

SECTION 4: CUMULATIVE EFFECTS

4.1 - Introduction

CEQA Guidelines Section 15130 requires the consideration of cumulative impacts within an EIR when a project’s incremental effects are cumulatively considerable. Cumulatively considerable means that “. . . the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” In identifying projects that may contribute to cumulative impacts, the CEQA Guidelines allow the use of a list of past, present, and reasonably anticipated future projects, producing related or cumulative impacts, including those which are outside of the control of the lead agency.

In accordance with CEQA Guidelines Section 15130(b), “. . . the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone.” The discussion should be guided by standards of practicality and reasonableness, and it should focus on the cumulative impact to which the identified other projects contribute rather than on the attributes of other projects that do not contribute to the cumulative impact.

The proposed project’s cumulative impacts were considered in conjunction with other proposed and approved projects the vicinity of the project. Table 4-1 provides a list of the other projects considered in the cumulative analysis.

Table 4-1: Cumulative Projects

Jurisdiction	Project	Characteristics	Location	Status
Vallejo	Northgate parcels 4 & 5	140 Multi-Family DU Residential Condominiums/ Townhouses	1103 Sonata Drive, Vallejo, CA	Constructed (140 of 144 units unoccupied)
Vallejo	Lowe’s	7,500-square-foot Shopping Center, and 120,940-square-foot Home Improvement Superstore	SE corner of Columbus Parkway and Ascot Parkway	Constructed
Vallejo	WinCo Foods	71,393-square-foot grocery store	2850 Redwood Parkway	Under Review

Source: Vallejo, December 23, 2011.

4.2 - Cumulative Impact Analysis

4.2.1 - Aesthetics, Light, and Glare

The geographic scope of the cumulative aesthetics, light, and glare analysis is the immediate area surrounding the project site. This is the area within view of the project and, therefore, most likely to experience changes in visual character or experience light and glare impacts.

Of the three projects listed in Table 4-1, there is one proposed project in the project vicinity (i.e., WinCo Foods) that has the potential to alter the visual character of the area. This project would be subject to design and landscaping requirements to ensure that it does not degrade visual character.

The entertainment portion of the Solano360 project would develop up to 327,571 square feet of retail, commercial, entertainment, and office space (as a replacement for other EMU uses), while the fairgrounds portion of the site would include up to 154,500 square feet of new building space at the time of full buildout, including a new exposition hall and new concert arena/grandstand cover, on the 149.11-acre site. The design and appearance of the project would be consistent with the design guidelines included within the Draft Solano360 Specific Plan. The height of the buildings would vary but is not anticipated to exceed 75 feet above grade. Trees would be planted along the project's Interstate 80, State Route 29, and Fairgrounds Drive frontages, thereby reducing the view of buildings and entertainment features from the roadways. All landscaping would conform to the Specific Plan design guideline requirements. The project site is located within an area that contains existing developed commercial, entertainment, and residential land uses and undeveloped land contemplated for future commercial uses. As such, the proposed project would not degrade the visual character of the project site or its surroundings. Therefore, the proposed project, in conjunction with other planned or approved projects, would not have cumulatively significant aesthetic impacts.

The proposed development projects in the vicinity have the potential to introduce new sources of light and glare. It is reasonable to assume that other projects would be required to reduce spillover light pursuant to City standards. Future development within the Entertainment Mixed-Use and Entertainment Commercial district would be required to submit a photometric plan to the City that identifies lighting fixtures and practices to prevent excessive spillage of light and glare onto neighboring properties consistent with the Draft Specific Plan (Plan) design guidelines. Future project applicants would then be required to implement the final photometric plan as approved by the City. Therefore, the project, and other planned or approved projects would not have the potential to have a cumulatively significant contribution to light and glare.

4.2.2 - Air Quality

The geographic scope of the cumulative air quality analysis is the San Francisco Bay Area Air Basin. Air pollution is regarded as a regional issue; therefore, this area would be the area most likely to be impacted by project emissions.

All of the projects listed in Table 4-1 would result in new air emissions. The proposed project would have significant impacts related to air quality attainment plan consistency and net increase of non-attainment pollutants. Combined, the project and other projects within the San Francisco Bay Area Air Basin would have a significant cumulative impact. Although the project would incorporate mitigation measures, this is not enough to reduce the projects operational volatile organic compounds and nitrogen oxide emissions to below the Bay Area Air Quality Management District's thresholds of significance. Therefore, the project could contribute cumulatively to ozone concentrations and contribute cumulatively to health effects from ozone in the Basin. All other project-related air quality impacts were found to be less than significant. In summary, the proposed project would contribute a cumulatively significant level of emissions with respect to those impacts when considered with other projects in the area.

4.2.3 - Biological Resources

Because of the current and historic land uses and management regimes, the site has a low biotic value, and no special-status plant or animal species are expected to occur on or in the immediate vicinity of the project site. The proposed project will not interfere with local wildlife movement or movement corridors, and there are currently no local, regional or state habitat conservation or natural community plans the project would conflict with. The City of Vallejo's Tree Ordinance (Municipal Code Chapter 10.12) does not contain measures to protect or preserve ornamental trees on private property. Mitigation Measures BIO-1b and BIO-1c are designed to reduce potential impacts to tree-nesting birds to a less than significant level.

Best management practices to be used during creek work are designed to reduce impacts on aquatic species and habitats to a less than significant level. Furthermore, the work proposed for the creek system is anticipated to increase the biotic value of the reaches of the creeks associated with the project.

The proposed project, when analyzed with other known or foreseeable projects, would not have a cumulative impact on biotic resources within the City of Vallejo or region.

4.2.4 - Cultural Resources

Mitigation Measures MM-CUL-1a through MM-CUL-2b would ensure protection or recovery and subsequent protection, of any significant cultural resources determined to be present in the project area that could be damaged by project-related activities. These actions would ensure that the value of historical resources within the project area would be preserved and that project activities would not contribute to significant impacts on cultural resources that may have accrued before the enforcement of protections afforded by current laws such as CEQA. In addition, if any previously undiscovered cultural resources, paleontological resources, or if human remains are found within the project area during proposed project implementation phases, mitigation described in MM-CUL-3a, 3b, and 4a would be initiated that would prevent any significant cumulative impacts on previously undiscovered paleontological or human remains from occurring.

Other restoration and recreation facilities development projects in the area would be required to protect archaeological/cultural/paleontological resources or human remains pursuant to CEQA; therefore, the proposed project, in conjunction with other projects, would not have cumulatively significant impacts related to cultural resources.

4.2.5 - Geology, Soils, and Seismicity

The geographic scope of the cumulative geology, soils, and seismicity analysis is the project vicinity. Geologic, soil, and seismic impacts tend to be localized; therefore, the area near the project site would be most affected by project activities (generally within a 500-foot radius).

Development projects in the project vicinity may result in substantial soil erosion or the loss of topsoil. Similarly, the proposed project could also result in substantial soil erosion or the loss of topsoil during project construction. Mitigation is proposed requiring implementation of a stormwater pollution prevention plan (SWPPP) and associated best management practices (BMPs) to avoid such impacts. In addition, project construction activities would implement standard stormwater pollution prevention mitigation measures to ensure that earthwork activities do not result in substantial erosion offsite and, therefore, would not contribute to area-wide erosion problems. It is reasonable to assume that other development projects would implement mitigation measures for erosion that would reduce project-level impacts to a less than significant level. Therefore, the proposed project, in conjunction with other projects, would not have cumulatively significant soil erosion or topsoil loss impacts.

Development projects in the project vicinity may be located on unstable soils. The proposed site may contain unstable geologic conditions including non-engineered fills. Mitigation is proposed requiring the preparation of a design-level geotechnical report and implementation of design recommendations that pertain to soil engineering, structural foundations, pipeline excavation, and installation to reduce impacts to less than significant. It is reasonable to assume that other development projects would implement mitigation measures for unstable soils that would reduce project-level impacts to a less than significant level. Therefore, the proposed project, in conjunction with other projects, would not have cumulatively significant impacts related to unstable soils.

4.2.6 - Greenhouse Gas Emissions

Greenhouse gas impacts are regarded as a regional, state, and global issue; however, a global-scale analysis is infeasible. All of the projects listed in Table 4-1 and the proposed project would result in greenhouse gas emissions. The City of Vallejo and the County of Solano projected cumulative greenhouse gas emissions in their climate action plans. Each climate action plan contains strategies to reduce greenhouse gas emissions to below an identified target. The targets in the climate action plans are consistent with the goals of Assembly Bill (AB) 32, which proposes to reduce greenhouse gas emissions in California to 1990 levels by the year 2020. The project would be consistent with the emission reduction strategies in the City of Vallejo and County of Solano climate action plans after the implementation of mitigation measures. Therefore, the project would be consistent with the goals of AB 32. The project would result in a less than significant impact after mitigation.

4.2.7 - Hazards and Hazardous Materials

The geographic scope of the cumulative hazards and hazardous materials analysis is the project vicinity. Adverse affects of hazards and hazardous materials tend to be localized; therefore, the area near the project site would be most affected by project activities (i.e., generally within a 500-foot radius).

There are four recognized environmental constraints within the project site. However, project mitigation is proposed to reduce any potential impact associated with these environmental constraints to a less than significant level. Construction activities associated with other development projects would make a minimal contribution to cumulative hazards from past and present uses, because such effects are highly localized and would have no possibility to overlap with the proposed project. Therefore, it is reasonable to conclude that any potential contamination present on other sites would not have the potential to cause cumulatively significant impacts.

The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions. Sufficient access points and onsite circulation improvements are proposed within the project site. As such, the project would not have the potential to cause an incremental contribution to hazards in the Vallejo area. It is reasonable to assume that other projects would implement mitigation that would require proper abatement of potential hazards; therefore, cumulative impacts are anticipated to be less than significant, and the proposed project, in conjunction with other projects, would not have cumulatively significant hazards and hazardous materials impacts.

4.2.8 - Hydrology and Water Quality

The geographic scope of the cumulative hydrology and water quality analysis is the Lake Chabot watershed.

Development projects in the project vicinity may have the potential to create sources of short-term and long-term water pollution. These projects would be required to mitigate for potential impacts by providing stormwater pollution prevention measures. The proposed project would involve short-term construction and long-term operational activities that would have the potential to degrade water quality in downstream waterways. Mitigation is proposed that would require implementation of various construction and operational water quality control measures that would prevent the release of pollutants into downstream waterways.

Development projects in the project vicinity may have the potential to increase impervious surface coverage and, therefore, may result in increased runoff volumes in downstream waterways. These projects would be required by the City of Vallejo to provide drainage facilities that reduce peak discharge consistent with the requirements of the City's Municipal Code. The proposed project would significantly increase the amount of impervious surfaces at the project site. The project would implement flow control and detention facilities to the meet the City of Vallejo standards. It is

reasonable to assume that other related projects would implement similar stormwater quality and drainage plans that would reduce potential impacts to downstream waterways to a less than significant level. Therefore, the proposed project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact on hydrology and water quality.

4.2.9 - Noise

As shown in Section 3.9, Table 3.9-7, none of the roadway segments analyzed for the 2035 scenario generate more than a 5-dBA, project-related increase above levels without the project. The highest increases attributable to project-related traffic, 3.6dBA, are found on the road segments Fairgrounds Drive south of Six Flags Discovery Kingdom entrance ramp and north of Six Flags Discovery Kingdom Driveway/Fairgrounds. As the segments are located in non-residential areas, the impacts are considered less than cumulatively considerable, and thus a less than significant cumulative roadway noise impact for the year 2035 Project conditions would occur.

Noise sources during fair events include a public address system, carnival rides, and several sound reinforcement systems, which are used for concerts, and carnival rides. Noise levels in the activity areas of a typical fair are in the range of 65 dBA to 75 dBA.¹ These noise levels are at levels similar to those already experienced within the project area (with a maximum of 83.8 dBA on the south corner of Fairgrounds Drive and Coach Lane; see Table 3.9-2: Existing Noise Level Measurements). Therefore, operational noise levels will not significantly contribute to cumulative noise levels.

Construction noise impacts are temporary, will not occur in the same location over the construction duration, and are considered less than significant with incorporation of mitigation measures MM Noi-1a, 1b, and 4a. Therefore, the construction of the project will not contribute to cumulative noise impacts.

4.2.10 - Public Services

The geographic scope of the cumulative public services analysis is the service area of each of the providers serving the proposed project. Because of differences in the nature of the public service topical areas, they are discussed separately.

Fire Protection and Emergency Medical Services

The geographic scope of the cumulative fire protection and emergency medical services analysis is the Vallejo Fire Department (VFD) service area, which encompasses the City of Vallejo as well as the East Vallejo Fire Protection District.

The VFD indicated in a written response that it would have adequate resources to meet the demand generated by the proposed project based upon the grant funded re-opening of Station #25 which occurred in June 2012 (refer to Appendix H). The Department's written response was provided in November 2011 when the project listed in Table 4-1 had been recently approved by the City of

¹ Costa Mesa General Plan Noise Element. <http://www.costamesaca.gov/modules/showdocument.aspx?documentid=6604>.

Vallejo. The proposed project, in combination with past, existing, and probable future projects, would not create a need for new or expanded fire protection facilities, and, therefore, would not result in a cumulatively significant physical impact on the environment.

Other development projects in Vallejo would be reviewed for impacts on fire protection and emergency medical services and would be required to address any potential impacts with mitigation. Moreover, because demand for fire protection and emergency medical services is highly dependent on a number of factors that vary substantially by project (hours of operation, fire prevention measures, occupancy by sensitive populations, etc.), it is unlikely that there would be substantial overlap in demand between these projects and the proposed project that would result in a cumulatively significant impact. Therefore, the proposed project, in conjunction with other future projects, would not have a cumulatively significant impact on fire protection and emergency medical services.

Police Department

The geographic scope of the cumulative police protection analysis is the Vallejo Police Department jurisdictional area, which encompasses the City of Vallejo. The projects listed in Table 4-1 that lie in the City of Vallejo have the potential to combine with the project to exert cumulative impacts.

Although the Vallejo Police Department did not provide a written response to a questionnaire sent by MBA on October 10, 2011, it did identify several concerns and recommendations in an email that are summarized and addressed within the Public Services section of this EIR. According to VPD, very few calls for service are currently received from the project site because there is typically little activity taking place. When activities such as the Solano County Fair occur, the Fairgrounds contracts for additional security and police services with the Solano County Sheriff's Office.

The Police Department noted that response times would increase as its call volume increases. Accordingly, the Police Department provided several recommendations for security measures and operational practices intended to deter criminal activity and ultimately reduce demands on the agency. A Fiscal Impact Analysis prepared for the proposed project by the Goodwin Consulting Group concluded that the project would provide adequate revenue to the City to fund expected police protection services (Goodwin Consulting Group, 2011). The Police Department's recommendations were provided in November 2011 when the projects listed in Table 4-1 had been recently approved by the City of Vallejo. These recommendations have been incorporated as Mitigation Measure PS-2a and PS-2b. With the implementation of these mitigation measures, impacts would be reduced to a level of less than significant. Therefore, the proposed project would not create a need for new or expanded police protection facilities and would not result in a cumulatively significant physical impact on the environment.

Other development projects in Vallejo would be reviewed for impacts on police protection and would be required to address any potential impacts with mitigation. Because demand for police protection is

highly dependent on a number of factors that vary substantially by project (clientele, hours of operation, crime prevention measures, etc.), it is unlikely that there would be substantial overlap in demand that would result in a cumulatively significant impact. Therefore, the proposed project, in conjunction with other future projects, would not have a cumulatively significant impact on law enforcement.

Schools

The proposed project was found to have a less than significant impact on schools with the implementation of Mitigation Measure PS-3a. Other projects would be required to evaluate whether sufficient school services and facilities are available and mitigate where necessary. Because the proposed project impact would have a less than significant impact, it would not have a cumulative significant impact.

Parks

The proposed project was found to have a less than significant impact on parks. Other projects would be required to evaluate whether sufficient parks are available and mitigate where necessary. Because the proposed project impact would have a less than significant impact, it would not have a cumulative significant impact.

Libraries and Other Public Facilities

The proposed project was found to have a less than significant impact on libraries and other public facilities. Other projects would be required to evaluate whether sufficient libraries and other public facilities are available and mitigate where necessary. Because the proposed project impact would have a less than significant impact, it would not have a cumulative significant impact.

4.2.11 - Transportation/Traffic

Please refer to Section 3.11, Transportation/Traffic, for a detailed analysis of cumulative traffic impacts. Potential cumulative impacts to freeway traffic and intersection operations are identified in Impacts TRANS-8 and TRANS-9, respectively.

4.2.12 - Utilities and Service Systems

Potable Water

The geographic scope of the cumulative potable water analysis is the City of Vallejo water service area, which encompasses the city limits.

A Water Supply Assessment prepared for the project by Wagner and Bonsignore Consulting Civil Engineers concluded that the City of Vallejo has sufficient existing water supply to serve the proposed project as well as existing customers and future planned growth including those projects listed in Table 4-1. Additional details regarding the proposed project's water supply are available in the Water Supply Assessment included in Appendix I. Moreover, the City of Vallejo indicated that the proposed project would not result in adverse impacts to the City's water system. All future

projects would also be required to demonstrate that potable water supply sources are available. Therefore, the proposed project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact on potable water supply.

Wastewater

The geographic scope of the cumulative wastewater analysis is the Vallejo Sanitation and Flood Control District (VSFCD) service area, which collects wastewater from the City of Vallejo and outlying areas. The projects listed in Table 4-1 that lie in the City of Vallejo have the potential to combine with the project to exert cumulative impacts.

Mackay and Soms prepared a sanitary sewage demand analysis for the proposed project based upon the proposed land uses within the Plan. Average daily and annual sewage generation rates used in the estimate are based on industry standard values as noted in the estimate. The proposed project would be expected to generate 150,000 gallons of wastewater per day on average at time of project buildout. On an annual basis, this would represent approximately 53.1 million gallons of wastewater.

According to the VSFCD, the WWTP has a permitted capacity of 15.5 million gallons per day (MGD), but can treat up to 30 MGD for a 24-hour period during wet weather. Based on available capacity, the wastewater treatment facility could readily accommodate the proposed project's wastewater flows without a need for new or expanded facilities. Further, in response to MBA's letter, the VSFCD concluded that the capacity of the sewer system would be adequate to serve the land uses in the current land use plan. However, if operation of the proposed water feature includes any discharges to sanitary sewers, or if high-intensity uses such as a water park become part of the development, a recalculation of the sewer capacity would be required (Ohlemutz, pers. comm.). All future projects would be required to demonstrate that sewer service is available to ensure that adequate sanitation can be provided. Therefore, the proposed project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact on wastewater.

Storm Drainage

The geographic scope of the cumulative storm drainage analysis is the VSFCD's storm drainage system, which generally encompasses lands within the city limits.

All future development projects in the project vicinity would be required by the VSFCD to provide drainage facilities that can accommodate a 100-year storm event. The proposed project would implement flow control and detention facilities to meet the VSFCD standards. As such, the proposed project would ensure that the rate of runoff is reduced, as designed for a specific storm event, and would avoid cumulatively considerable contribution of stormwater to downstream waterways. During construction, the proposed project would implement standard pollution prevention measures to ensure that downstream water quality impacts are minimized to the greatest extent possible. In addition, the proposed project would provide water quality measures, such as the proposed onsite water feature, to prevent pollution during fair operations. Therefore, the proposed

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project, in conjunction with other planned and approved projects, would not have a cumulatively significant impact on storm drainage.

Solid Waste

The geographic scope of the cumulative solid waste analysis comprises those projects contributing to the 15 different landfills that serve the City of Vallejo.

The landfills have a remaining capacity of about approximately 389.3 million cubic yards, and expected closure dates ranging from 2011 to 2081. Future development projects would generate construction and operational solid waste and, depending on the volumes and end uses, would be required to implement recycling and waste reduction measures. The proposed project is anticipated to generate 941 tons of solid waste during construction and 1,168 tons annually during operations. Mitigation is included that would require the project applicant to retain a qualified contractor to perform construction and demolition debris recycling and to provide the installation of onsite facilities necessary to collect and store recyclable materials and green waste. These practices would divert substantial quantities of materials from the solid waste stream and contribute to conserving landfill capacity, thereby extending the operational life of such facilities. Thus, the contribution of the proposed project would not be cumulatively significant.

Accordingly, the proposed project, in conjunction with other future projects, would not have a cumulatively significant impact on solid waste.

Energy

The geographic scope of the cumulative electricity analysis is the Pacific Gas and Electric (PG&E) service area, which encompasses all or part of 47 counties in California, constituting most of the northern and central portions of the State.

Future development projects in the PG&E service area would be required to comply with Title 24 energy efficiency standards. The proposed project would demand an estimated 10.7 million kilowatt-hours of electricity on an annual basis. The proposed project's structures would be designed in accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs. The incorporation of the Title 24 standards into the project would ensure that the project would not result in the inefficient, unnecessary, or wasteful consumption of energy. Therefore, the proposed project, in conjunction with other future projects, would not have a cumulatively significant impact on energy consumption.