and the Greater San Francisco Bay region will continue. This is a **significant cumulative impact**.

Implementing the 2035 General Plan would result in potentially significant impacts related to (1) loss and degradation of habitat for special-status plants, including Contra Costa goldfields (2) loss of habitat for special-status wildlife species, including vernal pool branchiopods, California tiger salamander, Swainson's hawk, burrowing owl, and salt marsh harvest mouse; and (4) loss of federally protected wetlands. These impacts would be mitigated to less-than-significant levels with implementation of the General Plan programs and policies and as identified in Section 3.3 of this EIR, "Biological Resources."

Many of the cumulative plans and projects located outside of the City's Planning Area are expected to result in cumulatively significant impacts on special-status species and sensitive habitats. The remaining undeveloped land in this region of Solano County serves as important habitat for a variety of plants and wildlife. The continued development of these lands will result in the incremental decline in the amount of habitat remaining to support special-status species and sensitive natural communities. However, development within the City's Sphere of Influence would result in a loss of medium to high value habitat¹ and would preserve nearly five times that amount of medium to high (mostly high) value habitat (approximately 2,200 acres). In addition, the 2035 General Plan policies and programs require avoidance and minimization of impacts on biological resources and compensation for unavoidable losses at ratios and in a manner that is consistent with the Solano Multispecies Habitat Conservation Plan (SMHCP) Conservation Strategy, which would ensure losses are fully mitigated. The SMHCP Conservation Strategy is designed in consultation with applicable trustee agencies to ensure that development in Solano County does not result in jeopardy to listed species or in a cumulative loss of habitat. Although not all special-status species that could be adversely affected by implementation of the 2035 General Plan are covered under the SMHCP, these species utilize the same habitats as covered species and therefore benefit from the Conservation Strategy.

Furthermore, 2035 General Plan programs and policies would require new developments to mitigate impacts on species not covered under the SMHCP in accordance with guidance from the appropriate regulatory agency/ies charged with protection of the subject species. The 2035 General Plan does not propose to increase the size of the City's Sphere of Influence to accommodate development of undeveloped areas. There are two relatively limited areas outside the City's existing City limits east of the City along Peterson Road and west of the City along SR 12 that are anticipated for development under the 2035 General Plan. Implementation of the General Plan would not result in habitat fragmentation that would convert large, open habitat areas into smaller patches surrounded by urban development and expose remaining habitat to extensive indirect impacts associated with habitat fragmentation. Rather, the 2035 General Plan land use diagram results in the maintenance of large open habitat landscapes contiguous with and connected to surrounding natural habitats ensuring that existing habitat values are maintained and the long-term viability of species utilizing these habitats is not diminished. For the reasons discussed here, implementing the 2035 General Plan would **not result in a cumulatively considerable** incremental contribution to a significant cumulative impact on biological resources.

CULTURAL RESOURCES

Cultural resources in the region generally consist of prehistoric sites, historic sites, historic structures, and isolated artifacts. During the 19th and 20th centuries, localized urbanization and intensive agricultural use in the region caused the destruction or disturbance of numerous prehistoric sites, while many structures now considered to be historic were erected. From the latter half of the 20th century to the present, prehistoric and historic structures

¹ Medium and high value habitat, as used here, is based on Solano Multispecies Habitat Conservation Plan identification as High and Medium Conservation Areas, as well as having known special-status species occurrences or suitable habitat for special-status species.

have been disturbed and destroyed. During this period, the creation and enforcement of various regulations protecting cultural resources have substantially reduced the rate and intensity of these impacts. However, even with these regulations, cultural resources are still degraded or destroyed as cumulative development in the region proceeds.

There are several properties in the Planning Area that have been determined to be eligible for the National Register of Historic Places. The State Office of Historic Preservation has determined that the Suisun City Historic District meets eligibility requirements for listing. The 2035 General Plan facilitates development of appropriate vacant and underutilized properties, consistent with the narrative and diagrammatic policies. The Downtown Waterfront Area has experienced major redevelopment efforts as part of the Downtown Waterfront Specific Plan, which includes standards that are intended to historic authenticity of existing buildings and that new developments are compatible with the historic character. The 2035 General Plan recognizes the value of heritage resources, particularly in the Downtown Waterfront Area, and includes extensive policy and program guidance to preserve architectural resources and their context, identify incentives that can be used to rehabilitate historic structures consistent with relevant standards, and inventory the City's historic structures in order to inform future preservation and rehabilitation efforts. Development and infrastructure improvements consistent with the 2035 General Plan would **avoid cumulatively considerable** effects.

The cultural resources records search did not indicate any known archaeological resources or sites within the Planning Area. However, it is possible that resources could be discovered as a part of excavation or other earth-moving activities required implementing the 2035 General Plan. The General Plan includes policy and program language that requires development projects to minimize potential impacts to prehistoric resources consistent with State law requirements. Development of projects assumed in the cumulative scenario has the potential to result in the discovery of undocumented subsurface cultural resources or unmarked historic-era or prehistoric Native American burials. However, these potential impacts would not increase in severity in consideration of cumulative projects. Due to the nature of cultural resources, adverse impacts are site-specific and need to be determined on a project-by-project basis. In addition, the incorporation of General Plan policies and programs addressing the response when undocumented resources are discovered would address this potential impact. The impact is **less than cumulatively considerable**.

GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

Geology and Soils

The geologic formations and soil types vary depending on project location, and therefore are site-specific. The Planning Area is a seismically active area, with known faults that could result in surface fault rupture and seismic ground shaking. The Planning Area is subject to these hazards, and depending on the location of the related projects, damage to structures and/or pipelines could result from construction across a known active fault and strong seismic ground shaking. Implementation of cumulative plans and projects could expose additional structures and people to seismic and soils hazards. However, each plan considered in this cumulative analysis must individually meet building code requirements as well as the requirements of local policies (i.e., grading and erosion control plans). There is no additive effect. There is **no significant cumulative** impact.

The Planning Area is rated primarily as having slight erosion hazard when disturbed. Southeastern portions of the Downtown Waterfront Area are subject to ponding. Most of the Planning Area is located in areas with high shrink-swell potential. Soil layers with high and very high liquefaction potential are present in the existing and

former marsh areas in the western part of the City's Planning Area, including most of the existing Downtown Waterfront Specific Plan Area. These areas are underlain by saturated bay mud.

Depending on the location of the related projects, damage to roads and buildings from these same geologic and soils hazards could also occur. However, compliance with 2035 General Plan policies and programs, combined with current geologic and seismic laws, regulations, and policies would substantially reduce potential impacts.

Mineral Resources

The presence of mineral resources is dependent on the type of geologic formation, which varies from location to location and therefore is site-specific. Some of the related projects may be located in areas that contain sources of aggregate materials. There are no areas of known mineral resources within the Planning Area (i.e., areas that have been classified as MRZ-2 by the California Division of Mines and Geology). Therefore, implementation of the land use changes consistent with the 2035 General Plan would **not contribute to any cumulative impact** related to the availability of mineral resources.

Paleontological Resources

Fossil discoveries resulting from excavation and earth-moving activities associated with development are occurring with increasing frequency throughout the state. The value or importance of different fossil groups varies depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions (such as for a research project). Unique, scientifically-important fossil discoveries are relatively rare, and the likelihood of encountering them is site-specific and is based on the type of specific geologic rock formations found underground. These geologic formations vary from location to location. Therefore, a site-specific analysis would be required in order to determine whether any of the related projects contain a source of unique paleontological resources. When unique, scientifically-important fossils are encountered by construction activities, the subsequent opportunities for data collection and study generally provide a benefit to the scientific community. Development of cumulative plans could cumulatively and adversely affect paleontological resources. This is a **significant cumulative impact**.

The Planning Area is underlain by Holocene- and Pleistocene-age alluvium, and by the Tehama Formation. By definition, in order to be considered a fossil, an object must be more than 11,000 years old. Therefore, the Holocene-age alluvium would not contain "unique" paleontological resources. The Pleistocene alluvium is composed of fresh-water stream deposits along canyons and at the heads of older alluvial fans, and fresh-water marsh deposits. Because of the number of vertebrate fossils recovered from the Pleistocene alluvium and the Tehama Formation, both are considered to be paleontology sensitive. However, compliance with policies and programs in the 2035 General Plan require earth-moving activities in paleontologically-sensitive rock formations requires education of construction workers, halting of work in the vicinity of any fossil specimen(s) uncovered, and preparation of a recovery plan for said specimen(s). The impact is **less than cumulatively considerable**.

GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

Please see Section 3.5, "Greenhouse Gas Emissions," of this EIR for the analysis of cumulative greenhouse gas emissions impacts.

ENERGY

Solano County and the cities within the county implement general plans that include goals and policies to reduce energy demands through the use design features, building materials, and building practices; encourage the use of renewable energy sources; promote land uses and patterns that would not cause wasteful, inefficient, and unnecessary consumption of energy; and ensure adequate electricity and natural gas and related distribution systems are available to meet energy demands. Developments within other parts of the region, as with the City, are required to implement Building Energy Efficiency Standards (Title 24 of the California Code of Regulations) and other applicable regulations. Therefore, there is **no significant cumulative impact** related to land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy.

Increased demand for electrical and natural gas supplies and infrastructure is a byproduct of all future land uses and development in Solano County and the region. Energy is consumed for heating, cooling, and electricity in homes and businesses; for public infrastructure and service operations; and for agriculture, industry, and commercial uses. Regional growth would involve new building construction, development projects and plans, transportation facilities, and other activities that would demand additional energy resources. Local jurisdictions and service providers are responsible for ensuring adequate provision of these utilities and would be responsible for upgrading their existing electrical and natural gas distribution systems or constructing new distribution systems to meet the demands of individual projects. Land use change throughout the region will require the construction of new energy infrastructure, the construction and operation of which could have **significant cumulative impacts**.

Land use change accommodated under the 2035 General Plan would increase local energy demand and would require that additional energy resources be delivered to residents and business within the Planning Area. Electrical and natural gas supplies and size, location, and types of facilities required to serve individual development projects proposed pursuant to the General Plan is not known at this time. The City concludes that the 2035 General Plan could have a **cumulatively considerable contribution** to this significant cumulative impact. All feasible mitigation is included as policies and programs of the 2035 General Plan. This impact is **significant and unavoidable**.

HAZARDS AND HAZARDOUS MATERIALS

Projected growth both within the Planning Area and in surrounding jurisdictions would involve storage, use, disposal, and transport of hazardous materials to varying degrees during construction and operation. The storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, state, and local laws, regulations, and policies. Health and safety impacts associated with the past or current uses of proposed development sites usually occur on a project-by-project basis, rather than in a cumulative manner. Individual development projects in the Planning Area and in surrounding jurisdictions would implement and comply with existing hazardous materials laws, regulations, and policies. It is possible that the cumulative plans and 2035 General Plan would increase demand for petroleum and other hazardous materials, which may be transported in the future along the Union Pacific Railroad line through the Planning Area. The extent to which the cumulative plans and 2035 General Plan would increase such demand, and the extent to which increased demand would result in local transport of hazardous materials is unknown, as is the degree to which additional transport activities would increase risk. There is **no known significant cumulative impact**.

HYDROLOGY AND WATER QUALITY

Local hydrology, drainage, and water quality conditions can be affected by regional activities, in addition to local activities and related projects. Past and present projects in Solano County (dams and reservoirs, urban development) and the Sacramento–San Joaquin Delta/Suisun Marsh (water supply diversions, agricultural diversions, flood control projects, urban development, river channelization) affect hydrology and water quality conditions in Suisun City. The following evaluation of hydrology and water quality relative to cumulative impacts is made in light of the extent to which local and regional activities can affect hydrologic conditions in the City's Planning Area.

Water Quality

Construction activities associated with land use change accommodated under the 2035 General Plan would involve grading and movement of earth. Construction-related alteration of site-specific drainages could result in soil erosion and stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from project-related construction sites. This contaminated runoff could enter local drainage channels and ultimately drain into Suisun Marsh. Intense rainfall and associated stormwater runoff in relatively flat areas could result in short periods of sheet erosion within areas of exposed or stockpiled soils. If uncontrolled, these soil materials could cause sedimentation and blockage of drainage channels. Accidental spills of construction-related contaminants, such as fuels, oils, paints, solvents, cleaners, and concrete, could occur during site-specific construction activities, resulting in surface soil contamination.

However, project applicants must prepare Stormwater Pollution Prevention Plan (SWPPPs) that are consistent with the existing National Pollutant Discharge Elimination System (NPDES) discharge permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB). Implementation of these regulatory requirements would substantially reduce water quality and erosion impacts from construction activities. Although there are no assurances that the related projects (past, present, and future projects whose impacts interact with those of the 2035 General Plan) would incorporate the same degree or methods of treatment as the 2035 General Plan, each present and future related project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the San Francisco Bay RWQCB. Regulatory requirements, in general, apply to new development. Notwithstanding the extensive requirements, it is possible that the cumulative plans could result in a **significant cumulative impact**.

Development accommodated under the 2035 General Plan would create new impervious surfaces and landscape features that would increase the volume of runoff that could cause or contribute to long-term discharges of urban contaminants (e.g., sediment, oil and grease, fuel, trash, pesticides, fertilizer). This increase in impervious surface would increase the peak discharge rate of stormwater runoff generated from new development. However, adherence to the Low Impact Development (LID) principles required in the NPDES permit, and conformance with policies contained in the Fairfield-Suisun Urban Runoff Management Program (FSURMP) and the 2035 General Plan, would substantially reduce water quality and erosion impacts from an increase in stormwater runoff. Development under the 2035 General Plan is required to comply with NPDES discharge permits from the San Francisco Bay RWQCB, which adjusts requirements on a case-by-case basis to avoid substantial degradation of water quality. The impact is **less than cumulatively considerable**.

Drainage

The cumulative plans include urban development that could substantially alter drainage courses and runoff patterns from existing conditions. Compacting soils and constructing impervious surfaces can reduce the net amount of infiltration of rain water into the soil, thereby increasing runoff rates and volumes, which can result in localized flooding and hydromodification.

Stormwater conveyance for developments in Solano County is required to consist of surface runoff to detention basins, swales, or other detention facilities. New development in Solano County is subject to County Ordinance Chapter 31, Section 31-40 (Review and Approval), which requires submittal of grading, drainage, and erosion control plans for review and approval. New development in the County is also required to implement permanent BMPs that “maintain no increased rate of runoff, from pre- to post-construction condition,” as part of County Ordinance Chapter 31, Section 31-30 (General Design Principles and Standards). In addition, new development in the County is also subject to the provisions of the Solano County *Storm Water Management Plan for the National Pollutant Discharge Elimination System (NPDES) Phase II* (San Francisco Bay RWQCB 2004). Development within the unincorporated cities is subject to similar requirements. Regulatory requirements, in general, apply to new development. Notwithstanding the extensive requirements, it is possible that the cumulative plans could result in a **significant cumulative impact**.

Land use change accommodated under the 2035 General Plan would convert areas of undeveloped land to residential and commercial uses, which could substantially alter drainage courses and runoff patterns from existing conditions. Compacting soils and constructing impervious surfaces can reduce the net amount of infiltration of rain water into the soil, thereby increasing runoff rates and volumes, which can result in localized flooding and hydromodification. Section 15.12.080 of the Suisun City Municipal Code requires preparation and approval of a runoff control plan that is designed to reduce erosion and downstream flooding. Conformance with Chapter 4 of the City’s *Engineering Standards and Specifications* would ensure that runoff from storms up to the 100-year storm event are appropriately conveyed through storm facilities and discharged such at public and private development are protected from flood hazards. Incorporation of LID requirements contained in the NPDES permit and conformance with applicable state and local regulations regulating surface water runoff, including the procedures outlined in the FSURMP, would substantially reduce long-term flood potential from increases in runoff and hydromodification. The impact is **less than cumulatively considerable**.

Flood Protection

Historic evidence has shown that in the Delta and the Central Valley, as urban development continues, placement of structures within 100-year floodplains and within low-lying areas that are subject to flooding when levees fail has resulted in property damage and loss of life. Some of the cumulative plans in the region may result in the placement of structures in areas that are protected by levees, or in areas designated as 100-year floodplains.

The Planning Area is protected by levees that are subject to failure and subsequent inundation as a result of subsidence and overtopping. Most of the levees are privately owned and, historically, they were not constructed to an engineered standard nor were they maintained to the standard of an urban or agricultural levee. Levees that protect the southern portion of the Planning Area, adjacent to Suisun Marsh, are part of the SMP. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (SMP) incorporates the recommendations made by CALFED Bay-Delta Program’s (CALFED) Suisun Marsh Levee Investigation Team, which includes a program to improve levee maintenance. This would be accomplished by increasing slope stability and reducing

erosion, overtopping, and failure through placement of riprap or alternative bank protection measures, as well as modifying the heights of exterior levees in and around Suisun Marsh. Furthermore, levees constructed or improved as part of the SMP would adhere to basic engineering standards related to crown width, slope, and amount of freeboard (as specified in the SMP). However, as of the writing of this document, there is no defined schedule nor are there agreed-upon funding mechanisms to implement the levee improvements that would be addressed by the SMP. Furthermore, implementation of the SMP lies outside the jurisdiction of Suisun City and is therefore under the control of other lead agencies (i.e., the “Suisun Principal Agencies,” which consists of a diverse group of organizations such as U.S. Bureau of Reclamation, USFWS, DWR, DFG, and CALFED). New developments anticipated under the cumulative plans will be required by law to comply with all applicable state and local regulations regarding flooding and flooding hazards. Regulatory requirements, in general, apply to new development. Notwithstanding the applicable requirements, it is possible that the cumulative plans could result in a **significant cumulative** impact.

The southwestern portion of the Planning Area is located within a 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA). Implementation of applicable state and local regulations regarding flooding and flooding hazards, as well as policies and programs in the 2035 General Plan require that proposed development within a 100-year floodplain is elevated and designed to withstand flood flows. However, even with implementation of the 2035 General Plan policies and programs, the potential for flooding from failure of a Delta/Suisun Marsh levee or from placement of structures within a 100-year floodplain would remain. The impact is **cumulatively considerable and significant and unavoidable**.

Dam Failure

The California Water Code designates the regulatory Dam Safety Program to the California Department of Water Resources (DWR), Division of Safety of Dams (DSOD). While there is a potential that some of the related projects could also place structures in an area that could be subject to dam inundation, dams are under the jurisdiction of the DSOD. The principal goal of the DSOD program is to avoid dam failure and thus prevent loss of life and destruction of property. The DSOD’s team of professional engineers reviews plans and specifications for the construction of new dams and for the enlargement, alteration, repair, or removal of existing dams, and must grant written approval before the owner can proceed with construction. Dam failure is an extremely unlikely event. The Solano County Office of Emergency Services (OES) provides for the development, establishment, and maintenance of programs and procedures to help protect the lives and property of Solano County residents from the effects of natural or human-caused disasters, including floods from dam failures. There is no additive (cumulative) impact related to development under the 2035 General Plan combined with past, present, and future development accommodated by the cumulative plans. There is **no known significant cumulative impact**.

Only the southwestern portion of the Planning Area could be subject to potential inundation from dam failure. These two dams are located at Lake Curry (approximately 6 miles northwest of Suisun City), and at Pennsylvania Creek (approximately 1.75 miles northwest of the Suisun City). The remaining portion of the Planning Area is protected from inundation by the elevated Union Pacific Railroad tracks that traverse the City in a northeast to southwest direction.

Groundwater Recharge

Development of the related projects, depending on their size and location, could result in substantial increases in impervious surfaces over large tracts of land in areas that are conducive to natural groundwater recharge. This is a **significant cumulative** impact.

Development under the 2035 General Plan would include increases in impervious surfaces and therefore a reduction in the surface area that is currently available for water to percolate into the groundwater aquifer. However, soils in the Planning Area have a poor capacity for groundwater recharge, with most of the substantial recharge occurring along active stream channels where new development is not anticipated. The 2035 General Plan requires new developments to be designed to protect and preserve natural watercourses and drainage channels; to incorporate into site planning natural drainages that could support riparian habitat; and to locate and design roads, water lines, sewer lines, drainage facilities, and other public facilities to avoid substantial impacts to stream courses, associated riparian areas, and wetlands. The 2035 General Plan policies do not allow fill in portions of the Planning Area that are most conducive to groundwater recharge, such as natural swales, stream channels, and other existing watercourses. Groundwater is not used as a domestic water source in the City. Seasonal groundwater recharge from landscape irrigation activities would continue as a result of compliance with Title 20 of the Suisun City Municipal Code, as well as the provisions of the FSURMP. The 2035 General Plan would result in a small area of new impervious surfaces (as compared to the existing areas for natural recharge within Solano County). The impact is **less than cumulatively considerable**.

LAND USE AND PLANNING

Development in the county and region would result in a significant change in land uses, and individual projects would need to be considered in context of their compliance with adopted land use plans. Relevant plans include general plans, specific plans, habitat conservation plans, and regional transportation plans. Future growth under cumulative conditions may result in a variety of physical impacts related to consistency with adopted land use plans. Impacts involving adopted land use plans or policies generally would not combine to result in cumulative impacts. The determination of significance for impacts related to these issues, as described by Appendix G of the State CEQA Guidelines, is whether a project would conflict with any applicable land use plan or policy adopted for the purpose of avoiding or mitigating environmental impacts. Such a conflict is site-specific. It is addressed on a project-by-project basis. There is **no significant cumulative** impact.

The City of Fairfield is located northwest of the Planning Area and is separated from Suisun City by SR 12 and the Union Pacific Railroad. Other unincorporated communities in Solano County are separated from Suisun City by the Suisun Marsh, open space, and agricultural land. The City's Land Use Diagram and narrative policies throughout the 2035 General Plan were developed, in part, to ensure that land use change is orderly and considers impacts to existing developed portions of the City. The diagrams, narrative policies, and programs in the 2035 General Plan promote connectivity throughout the City, including promoting infill development of underutilized land, as well as promoting more efficient circulation patterns. The 2035 General Plan does not propose other changes that would disrupt or divide existing neighborhoods within or in the vicinity of the Planning Area.

For the 2035 General Plan, relevant plans, programs, and regulations to consider include the Travis Air Force Base Land Use Compatibility Plan, Plan Bay Area, the Solano Comprehensive Transportation Plan, and the Suisun Marsh and other Delta plans and programs (see Section 3.10 of this EIR for more detail). The 2035 General Plan was drafted to ensure consistency with other relevant plans, programs, and regulations that were

developed to reduce or avoid environmental impacts. Indirect effects from those plans and policies adopted for the purpose of avoiding or mitigating environmental impacts can lead to physical environmental impacts, which are considered in the appropriate sections of this environmental assessment. The impact is **less than cumulatively considerable**.

NOISE

Noise and vibration impacts are normally localized and attenuate rapidly with distance. However, it is possible that noise impacts can be considered cumulatively for certain sources, as discussed below.

Construction

Noise impacts are normally localized and attenuated rapidly with distance. Compliance with applicable noise regulations and mitigation from other environmental documents would reduce construction-related noise impacts from other projects in the immediate vicinity of the Planning Area. Construction projects occurring simultaneously would not result in cumulative impacts unless sites are being developed in close proximity to one another and expose sensitive receptors to significant noise levels at the same time. It is possible that construction activities in downtown Fairfield or improvements to SR 12 or other infrastructure could occur at the same time as construction activities within the Downtown Waterfront Area, which could, depending on the timing, character, and location of construction, could create additive effects. Adding construction traffic to the local roadway network would result in increase in traffic noise levels in the vicinity of the Planning Area. It is possible that construction occurring outside the City's Planning Area could add construction traffic to some of the same roadways that would be expected to handle construction traffic during buildout of the General Plan. It is too speculative at this time to assess whether there would be large construction projects directly adjacent to construction accommodated under the General Plan and occurring simultaneously in a way that would create cumulative construction noise impacts.

Roadway Traffic

Implementation of the General Plan would generate traffic, which would increase ambient noise levels along local and roadways. Section 3.11 of this EIR includes an analysis of long-term, cumulative traffic noise conditions along roadways affected by implementation of the General Plan, assuming no natural or artificial shielding from existing or proposed structures or topography. There are several roadway segments, including SR 12, Main Street, North Texas Street, Pennsylvania Avenue, Sunset Avenue, Walters Road, East Tabor Avenue, Railroad Avenue, Lawler Ranch Parkway, and Pintail Drive where 2035 noise levels would exceed 60 dBA L_{dn}. Outdoor activity areas associated with noise-sensitive uses could potentially be exposed to noise levels in excess of applicable standards if they are located adjacent to high-volume roadways and not designed to place structures between the noise source and outdoor gathering spaces. This is a **significant cumulative** impact.

Implementation of the 2035 General Plan would result in a net change in traffic noise levels ranging from 0.1 dB to +2.9 dB above cumulative condition without implementation of the General Plan. The traffic noise level increase is substantial in some areas relative to existing conditions. For noise level increases, a 1-dB increase is imperceptible; a 3-dB increase is just perceptible; a 6-dB increase is clearly noticeable; and a 10-dB increase is subjectively perceived as approximately twice as loud (Egan 1988:21). The impact is **less than cumulatively considerable**.

Typical residential construction (i.e., wood siding or two-coat stucco, STC 30-31 windows, door weatherstripping and thresholds, exterior wall insulation, composition plywood roof) would be expected to provide an exterior-to-interior noise level reduction of no less than 25 dB with exterior doors and windows closed. Therefore, residential building facades exposed to traffic noise levels of 70 dB L_{dn} or less would be expected to comply with typical interior standards of 45 dB L_{dn}/CNEL (70 dB – 25 dB = 45 dB). The only roadway segments anticipated to exceed 70 dB L_{dn} are segments of SR 12 and Railroad Avenue between Birchwood Court and Village Drive. Homes along this segment are set back further than 50 feet from the centerline where the cumulative noise level would be less than 70 dB L_{dn}. There is **no significant cumulative** impact.

POPULATION, EMPLOYMENT, AND HOUSING

Population growth, by itself, is not considered a significant cumulative effect because it is not an environmental impact. However, the direct and indirect effects, such as housing and infrastructure needs that are related to population growth, can lead to physical environmental effects, the impacts of which are considered throughout this EIR. As described previously, the County's population is anticipated to continue to grow, along with employment through 2040, adding roughly 26,940 households and 47,680 jobs between 2010 and 2040. Job growth in the county and each of the cities is forecast to outpace growth in the number of households. Solano County and the cities within the county implement general plans, along with other specific plans that are outside the development assumptions from local general plans, that could potentially accommodate substantially greater population and employment growth compared to regional forecasts and planning efforts. Increased population and employment in the region could generate the need for additional housing and infrastructure, which could lead to conversion of undeveloped land and associated adverse physical environmental impacts of the sort that are considered in this topic-specific sections of this EIR. Considering the indirect effects from past, present, and future development under the cumulative plans, this is a **significant cumulative** impact.

Implementation of the 2035 General Plan would accommodate up to approximately 4.2 million additional square feet of employment generating uses that could accommodate up to approximately 6,800 new jobs. The City could accommodate approximately 1,800 new dwelling units and an added population of approximately 3,900 under the 2035 General Plan. Under this scenario, the City would change from having 0.4 jobs per housing unit to approximately 1 job per housing unit. Physical impacts associated with development of residential and non-residential land uses, such as traffic, air quality degradation, noise generation, GHG emissions, and increased demand for public services and utilities, are evaluated throughout this EIR. There is **no cumulatively considerable** impact that is not already addressed and, as appropriate, mitigated in this EIR.

PUBLIC SERVICES AND RECREATION

Buildout of the 2035 General Plan would involve changes to land use type, density, and scale, which would increase demands on utilities and service systems, public services, parks and recreation facilities. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of utilities and service systems, public services, and parks and recreation facilities within their service boundaries. The necessary of utilities and service systems, public services, and parks and recreation facilities would be provided by the service providers identified in the analysis below. The related projects and other future development that would occur within each provider's service area are described below. At this time, it is unknown whether sufficient police, fire, school facilities and other public services are planned to serve the cumulative plans. While some projects in some of the jurisdictions include construction of facilities, others do not. The following

discussion analyzes the cumulative impacts on these service providers from implementation of the 2035 General Plan and future projects within their respective service areas.

SOLID WASTE

The primary landfill that serves Suisun City is the Potrero Hills Landfill, which currently accepts wastes from Solano County as well as numerous communities and transfer facilities located in the San Francisco Bay Area and throughout northern California, including the Alameda, Contra Costa, Marin, Mendocino, Napa, Sacramento, Santa Clara, San Mateo, and Yolo Counties. Development of new land uses within those counties would increase the amount of solid waste disposal at the Potrero Hills Landfill.

The Potrero Hills Landfill has a maximum permitted throughput of 4,333 tpd, has a total maximum permitted capacity of 83.1 million cubic yards, and has a remaining capacity of approximately 13.9 million cubic yards. The Potrero Hills Landfill is anticipated to meet solid waste disposal needs within its service area through February 14, 2048 (CalRecycle 2013). With implementation of the Green Building Code and other recycling programs throughout the counties and cities within its service area, the life of the Potrero Hills Landfill will likely be extended beyond 2048. There is **no significant cumulative impact**.

FIRE PROTECTION SERVICES

Increased demand for fire protection from the cumulative plans would be served through expansion of services and could involve construction of additional facilities. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative impact**.

The City of Suisun City Fire Department provides fire protection services within the incorporated area of the City. Land use change accommodated under the 2035 General Plan would increase local demand for fire protection services, which could be met with existing facilities, additions to existing facilities, or new facilities. The Fire Department has considered a second location for a fire station in order to best serve residents and maintain or improve response times. The environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

LAW ENFORCEMENT SERVICES

Increased demand for law enforcement services from the cumulative plans would be served through expansion of services and could involve construction of additional facilities. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative impact**.

Police protection services within the City of Suisun City are provided by the City of Suisun City Police Department. Land use change accommodated under the 2035 General Plan would result in the development of new homes, businesses, and other facilities. This development, as well as new residences and visitors would result in the increased need for police protection services, potentially resulting in the need for additional police protection facilities, the construction of which could have adverse impacts on the physical environment. The environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

PUBLIC SCHOOLS

Implementation of the 2035 General Plan would accommodate new residential development in Suisun City, which would increase population, including school-aged children requiring school services. The increased demand for services could result in the need for new or expanded school facilities, the construction of which could have adverse impacts on the physical environment.

School services in Suisun City are provided by the Fairfield-Suisun Unified School District (F-SUSD). Students in the city attend Crescent Elementary School, Dan O'Root Elementary School, Suisun Elementary School, Tolena Elementary School, Crystal Middle School, Armijo High School, and Rodriguez High School. These schools are currently operating below design capacity. The F-SUSD projects that enrollment at the elementary schools, middle school, and high schools that serve the city are expected to decline or generally remain at design capacity between 2011 and 2017 (F-SUSD 2011).

The F-SUSD prepared a facility master plan that approximated the number of new students generated by new residential development between 2011 and 2017. The F-SUSD estimated that approximately 1,143 new residential units will be constructed over the 6-year period, and these new residential developments are expected to generate 668 new students by 2017. The facility master plan determined that there will be minimal needs for new classrooms over the 6-year planning period; however, the District's long-range projections indicate a need for two new elementary schools and a new middle school (F-SUSD 2011).

The implementation of the 2035 General Plan and related projects within the F-SUSD's boundaries are required to pay state-mandated school impact fees that may be used to finance new schools and equipment, and to reconstruct existing facilities to maintain adequate housing for all F-SUSD's students. The California Legislature has declared that the school impact fee is deemed to be full and adequate mitigation under CEQA. There is **no cumulative** impact.

PARKS AND RECREATION

Solano County cities manage a variety of neighborhood, community, and other parkland. Four regional parks are located in the unincorporated area of Solano County. Of these parks, the Lake Solano Park, Sandy Beach Park, and Belden's Landing Water Access Facility are maintained by the County. The Rockville Hills Regional Park is owned and managed by the City of Fairfield CSD (Solano County 2008a:4.14-1). Development anticipated under the cumulative plans would increase the demand for parks and recreational facilities. If jurisdictions in the region do not have a mechanism to plan for and fund such facilities, this may cause deterioration in existing facilities. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative** impact.

However the Quimby Act (California Government Code Section 66477) allows cities and counties to establish requirements for new development to dedicate land for parks, pay an in-lieu fee, or provide a combination of the two and each of the jurisdictions included in the cumulative scenario has goals and policies for parkland. Local demand is served through expansion of services and facilities.

Suisun City maintains community and neighborhood parks varying in size and distributed throughout the community. Implementation of the 2035 General Plan would accommodate the development of new residences and new population that would increase demand for new and existing parks, as well as recreation facilities. The

environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

TRANSPORTATION

Please see Section 3.14, “Traffic and Transportation,” of this EIR for the analysis of cumulative transportation impacts. Future travel demand is evaluated for future conditions (2035) with and without implementation of the General Plan, in order to gauge impacts. This future scenario includes regional growth estimates that are a part of the cumulative scenario (also known as “the cumulative plans”).

UTILITIES AND ENERGY

WATER SUPPLY

The policies of the General Plan incorporate and reference the existing requirements of state law that require demonstration of adequate long-term water supply for large development projects as defined in Water Code 10912(a) (also known as Senate Bills 610 and 221). The requirements of California Water Code 10910 et seq. would be enforced at the time of project level review under buildout for larger projects that meet the relevant thresholds provided in California Water Code Section 10912. The County has also incorporated water conservation policies in its General Plan, which supplement water conservation that is already required as a part of building code compliance. Collectively, these policies and laws would apply to all new water consuming land uses that would occur under buildout. Individual development projects occurring under buildout would be required to demonstrate adequate and reliable water supplies and to consider the impact of new water consuming land uses in relation to existing and future demand.

Implementation of the 2035 General Plan would designate land uses that, if developed to full buildout, would increase water demand. The SSWA’s Urban Water Management Plan (UWMP) addresses water supply and demand issues, water supply reliability, water conservation, water shortage contingencies, and recycled-water usage for the areas within SSWA’s service area. The SSWA UWMP accounted for existing and future land uses and population growth in Suisun City and water demand is anticipated to be less than available water supplies through 2035 in normal and dry-water years. The 2035 General Plan includes measures to ensure that sufficient water sources are made available to serve new development. The policies of the General Plan incorporate and reference the existing requirements of State law that require demonstration of adequate long-term water supply for large development projects as defined in Water Code 10912(a) (also known as Senate Bills 610 and 221). The requirements of California Water Code 10910 et seq. would be enforced at the time of project-level review under buildout for larger projects that meet the relevant thresholds provided in California Water Code Section 10912. The City will condition approval of new developments on the availability of sufficient water supply, storage, and fire flow (water pressure), per City standards. In addition, General Plan policies and programs would reduce water supply demand by identifying conservation measures; requiring incorporation of climate-appropriate landscaping in new development as well as new parks and landscaping; and encouraging the use of recycled water for outdoor irrigation, toilet flushing, fire hydrants, and commercial and industrial processes. The Green Building Code requires substantial water conservation measures in new residential and non-residential development.

Water supply is projected to be sufficient in normal water years through 2035. However, water supply in single-dry and multiple-dry water years is insufficient to meet demand within the SSWA service area over the 20-year

planning period. Therefore, SSWA could have insufficient water supplies available to serve buildout of the 2035 General Plan from existing or permitted entitlements in single-dry and multiple-dry water years. According to SSWA, over the 20-year planning period, a joint powers agreement between SID and Suisun City ensures that water will be provided from the SID water supplies and therefore there will be sufficient water supplies to meet demands.

From a Statewide perspective, global climate change could affect California's environmental resources through potential, though uncertain, changes related to future air temperatures and precipitation and their resulting impacts on water temperatures, reservoir operations, stream runoff, and sea levels (Kiparsky and Gleick 2003). These changes in hydrological systems could threaten California's economy, public health, and environment.

Several recent studies have shown that existing water supply systems are sensitive to climate change. Potential impacts of climate change on water supply and availability could directly and indirectly affect a wide range of institutional, economic, and societal factors. Much uncertainty remains, however, with respect to the overall impact of global climate change on future water supplies. For example, models that predict drier conditions suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. Models that predict wetter conditions project increased reservoir inflows and storage, and increased river flows. Much uncertainty also exists with respect to how climate change will affect future demand of water supply. Considering the influence of climate change, the City conservatively finds that there could be a **significant cumulative** impact.

SSWA would identify and obtain additional water supply entitlements, if necessary, to meet demand. SSWA would conduct a separate environmental analysis to analyze specific adverse physical effects on the environment that could result from new water supply entitlements and identify any required mitigation measures.

Implementation of mitigation measures would be the responsibility of SSWA, and such measures would be implemented in accordance with the certified environmental documents. However, impacts could remain significant after implementation of mitigation (i.e., significant and unavoidable), or no feasible mitigation may be available to fully reduce impacts to a less-than-significant level. Because implementation of the 2035 General Plan would contribute to the need for new water supply entitlements to provide potable water supplies to the City, implementation of the 2035 General Plan could contribute to currently unknown but potentially significant and unavoidable environmental effects. This impact is **cumulatively considerable and significant and unavoidable**.

WATER CONVEYANCE AND TREATMENT FACILITIES

Development within Solano County would require the extension and expansion of water conveyance and treatment facilities and potentially new facilities in the future. Construction of new or expansion of existing water treatment and conveyance facilities could have adverse effects on the physical environment. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative** impact.

Water supply conveyance and treatment facilities that would serve land uses changes accommodated under the 2035 General Plan are provided by the City and SSWA. Water supply infrastructure, such as water transmission mains, pumping stations, and storage tanks, would be required in currently undeveloped areas where no such infrastructure currently exists and existing infrastructure would require upgrades to serve new development. For

existing developed areas, such as the Downtown Waterfront Area, there is infrastructure in place, whereas in areas planned for development outside the existing City limits, infrastructure expansions would be required.

Water supply treatment to potable water standards is provided by SSWA's Cement Hill Water Treatment Plant where the water is treated and piped to the Suisun City. Additional treatment capacity and conveyance infrastructure will be required to meet water treatment demands at buildout of the SSWA service area. SSWA would construct and expand additional water supply infrastructure and treatment facilities, as necessary, to meet demand.

The 2035 General Plan includes policies and programs to reduce or avoid impacts, as noted this EIR. The environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

WASTEWATER COLLECTION, CONVEYANCE, AND TREATMENT FACILITIES

Development within Solano County would require the extension and expansion of wastewater collection, conveyance, and treatment facilities and potentially new facilities in the future. Construction of new or expansion of existing wastewater facilities could have adverse effects on the physical environment. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative impact**.

Wastewater treatment for land uses accommodated under the 2035 General Plan would be provided by the Fairfield-Suisun Sewer District (FSSD) Fairfield-Suisun Subregional Wastewater Treatment Plan (WWTP). The Fairfield-Suisun Subregional WWTP provides wastewater treatment services to the City of Fairfield, as well as Suisun City, Travis Air Force Base, the unincorporated area of Cordelia, parts of Suisun Valley, and some other nearby unincorporated areas. The WWTP has a design capacity of 23.7 mgd average dry-weather flow and currently treats 12.2 mgd average dry-weather flow (FSSD 2013). In the long term, the FSSD sewer system master plan estimates that at buildout of the FSSD service area, the average daily flow could range between 19.5 and 21.0 mgd (Holmes International 2008:13). Therefore, the Fairfield-Suisun Subregional WWTP would have sufficient capacity to treat wastewater flows generated at buildout of the FSSD service area, including flows generated by land uses accommodated under the 2035 General Plan.

There are no land uses proposed in the 2035 General Plan that would be expected to generate wastewater of such poor quality and concentration or in such amounts that the Fairfield-Suisun Subregional WWTP's treatment systems would not be able to treat according to applicable water quality standards. In addition, individual development projects in the FSSD service area, including projects proposed under the 2035 General Plan, would be required to meet federal, state, and local wastewater discharge requirements.

Land use change accommodated under the 2035 General Plan would increase wastewater flow that would increase the local demand for wastewater collection and conveyance facilities that would be provided by the City and by the FSSD. Individual development projects proposed pursuant to the General Plan would be required to assess project impacts during the environmental review process to ensure that the City and FSSD has sufficient wastewater collection and conveyance facilities to meet demand. Construction of new or expansion of existing wastewater infrastructure could have adverse effects on the physical environment.

Suisun City and its Planning Area are located within the FSSD's Suisun Basin and are served by Suisun Pump Station. The capacity of Suisun Pump Station is anticipated to be adequate to accommodate growth within the Suisun Basin until approximately 2021 and the Suisun Pump Station will require additional pumping capacity to serve buildout of the Suisun Basin, including wastewater flows generated at buildout of the 2035 General Plan. This additional capacity can be achieved by upsizing of the Suisun Pump Station and constructing additional force mains and gravity relief sewers and the construction of these facilities could result in physical impacts on the environment (FSSD 2013). FSSD would construct additional wastewater infrastructure, as necessary, to meet demand.

The 2035 General Plan includes policies and programs to reduce or avoid impacts, as noted throughout this EIR. The environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

STORMWATER DRAINAGE FACILITIES

Development within Solano County would require stormwater system improvements. Construction of new or expansion of existing facilities could have adverse effects on the physical environment. Considering the effects from past, present, and future development under the cumulative plans, this is a **significant cumulative** impact.

Stormwater drainage facilities that would serve land uses changes accommodated under the 2035 General Plan are provided by the City. The 2035 General Plan is anticipated to accommodate a variety of land use changes, including intensification of development on existing sites, demolition of existing structures with replacement land uses, and changes from undeveloped agricultural and open spaces lands to developed, urban uses. Each type of land use change would each contribute different relative amounts of stormwater runoff corresponding to the percentage of impervious surface added.

The 2035 General Plan includes policies and programs to reduce or avoid impacts, as noted throughout this EIR. The environmental effects of constructing such facilities are analyzed program level throughout the environmental subsections of this EIR and there are no additional significant impacts beyond that which is already fully addressed. The impact is **less than cumulatively considerable**.

5.2 GROWTH-INDUCING IMPACTS

According to Section 15126.2(d) of the State CEQA Guidelines, an EIR must discuss the growth-inducing impacts of the proposed project. Specifically, CEQA states that the EIR shall:

[d]iscuss ways in which the 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 are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects. Also discuss characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); or a construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new employment demand; and/or removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, or conversion of agricultural and open space land to urban uses.

5.2.1 GROWTH INDUCING IMPACTS OF THE 2035 GENERAL PLAN

Based on Section 65300 of the Government Code, the 2035 General Plan is required to serve as a comprehensive, long-term plan for physical development and conservation in the City. The General Plan does not propose any specific development projects. In a sense, then, the General Plan would not have direct growth-inducing impacts. Indirect growth-inducing impacts could occur, however, due in part to changes in the Land Use Diagram and the goals, objectives, policies, and programs of the General Plan.

The General Plan is designed to accommodate economic and population growth that would increase economic activity and population. Anticipated population growth is indirect in nature because the proposed General Plan does not directly propose development, but only provides the framework for development planning and implementation to proceed. The actual level of buildout and the timing of construction and development activities would be subject to market conditions and other factors beyond the City's control. However, with the substantial amount of new development accommodated under the General Plan, it is possible that, through expansion of job opportunities or other aspects of the General Plan, growth elsewhere could be facilitated. If jobs are created that cause people to move to the region and create a demand for housing construction beyond that provided locally, the General Plan could be considered growth inducing.

Whether or not growth obstacles are eliminated relates to the extent to which the 2035 General Plan would increase infrastructure capacity or change the regulatory structure such that additional development would be facilitated. A physical obstacle to growth typically involves the lack of infrastructure and public service capacity. The extension of public service infrastructure (e.g., roadways, water and sewer lines) into areas that are not currently provided with these services would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

To the extent that infrastructure is sized to accommodate already approved and expected growth based on the population and employment projections of the 2035 General Plan, growth inducement would not occur beyond that accommodated by the expanded infrastructure and services. However, if infrastructure and facilities are oversized, or extended to areas outside of areas planned for development under the 2035 General Plan, this could induce growth by providing capacity to areas not intended for development. However, the 2035 General Plan does

not propose to extend facilities or infrastructure into any area not planned for development. The General Plan would not, then, have growth-inducing impacts related to the removal of obstacles to growth in the surrounding vicinity.

Development accommodated under the 2035 General Plan would require construction workers to travel to the Planning Area. Because construction workers typically do not change where they live each time they are assigned to a new construction site, it is not anticipated that there would be any substantial relocation of construction workers to the City or Solano County associated with the General Plan.

The additional population and employment accommodated under the 2035 General Plan would spur an increase in demand for goods and services in the surrounding area and region, which could potentially result in additional development to satisfy this demand. In this respect, the General Plan would be growth inducing. It would be highly speculative to attempt to predict exactly where and when any such new services would be developed, and whether or not existing and future planned commercial development would satisfy additional demand for goods and services created by the General Plan. Vacancies may be sufficient to meet additional demand without requiring additional industrial, commercial, and office facilities; the uncertainties of the market make this area extremely speculative. The most logical assumption, however, is that they would locate where the existing City and County General Plans currently anticipate them. The general plans have already undergone environmental review and any new individual projects requiring discretionary approvals would undergo their own environmental review (provided some discretionary action is required).

5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA (Public Resources Code Section 21100[b][2]) provides that an EIR shall include a detailed statement setting forth “[i]n a separate section...[a]ny significant effects on the environment that would be irreversible if the project is implemented.” State CEQA Guidelines Section 15126.2(c) provides the following guidelines for analyzing the significant irreversible environmental changes of a project:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irretrievable damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Development accommodated under the 2035 General Plan would use both renewable and nonrenewable natural resources for construction and operation. Development accommodated under the 2035 General Plan would use nonrenewable fossil fuels in the form of oil and gasoline during construction and operation. Other nonrenewable and slowly-renewable resources consumed as a result of Development accommodated under the 2035 General Plan would include, but not necessarily be limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, lead, and water.

Development accommodated under the 2035 General Plan involves construction of a mix of building types for different uses, converting undeveloped land to urban use. This change in land use would represent a long-term

commitment to urbanization, since the potential for developed land to be reverted back to undeveloped land uses is highly unlikely. This would involve the loss of habitat and grazing land.

Lastly, development accommodated under the 2035 General Plan is not anticipated to result in irreversible damage from environmental accidents, such as an accidental spill or explosion of a hazardous material. During construction, equipment would be using various types of fuel and material classified as hazardous. In the State of California, the storage and use of hazardous substances are strictly regulated and enforced by various local, regional, and state agencies. The enforcement of these existing regulations would preclude credible significant impacts related to environmental accidents.

5.4 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

Section 15226.2(b) of the State CEQA Guidelines requires EIRs to include a discussion of any significant environmental impacts that cannot be avoided if the proposed project is implemented. This EIR provides a detailed analysis of all significant and potentially significant environmental impacts related to implementing the General Plan; identifies feasible mitigation measures in the form of General Plan policies and programs, where available, that could avoid or reduce these significant and potentially significant impacts; and presents a determination whether these mitigation measures would reduce these impacts to less-than-significant levels.

Section 5 identifies the significant cumulative impacts resulting from the combined effects of the General Plan and cumulative plans. If a specific impact in either of these sections cannot be fully reduced to a less-than-significant level, it is considered a significant and unavoidable adverse impact.

Implementing the General Plan would result in 16 significant and unavoidable adverse impacts and the General Plan would make a cumulatively considerable incremental contribution to significant cumulative impacts in 11 issue areas.

3.1-2: Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract. The 2035 General Plan could accommodate new developments on parcels currently under Williamson Act contracts. Cancellation of one or more of these Williamson Act contracts could be required if development of land uses were to occur before the expiration of these contracts. In addition, implementation of the 2035 General Plan could accommodate land use change to a non-agricultural use for parcels with Solano County agricultural zoning designations.

3.2-1: Generation of Long-Term Operational, Regional Emissions of Criteria Air Pollutants and Precursors and Consistency with Air Quality Planning Efforts. Future development in Suisun City would generate emissions of criteria air pollutants (PM_{10} and $PM_{2.5}$) and ozone precursors, both of which adversely affect regional air quality. The 2035 General Plan would accommodate additional population and employment development, which would lead to operational (mobile-source and area-source) emissions.

3.2-2: Generation of Short-Term Construction-Related Emissions of Criteria Air Pollutants and Precursors. Criteria air pollutants and precursors resulting from construction activities accommodated under the 2035 General Plan would exceed BAAQMD's significance thresholds of 54 lb/day for ROG and NO_x . Policies in the 2035 General Plan would support compliance with BAAQMD-recommended standard construction mitigation practices. This would substantially reduce construction-generated air pollutant emissions attributable to projects accommodated under the 2035 General Plan. However, due to the large amount of total development proposed over the buildout period, construction-generated emissions of criteria air pollutants and precursors is considered

substantial, and could violate an ambient air quality standard, contribute substantially to an existing or predicted air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations.

3.4-2: Destruction or Damage to Archaeological Resources, Paleontological Resources, or Human Remains.

Land use change contemplated under the 2035 General Plan would involve grading, excavation, and potentially other ground-disturbing activities that could disturb or damage any previously unidentified archaeological resources or human remains.

3.6-2: Increased Energy Demands and Need for Energy-Related Infrastructure. Implementation of the 2035 General Plan would increase demand for electrical and natural gas supplies and require the expansion and extension of utility infrastructure to deliver services to individual land uses within Suisun City. The electrical and natural gas supplies and size, location, and types of facilities required to serve individual development projects proposed pursuant to the General Plan is not known at this time.

3.9-3: Flood Hazards from Placement of Structures within a 100-Year Floodplain or From Levee Failure.

Land use change accommodated under the 2035 General Plan could include residential or commercial structures in floodplains, thereby exposing people and structures to flood hazards. Similar exposure could occur in areas subject to flooding because of failure of levees in and near Suisun Marsh. Sea level rise associated with global climate change would exacerbate these risks. Implementation of 2035 General Plan policies and programs, combined with other relevant regulations and programs, would reduce the potential for flooding.

3.11-1: Potential for Temporary, Short-Term Exposure of Sensitive Receptors to Construction Noise. Short-term construction source noise levels could exceed the applicable City standards at nearby noise-sensitive receptors. In addition, if construction activities were to occur during more noise-sensitive hours, construction source noise levels could also result in annoyance and/or sleep disruption to occupants of existing and proposed noise-sensitive land uses and create a substantial temporary increase in ambient noise levels. The 2035 General Plan includes policies and programs to reduce construction noise levels. The City cannot demonstrate at this time that the implementation of these policies and programs would avoid temporary construction noise impacts.

3.11-2: Long-Term Noise Exposure for Noise-Sensitive Land Uses. Existing and planned noise-sensitive land uses under the 2035 General Plan could occur in areas that either are currently adversely affected by transportation and non-transportation noise sources, or will be in the future. This could expose noise-sensitive uses to noise levels in excess of the 1992 General Plan noise policies and the 2035 General Plan noise policies. Implementation of the 2035 General Plan would also permanently and substantially increase existing ambient noise levels in certain locations. The 2035 General Plan establishes the City's standards for land use and noise compatibility and strategies for addressing conflicts. While the policy approach would reduce adverse noise exposure impacts, the City cannot demonstrate that potentially significant impacts would be avoided in every case.

3.11-3: Increases in Vibration Levels. Construction of projects under the 2035 General Plan could cause a temporary, short-term disruptive vibration if it were to occur near sensitive receptors. Under the 2035 General Plan, future development of new vibration-sensitive land uses could occur within vibration-generating areas (e.g., railroads).

3.12-3: Displacement of Existing People or Housing. The 2035 General Plan supports reinvestment and infill development of vacant and underutilized properties. The 2035 General Plan does not propose displacement of people or housing. However, it is possible that some housing could be removed during buildout.

3.13-2: Increased Demand for Water Supply Treatment and Conveyance Facilities. Land use change contemplated under the 2035 General Plan would increase demand for water conveyance and treatment facilities, including water transmission mains, pumping stations, and storage tanks, and SSWA treatment facilities. Construction of new or expansion of existing water conveyance and treatment facilities could have adverse effects on the physical environment.

3.13-4: Construction of New or Expanded Wastewater Collection, Conveyance, and Treatment Plant Facilities. Land use change contemplated under the 2035 General Plan would increase wastewater flow that would increase the local demand for wastewater collection and conveyance facilities. Implementation of the 2035 General Plan would not result in an increase in wastewater flows that exceed the FSSD Fairfield-Suisun Subregional WWTP design capacity. However, wastewater conveyance infrastructure, such as pipes and pumping stations, will be required in currently undeveloped areas where no such infrastructure currently exists and existing infrastructure would require upgrades to serve new development. Construction of new or expansion of existing wastewater facilities could have adverse effects on the physical environment.

3.13-5: New or Expanded Storm Water Drainage Facilities. The 2035 General Plan is anticipated to accommodate a variety of land use changes, including intensification of development on existing sites, demolition of existing structures with replacement land uses, and changes from undeveloped lands to developed, urban uses. Each type of land use change would each contribute different relative amounts of stormwater runoff corresponding to the percentage of impervious surface added. The construction of new facilities and conveyance infrastructure or the expansion of existing facilities and infrastructure to handle this runoff could generate significant environmental effects.

3.15-1: Adverse Impacts on Scenic Vistas and Visual Resources. Implementation of the 2035 General Plan could result in new urban development that would permanently alter and block some views of the Suisun Marsh, the Coastal Range, Cement Hill, the Potrero Hills, and the Vaca Mountains, which are defined by the City as locally important scenic vistas.

3.15-3: Degradation of the Existing Visual Character. Implementation of the 2035 General Plan would substantially alter the existing visual character of the Planning Area. The 2035 General Plan provides extensive policy direction to ensure that new development, redevelopment, and infill projects contribute in a positive way to the overall visual character of the community. The General Plan's design guidance will be largely implemented through parallel revisions to the City's Zoning Ordinance, but will also be implemented through the typical project and plan review process, wherein the City may condition new development, redevelopment, and infill projects to ensure that they are consistent with design policies of the General Plan. However, there are no feasible policies or programs that could maintain the existing visual character of the City, while also allowing the City to accommodate future needs for population and employment growth in the Planning Area.

3.15-4: Increase in Nighttime Lighting and Daytime Glare. Implementation of the 2035 General Plan would accommodate land use change and new developments that will require security lighting and other types of lighting. This could inadvertently cause increased light and glare, potentially obscuring views of stars and other

features of the nighttime sky. In addition, nighttime lighting or the presence of reflective surfaces on buildings may result in glare shining on residences and motorists traveling along SR 12, Petersen Road, and other roadways in day and nighttime conditions.

Cumulative Impact Areas

3.5-2: Impacts of Climate Change on Suisun City. Climate change is expected to result in a variety of effects that could potentially impact Suisun City: changes to terrestrial and aquatic ecosystems; increased energy demand; decreased water supply; increased risk of flooding; and increased frequency and intensity of wildfire. Substantial negative effects on residents, resources, structures, and the economy could result.

3.14-1: Roadway Traffic Capacity – Non-Caltrans Roadways. Implementing the 2035 General Plan would increase traffic volumes on non-Caltrans roadways within Suisun City, the City of Fairfield, and Solano County. On one roadway segment, Walters Road south of Air Base Parkway, the projected LOS would exceed the City of Fairfield's arterial LOS standard of D, falling to LOS E.

3.14-2: Roadway Traffic Capacity – Caltrans Routes. Implementing the 2035 General Plan would cause SR 12 between Beck Avenue and Walters Road to fall from LOS C or better (2010) to LOS D or worse in 2035.

Aesthetics. Growth and development in Solano County and in the region as a whole would substantially change visual conditions as open viewsheds, including views of agricultural landscapes, are replaced with urban development. New development would also lead to increased nighttime light and glare in the region and more limited views of the nighttime sky and skylight effects. With changes in energy efficiency requirements and the use of different types of lighting, such as LED lighting, skylight effects may incrementally change in Suisun City and nearby communities. As development occurs at the fringes of cities, the visual separation between the communities will be reduced. Although general plans and other adopted community design standards include design, architectural, development, and lighting standards to ensure that development in the region complies within certain aesthetic guidelines, there is no mechanism to allow regional development, while also avoiding the conversion of local viewsheds to urban development. The change of views and visual resources in the region attributable to urban development and supportive infrastructure and the associated increase in nighttime light and glare are considered significant cumulative impacts. Implementation of the 2035 General Plan would incrementally contribute to this change in regional visual conditions. The 2035 General Plan establishes that the City does not consider urban development that is consistent with the General Plan to represent a degradation of visual character for the purpose of environmental impact analysis. Implementation of the 2035 General Plan will change some scenic vistas and locally important visual resources and will contribute light and glare and skylight effects.

Air Quality - Construction Emissions. Construction activities throughout the region would emit criteria air pollutants from earthmoving activities and construction equipment, resulting in a significant cumulative impact. During the horizon of the General Plan, through 2035, daily construction emissions would contribute criteria air pollutant and precursor emissions to the region that when added to the other emissions occurring within the SFBAAB. Pollutant emissions, taken together could cause an exceedance of a NAAQS or CAAQS. Land use change estimates included as a part of the 2035 General Plan include a substantial amount of development and if enough development is occurring simultaneously, this could represent a cumulatively considerable contribution to the significant cumulative construction emissions impact.

Air Quality - Operational Emissions. Operations of developments throughout the region would emit criteria air pollutants, resulting in a significant cumulative impact. Operational emissions would have a long-term impact on a region's emission profile and ability to attain and maintain NAAQS and CAAQS. The cumulative effects long-term criteria air pollutants generated from the proposed 2035 General Plan, combined with related projects, creates a significant cumulative impact. Operational emissions associated with implementation of the 2035 General Plan would exceed the BAAQMD thresholds of significance and therefore would have a cumulatively considerable contribution to this significant cumulative impact.

Toxic Air Contaminants – Roadways. The General Plan would contribute traffic along roadways, which would combine with past, present, and future development projects to increase pollutant concentrations. Increased vehicle trips associated with the General Plan would add an incremental amount of TAC emissions associated with diesel-fueled vehicles, which would be dispersed throughout the Planning Area and region. The City does not control fuel content, diesel exhaust control requirements, fleet mix requirements, or other factors that could potentially reduce exposure of sensitive receptors to substantial pollutant concentrations along SR 12 and other regional roadways affected by traffic from the 2035 General Plan.

Toxic Air Contaminants – Railroad. Particulate matter concentrations of 0.35 µg/m³ could extend out from the Union Pacific Railroad line up to approximately 1,200 feet north of the railroad line, and 1,100 feet south of the Union Pacific railroad line. This level of particulate matter concentration is associated with excess cancer risks of approximately 10 in 1 million. It is possible that during buildout of the General Plan, freight and passenger movement could increase. Increases would be dependent on economic activity beyond the control of the City and the relative competitiveness of regional rail commuting and rail freight use compared to other available modes. Demand for rail freight deliveries associated with past, present, and future development, including development anticipated under the 2035 General Plan, may lead to an increase in traffic along this railroad line. The City does not have the authority to impose mitigation related to freight or passenger rail operations in the Planning Area and other areas affected by cumulative growth in demand.

Energy. Increased demand for electrical and natural gas supplies and infrastructure is a byproduct of all future land uses and development in Solano County and the region. Energy is consumed for heating, cooling, and electricity in homes and businesses; for public infrastructure and service operations; and for agriculture, industry, and commercial uses. Regional growth would involve new building construction, development projects and plans, transportation facilities, and other activities that would demand additional energy resources. Local jurisdictions and service providers are responsible for ensuring adequate provision of these utilities and would be responsible for upgrading their existing electrical and natural gas distribution systems or constructing new distribution systems to meet the demands of individual projects. Land use change throughout the region will require the construction of new energy infrastructure, the construction and operation of which could have significant cumulative impacts. Land use change accommodated under the 2035 General Plan would increase local energy demand and would require that additional energy resources be delivered to residents and business within the Planning Area. Electrical and natural gas supplies and size, location, and types of facilities required to serve individual development projects proposed pursuant to the General Plan is not known at this time.

Hydrology and Water Quality - Flood Protection. Historic evidence has shown that in the Delta and the Central Valley, as urban development continues, placement of structures within 100-year floodplains and within low-lying areas that are subject to flooding when levees fail has resulted in property damage and loss of life. Some of the cumulative plans in the region may result in the placement of structures in areas that are protected by

levees, or in areas designated as 100-year floodplains. The Planning Area is protected by levees that are subject to failure and subsequent inundation as a result of subsidence and overtopping. Most of the levees are privately owned and, historically, they were not constructed to an engineered standard nor were they maintained to the standard of an urban or agricultural levee. Levees that protect the southern portion of the Planning Area, adjacent to Suisun Marsh, are part of the SMP. The southwestern portion of the Planning Area is located within a 100-year floodplain as defined by FEMA.

Water Supply. Water supply is projected to be sufficient in normal water years through 2035. However, water supply in single-dry and multiple-dry water years is insufficient to meet demand within the SSWA service area over the 20-year planning period. Therefore, SSWA could have insufficient water supplies available to serve buildup of the 2035 General Plan from existing or permitted entitlements in single-dry and multiple-dry water years. According to SSWA, over the 20-year planning period, a joint powers agreement between SID and Suisun City ensures that water will be provided from the SID water supplies and therefore there will be sufficient water supplies to meet demands. Several recent studies have shown that existing water supply systems are sensitive to climate change. Potential impacts of climate change on water supply and availability could directly and indirectly affect a wide range of institutional, economic, and societal factors. Much uncertainty remains, however, with respect to the overall impact of global climate change on future water supplies. Implementation of the 2035 General Plan would contribute to the need for new water supply entitlements to provide potable water supplies to the City.

6 REFERENCES

1.0 INTRODUCTION

No references

2.0 PROJECT DESCRIPTION

No references

3.0 APPROACH TO THE ENVIRONMENTAL IMPACT ANALYSIS

No references

3.1 AGRICULTURAL RESOURCES

California Department of Conservation. 2010 (November). *California Conservation (Williamson) Act 2010 Status Report*. Available: http://www.conservation.ca.gov/dlrc/lca/stats_reports/Pages/Index.aspx. Accessed March 13, 2012.

———. 2011 (January). *California Farmland Conversion Report 2006-2008*. Available: http://www.consrv.ca.gov/dlrc/fmmp/pubs/2006-2008/Pages/FMMP_2006-2008_FCR.aspx. Last accessed March 13, 2012.

Solano County Department of Information Technology. “*Solano County Maps*.” Available online at: <http://www.co.solano.ca.us/depts/doit/gis/default.asp>. Accessed March 12, 2012.

3.2 AIR QUALITY

BAAQMD. See Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2010 (May). *Screening Tables for Air Toxics Evaluation During Construction*.

———. 2011. Solano County PM2.5 Concentrations and Cancer Risks Generated from Surface Streets. Available: <http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/County%20Surface%20Street%20Screening%20Tables%20Dec%202011.ashx?la=en>. Accessed June 26, 2014.

City of Benicia. 2014 (June). *Valero Benicia Crude by Rail Project Draft Environmental Impact Report*. Available: http://www.ci.benicia.ca.us/index.asp?Type=B_BASIC&SEC={FDE9A332-542E-44C1-BBD0-A94C288675FD}. Last accessed: July 1, 2014.

Fehr & Peers. 2014. *Suisun City General Plan Traffic Study*.

California Department of Conservation. 2000. *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed May 28, 2014.

Caltrans. 2012. *2012 Volumes on California State Highways*. Available: <http://traffic-counts.dot.ca.gov/2012TrafficVolumes.pdf>. Accessed June 26, 2014.

City of Fairfield. 2011. *Fairfield Train Station Specific Plan EIR*.

DOC. *See* California Department of Conservation.

EPA. *See* U.S. Environmental Protection Agency.

Sacramento Bee. 2014 (June). *California to Impose Fee on Crude Oil Shipments; Funds to be Used for Spill Prevention, Clean-Up*. Available: <http://www.sacbee.com/2014/06/16/6488137/california-to-impose-fee-on-crude.html>. Accessed June 30, 2014.

U.S. Environmental Protection Agency. 1993. Carcinogenicity Assessment for Lifetime Exposure. Substance Name — Asbestos. CASRN — 1332-21-4. Last Revised — 07/01/1993.

3.3 BIOLOGICAL RESOURCES

Jennings, M.R. and M.P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. Prepared for the California Department of Fish and Game, Inland Fisheries Division. Rancho Cordova, CA.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, (ed). 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley.

Baye, P. 2000. Electronic mail to Ellen Cypher, Endangered Species Recovery Program, Bakersfield, California. 2 pages.

Belk, D., and M. Fugate. 2000. *Two new Branchinecta (Crustacea: Anostraca) from the Southwestern United States*. The Southwestern Naturalist 45:111-117.

CAL FIRE. *See* California Department of Forestry and Fire Protection.

California Department of Fish and Game. 1995. *Stanislaus River Report: White-tailed Kite Species Account*. Available: <http://www.dfg.ca.gov/delta/reports/stanriver/sr4311.asp>

———. 2009. Longfin Smelt Fact Sheet. Available http://www.dfg.ca.gov/delta/data/longfinsmelt/documents/LongfinsmeltFactSheet_July09.pdf

California Department of Forestry and Fire Protection. 2002. *Multisource Land Cover data for the state of California*. Fire and Resource Assessment Program. Available: <http://frap.cdf.ca.gov/data/frapgisdata/select.asp>. Accessed September 13, 2010.

California Native Plant Society. 20082014. *Electronic Inventory of Rare and Endangered Vascular Plants of California* (online edition, V8-02. Last updated March 21, 2010. California Native Plant Society Rare Plant Program, Sacramento, Ca. Available: <http://www.rareplants.cnps.org> <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Accessed July June 20104.

- _____. 2010. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. Last updated March 21, 2010. Available: <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Accessed July 2010.
- California Natural Diversity Database. 2014 (June). *RareFind 5 (Commercial Version): An Internet Application for the Use of the California Department of Fish and Game's Natural Diversity Database*. Biogeographic Data Branch, California Department of Fish and Game, Sacramento, CA. Accessed June 2, 2014.
- _____. 2010. (July). *Results of electronic record search*. California Department of Fish and Game, Biogeographic Data Branch. Sacramento, CA.
- California State Coastal Conservancy. 2003. *Draft Programmatic Environmental Impact Statement/Environmental Impact Report, San Francisco Estuary Invasive Spartina Project, Spartina Control Program*. <http://www.spartina.org>.
- CDFG. *See* California Department of Fish and Game.
- City of Fairfield. 2010 (September). *Biological Resources Chapter of the Draft Fairfield Train Station Specific Plan EIR*. Prepared by AECOM, Sacramento, CA.
- City of Suisun City. 2008. *Walters Road West Project DEIR and FEIR*.
- _____. 2007a. *Revised Biological Resources Analysis Report for the Walters Road Property*. Solano County, California.
- _____. 2007b. Gentry – Suisun SCH #2004092077 *Second Partially Recirculated Draft Environmental Impact Report*.
- _____. 2005. *Railroad Avenue Widening and Realignment Project*. FEIR. Prepared for the City of Suisun
- _____. 2004. *Biological Assessment, Railroad Avenue Project*.
- CNDBB. *See* California Natural Diversity Database.
- CNPS. *See* California Native Plant Society.
- DeHaven, R.W., F.T. Crase, and P.P. Woronecki. 1975. *Breeding status of the tricolored blackbird, 1969-1972*. California Department of Fish and Game 61:166-180.
- Dunk, J. R. 1995. White-tailed kite (*Elanus leucurus*). In *The Birds of North America*, No. 178 (A. Poole and F. Gill, eds.). *The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union*, Washington, DC.
- Fiedler, P. and R. Zebell. 1993. *Restoration and recovery of Mason's lilaeopsis: Phase I*. Final Report, submitted to the California Department of Fish and Game. 47 pp. plus appendices.
- Gallaway Consulting. 2009. Wetlands Assessment for the Suisun City Mixed Use Project.

- Gallagher, S. P. 1996. Seasonal occurrence and habitat characteristics of some vernal pool branchiopoda in northern California, U.S.A. *Journal of Crustacean Biology* 16:323-329.
- Goals Project. 1999. Baylands Ecosystem Habitat Goals. *A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project*. U.S. Environmental Protection Agency, San Francisco, California/S.F. Bay Regional Water Quality Control Board, Oakland, CA.
- Granholm, S.L. 1990. California's wildlife, birds, tricolored blackbird. *California Statewide Wildlife Habitat Relationships System, California Interagency Wildlife Task Group, Department of Fish and Game, Sacramento, California*. Available: <http://www.dfg.ca.gov/whdab/B520.html>.
- Greene, E. L. 1894. *Manual of the botany of the region of San Francisco Bay*. San Francisco: Cubery and Co. Grewell, B. unpubl. Data.
- Helm, B. P. 1998. *Biogeography of eight large branchiopods endemic to California*. Pages 124-139 in: C. W. Witham, E. T. Bauder, D. Belk, W. R. Ferren Jr. and R. Ornduff, editors. *Ecology, conservation, and management of vernal pool ecosystems--Proceedings from a 1996 Conference*. California Native Plant Society, Sacramento, California.
- Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and reptile species of special concern in California*. Rancho Cordova, CA: California Department of Fish and Game.
- Keeler-Wolf, T., D. R. Elam, K. Lewis, and S. A. Flint. 1998. *California vernal pool assessment preliminary report*. California Department of Fish and Game, Sacramento, California. 159 pages.
- Loughman, D. L., and McLandress, M. R. 1994. *Reproductive success and nesting habitats of Northern Harriers in California*. California Waterfowl Assoc., 4630 Northgate Blvd., Ste. 150, Sacramento, CA 95834.
- Engman et al. 1990, Helm 1998
- LSA. 2006. Johnson Trust and Peterson Trust Biological Constraints Analysis.
- Solano County Water Agency. 2012. Public Draft Solano Multispecies Habitat Conservation Plan.
- Shuford, W. D. and T. Gardali (Editors). 2008. *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California*. Studies of Western Birds No. 1. Western Field Ornithologists, Camarillo, CA and California Department of Fish and Game, Sacramento, CA.
- United States Fish and Wildlife Service. 1997. *Endangered and Threatened Wildlife and Plants: Determination of Endangered Status for Nine Plants from the Grasslands or Mesic Areas of the Central Coast of California*. Portland, OR.
- _____. 2006. *Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus) 5 Year Review: Summary and Evaluation*. Sacramento, CA.
- _____. 2009. *Delta Green Ground Beetle (Elaphrus viridis) 5-Year Review: Summary and Evaluation*. Sacramento Fish and Wildlife Field Office. Sacramento, CA.

3.4 CULTURAL RESOURCES

No references

3.5 GREENHOUSE GAS EMISSIONS

Ahrens, D. C. 2003. *Meteorology Today; an Introduction to Weather, Climate, & the Environment*. Brooks Cole, Inc. Pacific Grove, CA.

Anderson, J. et. al, 2008. *Progress on Incorporating Climate Change into Management of California's Water Resources*. Springer, Netherlands, Volume 89, Supplement 1, March 2008, pg 91-108. DOI: 10.1007/s10584-007-9353-1.

ARB. See California Air Resources Board.

BAAQMD. See Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2010 (June). *California Environmental Quality Act Air Quality Guidelines*.

California Air Resources Board. 1994 (June). *California Surface Wind Climatology*. Sacramento, CA.

———. 2008 (December). *Climate Change Scoping Plan*. Sacramento, CA. Available: <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>. Last updated December 2008. Accessed August 2010.

———. 2009f. *Greenhouse Gas Emissions Inventory Summary for Years 2000-2006*. Available: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2009-03-13.pdf. Accessed August 2010.

———. 2009g. *Greenhouse Gas Emissions Business as Usual Projections 2020*. Available: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Accessed August 2010.

———. 2014a (February 10). *Proposed First Update to the Climate Change Scoping Plan: Building on the Framework*.

———. 2014b. *California Greenhouse Gas Inventory for 2000-2012*. Available: http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-12_2014-03-24.pdf. Accessed June 19, 2014.

California Climate Action Registry. 2009 (January). *California Climate Action Registry General Reporting Protocol, Version 3.1*. Los Angeles, CA. Available: http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf. Last updated January 2009. Accessed August 2010.

California Board of Forestry and Fire Protection. *The Strategic Fire Plan*. January 27, 2010. Page 5. Available at http://www.bof.fire.ca.gov/board_committees/resource_protection_committee/current_projects/resources/2010_fire_plan_1-27-10version.pdf. Accessed August 12, 2010.

- California Department of Finance. 2009. *Residential Development Data: E5 – City and County Population Estimates*. 2000-2050 - Race and Ethnic Populations Totals. Available:
<http://www.labormarketinfo.edd.ca.gov/?pageid=145>. Accessed August 2010.
- California Department of Water Resources. 2005. *California Water Plan, Update 2005 (Draft)*. Final Draft. Sacramento, CA.
- . 2006a. (July). *Progress on Incorporating Climate Change into Management of California's Water Resources*. Technical Memorandum Report. Available:
<http://baydeltaoffice.water.ca.gov/climatechange/reports.cfm>.
- . 2006b. *California's Groundwater Bulletin 118, Sacramento River Hydrologic Region Sacramento Valley Groundwater Basin*. Sacramento Valley Groundwater Basin, Yuba Subbasin. Last update 1/20/06. Available: http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/5-21.62.pdf.
- . 2007. *Draft State Water Project Delivery Reliability Report*. Available:
<http://baydeltaoffice.water.ca.gov/swpreliability>. Accessed August 2010.
- California Economic Development Department. 2009. *Commercial/Industrial Employment Data: Projections of Employment by Industry and Occupation*. Available:
<http://www.labormarketinfo.edd.ca.gov/?pageid=145>. Accessed August 2010.
- California Energy Commission. 2006a. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*. Staff Final Report. Publication CEC-600-2006-013-SF. Available:
http://www.climatechange.ca.gov/policies/greenhouse_gas_inventory/index.html and
http://www.energy.ca.gov/global_climate_change/inventory/documents/index.html.
- . 2006b. (July). *Our Changing Climate: Assessing the Risks to California*. Publication CEC-500-2006-077. Available: http://www.climatechange.ca.gov/biennial_reports/2006report/index.html.
- . 2014. Cal-Adapt Website. Available: <http://cal-adapt.org/temperature/heat/>. Accessed: July 1, 2014.
- California Natural Resources Agency. 2008 (March). *Delta Vision Blue Ribbon Task Force Letter to Governor Schwarzenegger on Sea Level Rise*. Available: http://deltavision.ca.gov/BlueRibbonTaskForce/April2008/Item2_Attachment1.pdf. Accessed August 2010.
- . 2009. *2009 California Climate Adaptation Strategy Discussion Draft*. A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Public Review Draft. Available:
<http://www.climatechange.ca.gov/adaptation>. Accessed August 2010.
- Cayan, D., A. L. Luers, M. Hanemann, G. Granco, and B. Croes. 2006. *Scenarios of Climate Change in California: An Overview*. California Climate Change Center, State of California. White Paper, CEC-500-2005-203-SF, March.
- Cayan, Dan, Mary Tyree, Mike Dettinger, Hugo Hidalgo, Tapash Das, Ed Maurer, Peter Bromirski, Nicholas Graham, and Reinhard Flick (2009). *Climate Change Scenarios and Sea Level Rise Estimates for the California 2008 Climate Change Scenarios Assessment*. PIER Research Report, CEC-500-2009-014.

CBFFP. *See* California Board of Forestry and Fire Protection.

CCAR. *See* California Climate Action Registry.

CEC. *See* California Energy Commission.

Dettinger, M. 2005. *From Climate-Change Spaghetti to Climate-Change Distributions for 21st Century California*. San Francisco Estuary and Watershed Science. Vol. 3, Issue 1 (March 2005), Article 4.

DOF. *See* California Department of Finance.

DWR. *See* California Department of Water Resources.

EDD. *See* California Economic Development Department.

EPA. *See* U.S. Environmental Protection Agency.

Ewing, Reid, et al. 2001. *Travel and the Built Environment: A Synthesis*. Transportation Research Record 1780. Paper No. 01-3515.

Fehr and Peers. 2014. *Suisun City 2035 General Plan Update EIR Traffic Study*.

Feather River Air Quality Management District. 2010. *Indirect Source Review Guidelines*. Available: <http://www.fraqmd.org/PlanningTools.htm>. Accessed August 5, 2010.

Governor's Office of Planning and Research (OPR). 2008 (June). *Technical Advisory: CEQA and Climate Change*. Available at: <http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf>.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Geneva, Switzerland. Available: <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>.

IPCC. *See* Intergovernmental Panel on Climate Change.

Kim, J., T. K. Kim, R. W. Arritt, and N. L. Miller. 2002. *Impacts of Increased Atmospheric CO₂ on the Hydroclimate of the Western United States*. Journal of Climate 15:1926–1943.

Kiparsky, M., and P. H. Gleick. 2005. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Prepared for California Energy Commission, Public Interest Energy Research Program. Prepared by Pacific Institute for Studies in Development, Environment and Security, Oakland, CA.

Knowles, N., and D. R. Cayan. 2002. *Potential Effects of Global Warming on the Sacramento/San Joaquin Watershed and the San Francisco Estuary*. Geophysical Research Letters 29(18):1891.

Office of the White House. 2009. *Memorandum for the Administrator of the Environmental Protection Agency*. Available: http://www.whitehouse.gov/the_press_office/Presidential_Memorandum_EPA_Waiver. Accessed August 2010.

OPR. See Governor's Office of Planning and Research.

Seinfeld, J. H., and S. N. Pandis. 1998. *Atmospheric Chemistry and Physics*. John Wiley & Sons, Inc. New York, NY.

Snyder, M. A., J. L. Bell, L. C. Sloan, P. B. Duffy, and B. Govindasamy. 2002. *Climate Responses to a doubling of Atmospheric Carbon Dioxide for a Climatically Vulnerable Region*. Geophysical Research Letters 29(11):10.1029/2001GL014431.

United Nations Framework Convention on Climate Change (UNFCCC). 2008. *Article 1 of the UNFCCC*. Available: http://unfccc.int/essential_background/convention/background/items/2536.php. Accessed August 2010.

UNFCCC. See United Nations Framework Convention on Climate Change.

U.S. Environmental Protection Agency. 2009a. February. *Potential for Reducing Greenhouse Gas Emissions in the Construction Sector*. Available: <http://www.epa.gov/sectors/pdf/construction-sector-report.pdf>. Accessed August 26, 2010.

———. 2009b. *SmartWay*. Available: <http://www.epa.gov/smartway/>. Last updated: September 1, 2009. Accessed September 12, 2009.

USDA Forest Service. 2007. Smith, James E.; Heath, Linda S.; Nichols, Michael C. *US forest carbon calculation tool: forest-land carbon stocks and net annual stock change*. Available online at: <http://nrs.fs.fed.us/pubs/2394>

U.S. Census. American Factfinder. Available: <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed July 1, 2014.

3.6 ENERGY

California Building Standards Commission. 2013. *California Green Building Standards Code*. California Code of Regulations, Title 24, Part 11. Available: http://www.ecodes.biz/ecodes_support/Free_Resources/2013California/13Green/13Green_main.html. Accessed July 5, 2012.

California Energy Commission (CEC). 2013 (July). Impact Analysis. *2013 California's 2013 Building Energy Efficiency Standards*. Available: <http://www.energy.ca.gov/2013publications/CEC-400-2013-008/CEC-400-2013-008.pdf>. Accessed June 27, 2013.

Lawrence Berkeley National Laboratory. 2005 (June). Development of Energy Balances for the State of California.

U. S. Energy Information Administration. 2012. *Energy Profiles*. Available: <http://tonto.eia.doe.gov/state/>. Accessed July 5, 2012.

3.7 GEOLOGY, SOILS, MINERALS, AND PALEONTOLOGICAL RESOURCES

Association of Bay Area Governments. 2011. *The Real Dirt on Liquefaction*. Appendix B, 2011 Supplement. Interactive Maps. Available: <http://quake.abag.ca.gov/liquefaction/>. Accessed March 2, 2012.

California Geological Survey. 2010. Alquist-Priolo Earthquake Fault Zone Maps. Available: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm. Accessed March 2, 2012.

Cities of Fairfield and Suisun City. 2006. *Fairfield-Suisun Urban Runoff Management Program*. Available: http://www.fema.gov/plan/prevent/floodplain/fm_sg.shtm. Accessed February 29, 2012.

Helley, E.J., K.R. LaJoie, W.E. Spangle, and M.L. Blair. 1979. *Flatland deposits of the San Francisco Bay Region, California—their geology and engineering properties, and their importance to comprehensive planning*. USGS Professional Paper 943. Washington, DC.

Myer, L., L. Chiaramante, T.M. Daley, D. Wilson, W. Foxall, and J.H. Beyer. 2010. *Potential For Induced Seismicity Related To The Northern California Co2 Reduction Project Pilot Test, Solano County, California*. Lawrence Berkeley National Laboratory, Berkeley, CA.

Natural Resources Conservation Service. 2012. *Web Soil Survey*. Available: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. Accessed March 2, 2012.

NRCS. See Natural Resources Conservation Service.

Savage, D.E. 1951. *Late Cenozoic vertebrates of the San Francisco Bay region*. University of California Publications, Bulletin of the Department of Geological Sciences, vol. 28, no. 10:215-314.

Society of Vertebrate Paleontology. 1995. *Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources – standard guidelines: Society of Vertebrate Paleontology News Bulletin*, vol. 163, p. 22–27.

—. 1996. *Conditions of receivership for paleontologic salvage collections [final draft]*. Society of Vertebrate Paleontology News Bulletin, vol. 166, pp. 31-32.

Stirton, R.A. 1939. *Cenozoic Mammal Remains from the San Francisco Bay Region*. University of California Department of Geological Sciences Bulletin, Vol. 24, No. 13.

University of California. 2012. *Museum of Paleontology Database*. Accessed March 1, 2012.

3.8 HAZARDS AND HAZARDOUS MATERIALS

City of Benicia. 2014 (June). *Valero Benicia Crude by Rail Project Draft Environmental Impact Report*. Available: http://www.ci.benicia.ca.us/index.asp?Type=B_BASIC&SEC={FDE9A332-542E-44C1-BBD0-A94C288675FD}. Accessed July 1, 2014.

City of Suisun City. 2010. *Hazards and Hazardous Materials Background Report*. City of Suisun City, CA.

Sacramento Bee. 2014 (June). *California to Impose Fee on Crude Oil Shipments; Funds to be Used for Spill Prevention, Clean-Up*. Available: <http://www.sacbee.com/2014/06/16/6488137/california-to-impose-fee-on-crude.html>. Accessed June 30, 2014.

Solano County. 2007. *Solano County Emergency Operations Plan*. Available: <http://www.co.solano.ca.us/depts/oes/eoc/manager.asp>. Accessed March 9, 2012.

Travis Air Force Base. 2009 (December). *Air Installation Compatible Use Zone Study*. Travis Air Force Base, CA.

United States Air Force. 2011 (January). *Air Force Manual 91-201. Explosive Safety Standards*. Available: <http://www.e-publishing.af.mil/shared/media/epubs/AFMAN91-201.pdf>. Accessed March 20, 2012.

United States Department of Defense. 2003 (January). *Unified Facilities Criteria 3-460-03. Operation and Maintenance of Petroleum Systems*. Available: http://www.wbdg.orgccb/DOD/UFC/ufc_3_460_03.pdf. Accessed March 20, 2012.

3.9 HYDROLOGY AND WATER QUALITY

Association of Bay Area Governments. 1995. *Dam Failure Inundation Areas*. Available: <http://www.abag.ca.gov/cgi-bin/pickdamx.pl>. Accessed February 7, 2012.

California Department of Water Resources. 2010. *Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities*. Sacramento, CA.

Cities of Fairfield and Suisun City. 2006. *Fairfield-Suisun Urban Runoff Management Program*. Available: http://www.fema.gov/plan/prevent/floodplain/fm_sg.shtm. Accessed February 2, 2012.

DWR. *See* California Department of Water Resources.

Federal Emergency Management Agency. 2010. *Floodplain Management Requirements*. Available: http://www.fema.gov/plan/prevent/floodplain/fm_sg.shtm. Accessed February 7, 2012.

FEMA. *See* Federal Emergency Management Agency.

Maddeus Water Mangement. 2011. *Suisun Solano Water Authority Urban Water Management Plan*. Available: http://www.suisun.com/News/2011/20110725_UWMP-Available.html. Accessed February 7, 2012.

Natural Resources Conservation Service. 2012. *Web Soil Survey*. Available: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. Accessed February 8, 2012.

San Francisco Bay Regional Water Quality Control Board. 2003. *Waste Discharge Requirements For: Fairfield-Suisun Sewer District, Fairfield, Solano County*. Order No. R2-2003-0072 NPDESPermit No. Ca0038024. Available: <http://www.epa.gov/npdscan/CA0038024FP.pdf>. Accessed February 1, 2012.

———. 2004. *Storm Water Management Plan for the National Pollutant Discharge Elimination System (NPDES) Phase II: A Guideline for Implementation of Solano County's NPDES Phase II Storm Water Management*

- Plan.* Available: http://www.waterboards.ca.gov/water_issues/programs/stormwater/solano_swmp.shtml. Accessed February 8, 2012.
- . 2009. *Municipal Regional Stormwater NPDES Permit*. Order R2-2009-0074. NPDES Permit No. CAS612008. Available: http://www.swrcb.ca.gov/rwqcb2/board_decisions/adopted_orders/2009/R2-2009-0074.pdf. Accessed February 2, 2012.

USBR, USFWS, and DFG. *See* U.S. Department of the Interior Bureau of Reclamation, U.S. Fish and Wildlife Service, and California Department of Fish and Game.

U.S. Department of the Interior Bureau of Reclamation, U.S. Fish and Wildlife Service, and California Department of Fish and Game. 2010. *Draft Environmental Impact Statement/Environmental Impact Report for the Suisun Marsh Habitat Management, Preservation, and Restoration Plan*. Volume I: Executive Summary and Section 5.4, “Flood Control and Levee Stability.”

U.S. Fish and Wildlife Service. 1981. Section 7 Determination, Suisun Marsh Management Study, Solano County, California.

USFWS. *See* U.S. Fish and Wildlife Service.

3.10 LAND USE AND PLANNING

No references

3.11 NOISE AND VIBRATION

Egan, M. David. 1988. *Architectural Acoustics*. McGraw-Hill, Inc.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

EPA. *See* U.S. Environmental Protection Agency.

U.S. Environmental Protection Agency. 1971 (December 31st). Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.

3.12 POPULATION AND HOUSING

Association of Bay Area Governments and Metropolitan Transportation Commission. 2013 (July). *Bay Area Plan. Final Forecast of Jobs, Population, and Housing*. Available: http://onebayarea.org/pdf/final_supplemental_reports/FINAL_PBA_Forecast_of_Jobs_Population_and_Housing.pdf. Accessed June 26, 2014.

Atlanta Regional Commission. 2002 (October). Community Choices Quality Growth Tool Kit. *Jobs-Housing Balance*. http://www.atlantaregional.com/documents/JOBSSHOUSING_BALANCE_TOOL.pdf. Accessed February 12, 2012.

City of Suisun City. 2009. *Housing Element*. Adopted July 7, 2009.

U.S. Census Bureau. 2010. *American Community Survey*. Available: <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?fpt=table>. Accessed July 5, 2012.

3.13 UTILITIES AND SERVICE SYSTEMS, PUBLIC SERVICES, AND RECREATION

California Department of Resources Recycling and Recovery). 2013. *Solid Waste Information System. Facility/Site Summary Details: Potrero Hills Landfill*. (48-AA-0075). Available: <http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/>. Accessed November 13, 2013.
———. 2012. *Jurisdictional Diversion/Disposal Rate Report*. Suisun City. Available: <http://www.calrecycle.ca.gov/LGCentral/Reports/DiversionProgram/JurisdictionDiversionDetail.aspx?JurisdictionID=518&Year=2012>. Accessed June 13, 2014.

CalRecycle. See California Department of Resources Recycling and Recovery.

City of Fairfield. 2012 (October). *2012 Municipal Service Review Update*. Available: <http://www.solanolafco.com/Studies/MSR/Cities/Fairfield%20MSR%20Update%202012%20Final.pdf>. Accessed November 14, 2013.

City of Suisun. 2014. *Sewer System Management Plan*.

Fairfield-Suisun Unified School District. 2011 (February). *2011 Facility Master Plan*. Available: <http://www.fsusd.org/cms/lib03/CA01001943/Centricity/Domain/833/Fairfield-Suisun%20USD%20Fac%20Master%20Plan%202011%20-1-.pdf>. Accessed November 18, 2013.

Fairfield-Suisun Sewer District. 2013. *Suisun-Fairfield Sewer District Sewer System Management Plan*. Available: <http://www.fssd.com/files/stormwater/FSSD%20SSMP%20Binder%20January%202014.pdf>. Accessed March 10, 2014.

Holmes International. 2008 (September). *Suisun-Fairfield Sewer District Sewer System Master Plan*. Sacramento, CA.

San Francisco Bay Regional Water Quality Control Board. 2013. Order No. R2-2013-0007. Amendment to Waste Discharge Requirements for the Fairfield-Suisun Sewer District Fairfield-Suisun Wastewater Treatment Plan and Rescission of Cease and Desist Order. Available: http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2013/R2-2013-0007.pdf. Accessed June 13, 2014.

Suisun-Solano Water Authority. 2011 (June 14). *Urban Water Management Plan*. Available: <http://www.sidwater.org/DocumentCenter/Home/View/131>. Accessed April 21, 2014.

3.14 TRAFFIC AND TRANSPORTATION

City of Fairfield. 2012. *Fairfield Travel Demand Model*. Updated by Fehr & Peers.

California Department of Transportation. 2012 (November). *SR 12 Caltrans Corridor Management Plan*.

———. 2001 (October). *Highway 12 Major Investment Study*.

Caltrans. See California Department of Transportation.

Fairfield and Suisun Transit. Available: www.fasttransit.org.

Solano Transportation. 2000 (May). Jepson Parkway Concept Plan and EIR.

_____. 2011. I-80/I-680/I-780 Interchange Project Report.

_____. 2012. Solano Countywide Bicycle Transportation Plan.

_____. 2013. Solano County Congestion Management Program.

STA. *See* Solano Transportation.

3.15 VISUAL RESOURCES

No references

4.0 ALTERNATIVES

Lawrence Berkeley National Laboratory. 2005 (June). Development of Energy Balances for the State of California.

U.S. Energy Information Administration. 2012 (July). *California State Profile and Energy Estimates*. Available: <http://www.eia.gov/state/?sid=CA#tabs-2>. Accessed May 27, 2014.

5.0 OTHER CEQA CONSIDERATIONS

ARB. *See* California Air Resources Board.

BAAQMD. *See* Bay Area Air Quality Management District.

Bay Area Air Quality Management District. 2011 (April 29). *Highway Screening Analysis Tool*. Available: <http://www.baaqmd.gov/Home/Divisions/Planning%20and%20Research/CEQA%20GUIDELINES/Tools%20and%20Methodology.aspx>. Last accessed June 23rd, 2014.

California Air Resources Board. 2010. *The California Almanac of Emissions and Air Quality*. Available: <http://www.arb.ca.gov/aqd/almanac/almanac09/almanac2009all.pdf>. Accessed June 23, 2014.

California Department of Resources Recycling and Recovery. 2013. *Solid Waste Information System. Facility/Site Summary Details: Potrero Hills Landfill*. (48-AA-0075). Available: <http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/>. Accessed November 13, 2013.

_____. 2012. *Jurisdictional Diversion/Disposal Rate Report*. Suisun City. Available: <http://www.calrecycle.ca.gov/LGCentral/Reports/DiversionProgram/JurisdictionDiversionDetail.aspx?JurisdictionID=518&Year=2012>. Accessed: June 13, 2014.

CalRecycle. *See* California Department of Resources Recycling and Recovery.

- City of Fairfield. 2012 (October). *2012 Municipal Service Review Update*. Available:
<http://www.solanolafco.com/Studies/MSR/Cities/Fairfield%20MSR%20Update%202012%20Final.pdf>. Accessed November 14, 2013.
- Egan, M. David. 1988. *Architectural Acoustics*. McGraw-Hill, Inc.
- Fairfield-Suisun Unified School District. 2011 (February). *2011 Facility Master Plan*. Available:
<http://www.fsusd.org/cms/lib03/CA01001943/Centricity/Domain/833/Fairfield-Suisun%20USD%20Fac%20Master%20Plan%202011%20-1-.pdf>. Accessed November 18, 2013.
- Fairfield-Suisun Sewer District. 2013a. *Suisun-Fairfield Sewer District Sewer System Management Plan*. Available: <http://www.fssd.com/files/stormwater/FSSD%20SSMP%20Binder%20January%202014.pdf>. Accessed March 10, 2014.
- Holmes International. 2008 (September). *Suisun-Fairfield Sewer District Sewer System Master Plan*. Sacramento, CA.
- Kiparsky, M., and P. H. Gleick. 2005. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Prepared for California Energy Commission, Public Interest Energy Research Program. Prepared by Pacific Institute for Studies in Development, Environment and Security, Oakland, CA.
- San Francisco Bay Regional Water Quality Control Board. 2013. Order No. R2-2013-0007. Amendment to Waste Discharge Requirements for the Fairfield-Suisun Sewer District Fairfield-Suisun Wastewater Treatment Plan and Rescission of Cease and Desist Order. Available: http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2013/R2-2013-0007.pdf. Accessed June 13, 2014.
- Solano County. 2008a (April). *Solano County 2008 Draft General Plan Environmental Impact Report*. Available: http://www.solanocounty.com/depts/rm/planning/general_plan.asp. Accessed October 23, 2013.
- Suisun-Solano Water Authority. 2011 (June 14). *Urban Water Management Plan*. Available: <http://www.sidwater.org/DocumentCenter/Home/View/131>. Accessed April 21, 2014.

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