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# Chapter 5

## Alternatives to the Project

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### 5.1 INTRODUCTION

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” Further, the Guidelines state that “the discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” (CEQA Guidelines, Section 15126.6[b]). The feasibility of an alternative may be determined based on a variety of factors including, but not limited to, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control (CEQA Guidelines, Section 15126.6[f][1]).

The following alternatives are evaluated in this chapter:

- **Alternative 1:** No Project/No Action;
- **Alternative 2:** Drop Structure Modification to Lower the Upstream Water-Surface Elevations
- **Alternative 3:** Limited Channel Improvements
- **Alternative 4:** Offsite Alternative, Bucktown Lane (Ulatis Creek) and Gates Canyon Road (Alamo Creek)

In addition to the description provided for each alternative, this chapter provides a comparative analysis of the potential environmental effects resulting from each alternative, and the extent to which each alternative supports the objectives of the Proposed Project (see Chapter 3, Project Description, for a list of objectives).

The Proposed Project is designed to meet the following objectives, which are to:

- increase the detention capacity along the Alamo and Ulatis Creeks that convey stormwater runoff through the City;
- reduce the incidents of flooding and damage to properties during peak storm runoff flows;

- reduce the threat of property damage, personal injury, other impacts on health and safety and associated costs caused by future flooding in the residential neighborhoods along creekways as they flow through the City; and
- preserve open space, wildlife habitat, and agricultural land in perpetuity.

## 5.2 ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER ANALYSIS

The requirement that an EIR evaluate alternatives to a proposed project or alternatives to the location of a proposed project is a broad one because the primary intent of the alternatives analysis is to disclose other ways that most of the objectives of the project could be attained while reducing the magnitude of, or avoiding, the environmental impacts of a proposed project. Alternatives that are included and evaluated in the EIR must be potentially feasible (CEQA Guidelines, Section 15126.6[a]), although the ultimate decision on feasibility lies with agency decision makers rather than the staff members and consultants who prepare the EIR (*id.*, Section 15091(a)(3)). However, the Public Resource Code and the CEQA Guidelines direct that the EIR need “set forth only those alternatives necessary to permit a reasoned choice” (CEQA Guidelines Section 15126.6[f]). The CEQA Guidelines provide definition for “a range of reasonable alternatives” and, therefore, limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines:

The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR needs to examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project<sup>1</sup>. First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, “feasible” is defined as:

capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. (State of California, Public Resources Code, Section 21061.1).

Further, the following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (CEQA Guidelines Section 15126.6[f][1]). Finally, an EIR is not required to analyze alternatives when the effects of the alternative “cannot be reasonably ascertained and whose implementation is remote and speculative” (CEQA Guidelines Section 15126.6[f][3]).

The following alternatives were considered but were not evaluated in detail because they would be infeasible and would not achieve most of the Project objectives and/or reduce any significant impacts of the Proposed Project.

### 5.2.1 100-Year Flood Protection Using Channel Conveyance

The 2008 Solano County Water Agency *Ulatis System Drainage Study* (Drainage Study) (West Yost Associates 2008) included an alternative that would modify the existing channels of Ulatis and Alamo

Creeks to increase channel capacity. The Drainage Study analyzed the existing channel capacities and compared them with the calculated 100-year peak flow. Under this alternative, those channel reaches with capacity less than the 100-year flow would be widened and deepened to provide 100-year conveyance capacity. Under existing conditions, Alamo Creek cannot convey 100-year storm flows along most of the channel. Increasing capacity would require widening and enlarging the channels for Ulatis and Alamo Creeks. Some channel cross sections would require significant widening. A minimum of 150 homes (10 homes along Ulatis Creek and up to 140 homes along Alamo Creek) would have to be removed to widen the channels to a 100-year conveyance capacity (West Yost Associates 2008). In addition to channel widening, several bridges along Ulatis and Alamo Creeks would have to be replaced or modified because they would not have sufficient capacity to pass 100-year peak flows. The Drainage Study determined that, because of the constraints associated with construction costs and removal of homes and bridges, this alternative is considered infeasible. In addition, channel widening would result in additional impacts with the loss of biologically sensitive areas associated with stream habitat and potential impacts to cultural sites. This alternative is not analyzed further in this EIR.

## 5.2.2 Upstream Detention Reservoirs

An Ulatis Creek Watershed Study was prepared in February 1990 (Watershed Study) (Camp Dresser and McKee, Inc. 1987). One of the alternatives considered in that document was the construction of upstream detention reservoirs in the Vaca Mountains. The report studied potential reservoirs at three locations along Alamo Creek—in the vicinity of Cherry Glen on Laguna Creek, along Encinosa Creek upstream of Pleasants Valley Road, and at Gates Canyon along Alamo Creek. Construction of these reservoirs would include construction of earthfill dams with a chimney drain and a sediment storage allowance of approximately 25% of the total reservoir volume. The alternative analyzed in the Watershed Study consisted of detention reservoirs for flood control only, and detention basins at these three locations would provide only a 10-year level of protection; therefore, this alternative would not provide sufficient flood control for the City. Alterations to these proposed reservoirs to provide increased capacity would require substantial additional funds and would be cost prohibitive. In addition, larger reservoirs would result in additional significant impacts, including the removal of existing residences, potential rerouting of existing roadways, loss of biological habitat as well as potential impacts to cultural sites. This alternative is not analyzed further in this EIR.

## 5.3 ALTERNATIVES TO THE PROPOSED PROJECT

As discussed in Chapter 3, the primary objectives of the Proposed Project are to:

- increase the detention capacity along Alamo and Ulatis Creeks that convey stormwater runoff through the City;
- reduce the incidents of flooding and damage to properties during peak storm runoff flows;
- reduce the threat of property damage, personal injury, and other impacts on health and safety caused by future flooding in the residential neighborhoods in the western portion of the City; and
- preserve open space, wildlife habitat, and agricultural land in perpetuity.

As described in Chapter 4 of this FEIR, the Proposed Project would result in the following significant and unavoidable impacts:

- potential to alter the project sites' visual character (Impact 1-1),
- potential loss of Prime Farmland (Impact 2-1),
- short-term construction increases of criteria air pollutants (Impact 3-1),
- cumulative contribution to regional air quality (Impact 3-7),
- short-term exposure to onsite construction noise (Impact 7-1), and
- short-term exposure to construction traffic noise (Impact 7-2),

No feasible mitigation measures are available that would avoid or reduce these impacts to less-than-significant levels. Most of these impacts cannot be avoided entirely (other than under the No-Project/No-Action Alternative) because the alternatives would include construction of channel improvements or alternative detention basins; therefore, the alternatives analysis is focused on reducing the severity of these impacts. A comparison of the relative impacts of the Proposed Project and alternatives is provided in Table 5-1 at the end of this chapter.

The following alternatives to the Proposed Project are evaluated in this FEIR:

- Alternative 1: No Project/No Action
- Alternative 2: Drop Structure Modification to Lower the Upstream Water-Surface Elevations
- Alternative 3: Limited Channel Improvements
- Alternative 4: Offsite Alternative, Bucktown Lane (Ulatis Creek) and Gates Canyon Road (Alamo Creek)

### **5.3.1 Alternative 1: No Project/No Action**

Under the No-Project Alternative, the Proposed Project would not be constructed, and the Project sites would retain their current uses. The Alamo site would remain a fallow orchard with uncultivated grassland and riparian habitat. The Ulatis site would remain a fallow agricultural field. Both sites may revert back to agricultural uses.

#### **5.3.1.1 Relationship of Alternative 1 to Project Objectives**

The No-Project Alternative would not meet any of the Project objectives. It would not increase the detention capacity along Alamo and Ulatis Creeks that convey stormwater runoff through the City. It would not reduce the incidents of flooding and damage to properties during peak storm runoff flows; would not reduce the threat of property damage, personal injury, other impacts on health and safety and the costs caused by future flooding in the residential neighborhoods located along the creekways of the City; and would not preserve open space, wildlife habitat, and agricultural land in perpetuity.

### **5.3.1.2 Environmental Analysis**

The No-Project/No-Action Alternative would not alter existing short- or long-range views onto the Proposed Project sites because no detention basins or berms would be constructed. Alternative 1 would not result in the conversion of prime farmland. It would not result in short-term construction impacts on air quality, the cumulative degradation of air quality, or the considerable contribution to global climate change. It would not result in short-term onsite construction or construction-traffic noise impacts. Impacts to biological resources from flooding would remain less-than-significant. None of the mitigation measures proposed for the Project would be required under Alternative 1.

No Project Alternative would however result in increased flooding impacts when compared to the Proposed Project. Environmental effects from flooding would be short-term but would also reoccur. Air, noise and traffic impacts would likely be significant and would occur when heavy equipment is used to perform cleanup operations, when people move themselves or their belongings to alternate locations, when they are displaced, and when transportation routes are disrupted. Flooding events would also likely result in significant water quality impacts from erosion and inflow into sewer facilities. Significant public services impacts during flooding events would result from the increased need for public assistance during emergency periods and significant land use impacts would result from the large amount of material that is sent to landfills after it is damaged or destroyed by floodwaters.

## **5.3.2 Alternative 2: Drop Structure Modifications to Lower the Upstream Water-Surface Elevations**

Under Alternative 2, the channel drop structures located along the Ulatis Creek and Alamo Creek channels would be modified to reduce the localized flooding upstream of the drop structures. The existing drop structures were installed in the 1960s when the U.S. Natural Resources Conservation Service channelized the existing creeks within the Ulatis system. The purpose of the drop structure is to control channel erosion by lessening the slope of the channel so that high, erosive velocities do not develop. Drop structures were constructed to establish a grade control and create a flow restriction within the channel that increases the water-surface elevations upstream of the drop structure. The modifications proposed under Alternative 2 would be developed to prevent upstream flooding within the City during significant storm events. Under this alternative, drop structures would be modified at the following locations: Alamo Creek downstream of Vanden Road and downstream of Meridian Road, and Ulatis Creek downstream of Nut Tree Road and upstream of Leisure Town Road. The modifications to the drop structures would include removing the wing walls but would leave the bottom of the drop structure intact. The removal of the wing walls would increase the cross-sectional area, decreasing the upstream water-surface elevations at higher flows.

### **5.3.2.1 Relationship of Alternative 2 to Project Objectives**

Alternative 2 would not increase the detention capacity along Alamo and Ulatis Creeks that convey stormwater runoff through the City. It would help to reduce localized flooding upstream of the drop structure; however, it would neither significantly reduce the incidents of flooding and damage to properties during peak storm runoff flows, nor reduce the threat of property damage, personal injury, and other impacts on health and safety and costs caused by future flooding in the residential neighborhoods along the creekways of the City. The total reduction in peak flows and degree of neighborhood protection

would not be equal to the benefit provided by the detention basins and the water quality benefits of the erosion control and water quality benefits of the basins would not be realized.

### **5.3.2.2 Environmental Analysis**

#### **Aesthetics and Visual Resources**

Under Alternative 2, impacts on aesthetics and visual resources would be less severe than under the Proposed Project because the alternative would include modifications to existing structures along Alamo and Ulatis Creeks and would not include construction of berms.

#### **Land Use and Agriculture**

Under Alternative 2, the impacts on land use and agriculture would be less severe than under the Proposed Project. Alternative 2 would not result in the conversion of farmland to alternate uses. The proposed modifications would be compatible with existing land uses in the areas around the drop structures. This alternative would not result in a significant and unavoidable impact from the loss of Prime Farmland, conflict with agricultural zoning, or conflict with Williams Act contracts; therefore, Mitigation Measures 2-2 and 2-3 would not be required.

#### **Air Quality and Greenhouse Gas Emissions**

Alternative 2 would result in construction emissions, but they would be less severe than under the Proposed Project. The drop structure modifications would not result in the removal of dirt for creation of a detention basin and would not require haul-truck trips off the Project sites. The less-than-significant impacts identified for the Proposed Project would be similar under this alternative. Short-term emissions would be generated from onsite construction equipment. Mitigation Measure 3-1 would be implemented for the control of fugitive dust emissions.

#### **Biological Resources**

Alternative 2 would result in impacts on biological resources because modifications would be made to existing drop structures within and adjacent to creek channels. The drop structure modifications would not result in the loss of existing grassland. The less-than-significant impacts associated with waters of the U.S., riparian habitats, and habitats for special-status species identified for the Proposed Project and this alternative would be similar. No potential impacts to burrowing owl would occur and Mitigation Measure 4-5 would not be required.

#### **Cultural Resources**

Under Alternative 2, the less-than-significant impacts associated with cultural and historic resources identified for the Proposed Project would be even less severe because the area of disturbance would be reduced, limiting the likelihood of encountering cultural or historic resources. Mitigation Measures 5-1a, 5-1b, and 5-1c would still likely be required.

## Hydrology, Water Quality, and Hazardous Materials

A stormwater pollution prevention plan (Mitigation Measures 6-1) would not be required under Alternative 2. The less-than-significant impact on hydrology from increased rate or amount of surface runoff and the less-than-significant impact on hazardous materials from accidental spills would be similar to the Proposed Project. Similar to the Proposed Project, Alternative 2 would potentially allow for the detention basin sites to resume historic use in agricultural production resulting in the continued use of fertilizers and herbicides which could be carried by drainage run-off into the creeks. In addition to not meeting the Project objectives, Alternative 2 could result in additional downstream flooding impacts. On Ulatis Creek, the drop structures located just downstream of Nut Tree Road and just upstream of Leisure Town Road would be modified. The removal of the wing walls at the Nut Tree Road drop structure would prevent some flooding at Nut Tree Road Bridge, but would convey more flow downstream in the channel, resulting in increased flooding at Leisure Town Road and increased erosion downstream; therefore, potential impacts on hydrology would be more severe than under the Proposed Project. The potential for exposing construction workers to lead at the Alamo site, hazards from well and septic removal, and potential for mosquitoes to breed onsite would not occur under Alternative 2. Potential impacts to water quality from accidental spills during construction is more likely under Alternative 2 because more construction activity will occur within and adjacent to creek channels.

## Noise

Alternative 2 would result in potentially significant short-term construction noise impacts. The less-than-significant impacts on noise would be similar to those of the Proposed Project, and Mitigation Measures 7-1 and 7-3 would be required. Under this alternative, no detention basin would be constructed and no haul-truck trips would be required to remove dirt offsite; therefore, the significant and unavoidable noise impact associated with truck-hauling activities would not occur.

## Public Services

Under Alternative 2, impacts on public services would be similar to those of the Proposed Project because the alternative would make some modifications to existing structures but would not result in the direct increase in City or County residents and would not increase the service areas of local law enforcement and fire protection services. However, since Alternative 2 will not provide the degree of flood protection of the Proposed Project, there will be increased public service demand during peak storm events in response to flood emergencies. Emergency services would include the City public works crews, police, fire, City Emergency Operations Center staff, local hospitals, schools and relief organizations as well as regional, State and Federal staff and costs associated with a declared emergency.

## Transportation/Traffic

Alternative 2 would result in traffic impacts that would be less severe than those of the Proposed Project. Construction equipment would still be required. The drop structure modifications would not result in the removal of dirt and would not require haul-truck trips off the Project sites. In addition, this alternative would not include construction along the unpaved Rogers Lane; however, potential traffic hazards from construction vehicles could occur, and Mitigation Measure 9-2 would be required. Since Alternative 2 will not provide the same level of flood protection as the proposed project, there will be significant transportation related impacts within the City anytime there is a flood emergency during peak storm events.

### 5.3.3 Alternative 3: Limited Channel Improvements

Under this alternative, limited channel improvements would be constructed along Ulatis and Alamo Creeks to increase the channel conveyance capacity at critical locations of known flooding problems. The conveyance capacity along the critical reaches will be increased by improvements that include limited channel widening, bridge replacement, and modification of existing drop structures. A 25-year level of protection along Ulatis Creek from Vaca Valley Road to upstream of Leisure Town Road could be obtained with the following channel improvements:

- Construct 5-foot levees for 2,000 feet downstream of I-80.
- Widen the channel by from 20 to 30 feet and deepen the channel by 2 feet from Ulatis Drive to Nut Tree Road.
- Remove and replace the Nut Tree Road bridge.
- Remove the Nut Tree Road drop structure wing walls.
- Construct low levees for about 700 feet upstream of Ulatis Drive and 1,100 feet at the Putah South Canal access road.
- Construct a 4-foot levee for about 100 feet upstream of Nut Tree Road.
- Remove the Leisure Town Road drop structure wing walls.
- Remove and replace the Leisure Town Road bridge.
- Construct berms for 5 miles downstream of Leisure Town Road.

Along Alamo Creek, the following channel improvements would provide a 10-year level of protection:

- Widening the channel by from 20 to 30 feet from upstream of Peabody Road bridge to the Putah South Canal access road.
- Replace the Peabody Road bridge, Tulare Road bridge, Nut Tree Road bridge, Alamo Drive bridge, Vanden Road bridge, Leisure Town Road bridge, Railroad bridge, and Meridian Road bridge.
- Construct about 3,200 linear feet of levees, ranging in height from 2 to 4 feet, from upstream of Peabody Road bridge to the Putah South Canal access road.
- Remove 11 houses and acquire easements and/or rights-of-way along approximately 13 properties.
- Construct about 13,700 linear feet of levees (includes levee construction on both sides of the channel) with a height of up to 6 feet from the Putah South Canal access road to Leisure Town Road.
- Construct additional 15,400 linear feet of levees with a height of up to 4 feet downstream of the city or purchase flood easements on properties adjacent to Alamo Creek.

### 5.3.3.1 Relationship of Alternative 3 to Project Objectives

Alternative 3 would provide additional flood protection over existing conditions; however, it would not provide increased detention capacity along the creeks. In addition, the Alternative 3 would not provide same the level of protection as the Proposed Project in reducing the threat of property damage, personal injury, and other impacts on health and safety caused by 100 year flood events. In addition, increasing the conveyance capacity along Ulatis and Alamo Creek as they flow through the City would increase the peak flows downstream, resulting in increased potential for downstream flooding, erosion, and water quality issues. Alternative 3 improvements along Ulatis Creek would increase the level of protection from less than a 5-year storm under existing conditions to about a 25-year level of protection from downstream of I-80 to upstream of Leisure Town Road; however, the Leisure Town Road bridge would still have less than a 10-year level of protection.

### 5.3.3.2 Environmental Analysis

#### Aesthetics and Visual Resources

Under Alternative 3, impacts on aesthetics and visual resources would be less severe at the detention basin sites than under the Proposed Project but could affect a greater number of residents along creek channels within the City where vegetation removal and levee construction would occur. The proposed levees would be approximately 4 to 6 feet and would not substantially alter existing views within many neighborhoods along the creekways in the City.

#### Land Use and Agriculture

Under Alternative 3, the impacts on land use and agricultural resources would be less severe than under the Proposed Project. The Proposed Project sites would maintain their current uses and no detention basins would be constructed. The sites would remain as fallow agricultural land, fallow orchard land, and grassland and riparian habitat or would be returned to cultivation similar to the surrounding lands. These uses would be consistent with the existing Solano County zoning. Mitigation Measures 2-2 and 2-3 would not be required. Alternative 3 would not result in uses that would conflict with existing Williamson Act contracts and this would remain a less-than-significant impact. Alternative 3 would not contribute to the cumulative loss of agricultural farmland in Solano County and no significant cumulative impact would occur. Alternative 3 would result in the loss of residences and the removal of existing bridges in Vacaville. Alternative 3 has the potential to physically divide neighborhoods and affect neighborhood character where the creekside riparian setting is a major contributor to the neighborhood surrounding.

#### Air Quality and Greenhouse Gas Emissions

Alternative 3 would result in construction emissions that would be similar if not more severe than under the Proposed Project. Alternative 3 would involve the removal and hauling of vegetation and both the import and export of dirt for the construction of levees. This work would be occurring within established residential neighborhoods along the length of both creeks where they pass through the City. Haul trips will be through residential neighborhoods to many of the arterials throughout the City. The less-than-significant impacts identified for the Proposed Project could be greater with Alternative 3 because there would be more sensitive receptors in more locations and the duration of construction activity could be longer. Emissions would be generated from onsite construction equipment. Mitigation Measure 3-1

would be implemented for the control of fugitive dust emissions. The cumulative contribution to global climate change could be greater.

### **Biological Resources**

Alternative 3 would result in impacts on biological resources because modifications would be made to creek channels within the riparian zone along both Alamo and Ulatis Creeks. This alternative would not result in the loss of existing grassland on the detention basin sites. The less-than-significant impacts associated with waters of the U.S., riparian habitats, and habitats for special-status species identified for the Proposed Project are likely to be more severe with this alternative because of the increased channel length affected. On site mitigation may not be as feasible with Alternative 3 because riparian restoration will be limited within the channel to optimize engineered flows. Habitat could be permanently lost in the City and the cost of off site replacement mitigation credits could be significant.

### **Cultural Resources**

Under Alternative 3, the impacts associated with cultural and historic resources identified for the Proposed Project are likely to be more severe because the area of disturbance along creekside terrain would be increased, and therefore discovery and disturbance of cultural or historic resources is more likely. Mitigation Measures 5-1a, 5-1b, and 5-1c would be required.

### **Hydrology, Water Quality, and Hazardous Materials**

Alternative 3 would result in similar or possibly more severe impacts than the Proposed Project associated with hydrology and water quality. Alternative 3 would potentially allow for the detention basin sites to resume historic use in agricultural production resulting in the continued use of fertilizers and herbicides which could be carried by drainage run-off into the creeks. Alternative 3 would increase the conveyance capacity and velocity of flood flows along both Alamo and Ulatis Creeks and would increase the peak flows downstream, resulting in increased potential for downstream flooding and erosion. As such, this alternative would result in additional significant impacts on hydrology from flooding as well as additional impacts on water quality. The potential for exposing construction workers to lead at the Alamo site, hazards from well and septic removal, and potential for mosquitoes to breed onsite would not occur under Alternative 3. Potential impacts to water quality from accidental spills during construction is more likely under Alternative 3 because more construction activity will occur within and adjacent to creek channels.

### **Noise**

Alternative 3 would result in potentially significant short-term construction noise impacts with exposure to a greater number of residences throughout the City. Mitigation Measures 7-1, 7-2, and 7-3 would be required. Alternative 3 would involve the removal and hauling of vegetation and both the import and export of dirt for the construction of levees. This work would be occurring within established residential neighborhoods along the length of both creeks where they pass through the City. Haul trips will be through residential neighborhoods to many of the arterials throughout the City. The less-than-significant impacts related to noise identified for the Proposed Project could be greater with Alternative 3 because there would be more sensitive receptors in more locations and the duration of construction activity could be longer.

## Public Services

Under Alternative 3, impacts on public services would be similar or could potentially be greater to those of the Proposed Project because it would make some modifications to existing structures but would not result in the direct increase in City or County residents and would not increase the service areas of local law enforcement and fire protection services. During construction, which under Alternative 3 would occur in many locations in the City for a longer duration of time, there could be more demand for both fire and police services to respond to public safety and construction security needs as well as emergency response where a greater number of people are exposed to construction activities that could cause fire or other hazard immediately adjacent to urban uses.

## Transportation/Traffic

Alternative 3 would result in traffic impacts that would be more severe than those under the Proposed Project. Construction equipment would still be required and Mitigation Measure 9-2 and 9-3 would be implemented. Alternative 3 would involve the removal and hauling of vegetation and both the import and export of dirt for the construction of levees. This work would occur within established residential neighborhoods along the length of both creeks where they pass through the City. Haul trips would be through residential neighborhoods to many of the arterials throughout the City. Traffic control and detour routes would be necessary on a more frequent basis throughout the construction zone within the City for a longer period of time.

### **5.3.4 Alternative 4: Offsite Alternative, Bucktown Lane (Ulatris Creek) and Gates Canyon Road (Alamo Creek)**

Under Alternative 4, detention basins would be built at alternate locations, upstream of the proposed Alamo and Ulatris detention basin sites (Figure 5-1). On Ulatris Creek, the upstream alternative basin would be north of the proposed Ulatris Creek detention basin site to the west of Bucktown Lane. The detention basin would replace an existing fallow agricultural field that includes orchard trees. On Alamo Creek an upstream alternative basin would be located on the west side of Pleasants Valley Road, south of lower Gates Canyon Road. Because of limited availability of level land in the upstream areas, both detention basins would be smaller in size. The upstream projects would consist of off-line detention basins constructed in a similar fashion to the Proposed Project, including the construction of a berm around the detention basins and an inlet and outlet structure to and from the creek. The basins would include the removal and hauling of excess dirt from the Project sites. Where possible, basin floors would be cultivated for hay crops similar to the Proposed Project. The alternative sites would be accessed from Bucktown Lane off of Vaca Valley Road (Ulatris Creek) and Gates Canyon Road (Alamo Creek). The basins in Alternative 4 would be located adjacent to existing rural residential and agricultural land uses.

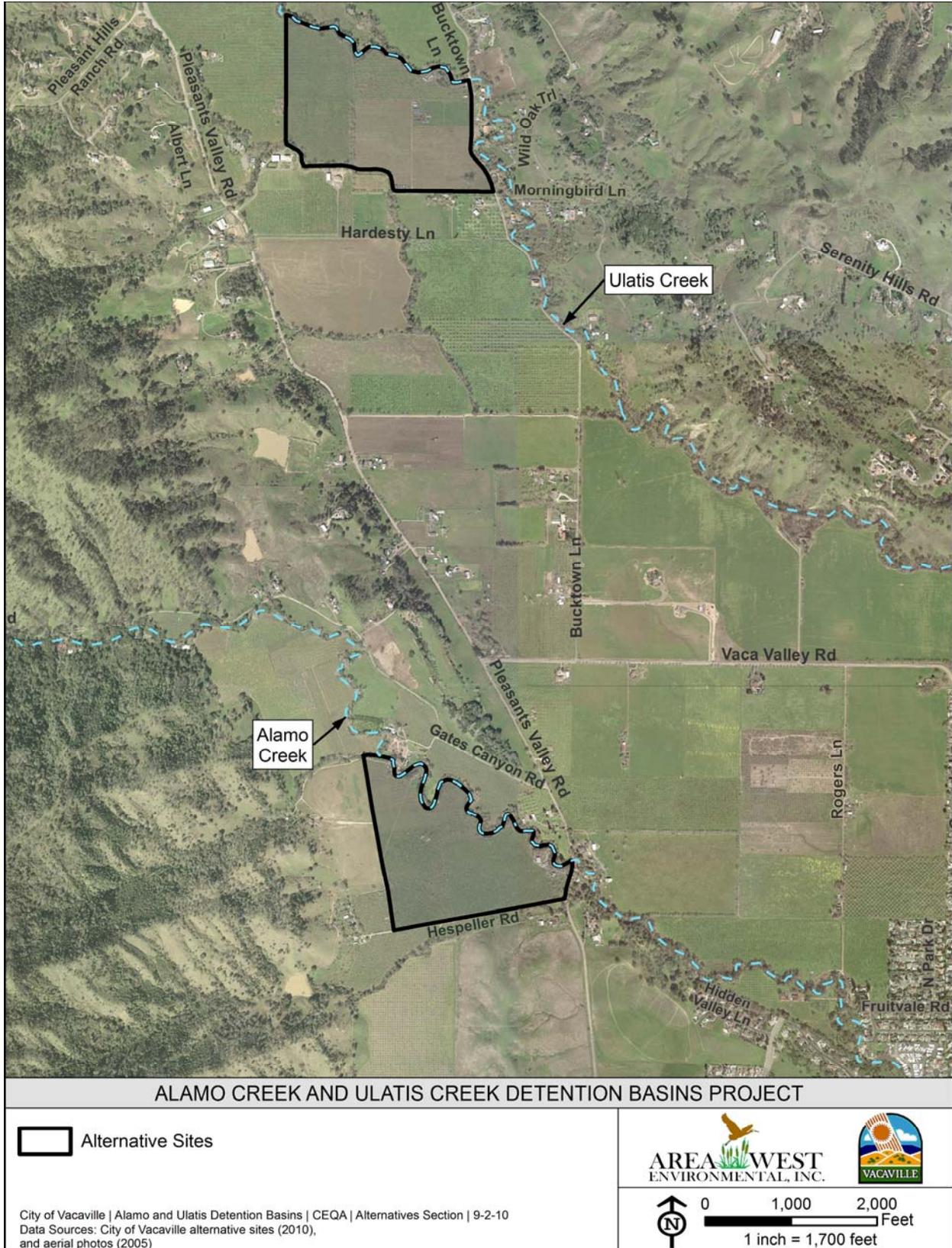


Figure 5-1. Alternative 4: Offsite Alternative, Bucktown Lane (Ulatis Creek) and Gates Canyon Road (Alamo Creek)

### 5.3.4.1 Relationship of Alternative 4 to Project Objectives

Alternative 4 would provide flood detention in a similar fashion to the Proposed Project, however, due to their upstream locations and reduced acreage, these basins would not be as efficient in capturing flood flows from the watersheds of Ulatis and Alamo Creeks because they would be upstream of several tributaries that will still carry uncontrolled flood flows. This alternative would reduce the threat of property damage, personal injury, and other impacts on health and safety and costs caused by future flooding to a lesser degree than the Proposed Project because it would provide less capacity than would the Proposed Project.

### 5.3.4.2 Environmental Analysis

#### Aesthetics and Visual Resources

Under Alternative 4, impacts on aesthetics and visual resources would be similar to those of the Proposed Project because it would include detention basins and berms similar to those of the Proposed Project. This alternative would result in the construction of berm heights up to 20 feet that could alter existing views to and from the rural residences along Bucktown Lane and the lower reaches of Gates Canyon Road. Visual impacts from the surrounding region may be less than the proposed project as it is not likely that either upstream basin site would be visible from Pleasants Valley Road or Vaca Valley Road.

#### Land Use and Agriculture

Under Alternative 4, impacts on land use and agriculture would be similar to those listed under the Proposed Project. Under Alternative 4, a detention basin would be built further north on Bucktown Lane to the east of the road and another basin would be built along the south side of Alamo Creek west of Pleasants Valley Road. Similar to the Proposed Project, these alternative basin locations would replace existing fallow agricultural land with a detention basin. This would result in a loss of Prime Farmland, similar to that of the Proposed Project, and this would remain a significant and unavoidable impact. If these sites are under a Williamson Act contract Impact 2-3 would apply and the impact would remain significant and unavoidable.

#### Air Quality and Greenhouse Gas Emissions

Alternative 4 would result in construction emissions similar to those of the Proposed Project. Construction equipment would be used to create the proposed basins, berms, and associated structures. Alternative 4 would also result in the removal of dirt for creation of a detention basin and would require haul-truck trips off the Project sites. The less-than-significant impacts identified for the Proposed Project would be similar under this alternative. Short-term emissions would be generated from onsite construction equipment. Mitigation Measure 3-1 would be implemented for the control of fugitive dust emissions. The cumulative contribution to global climate change could be greater.

#### Biological Resources

Alternative 4 would result in impacts on biological resources similar to those of the Proposed Project because construction would occur along both the Ulatis and Alamo Creeks in proximity to the riparian areas. Inlet and outlet structures would require disturbance and some removal of riparian habitat and

impacts would be similar to the Proposed Project. Mitigation Measures 4-1a through 4-10c would likely be required.

### **Cultural Resources**

Under Alternative 4, the potential impacts on previously unidentified cultural resources would be similar to those of the Proposed Project because this impact would include excavation of detention basins adjacent to creekways that are known to have a higher likelihood for the presence of cultural resources. Mitigation Measures 5-1a, 5-1b, and 5-1c would likely be required.

### **Hydrology, Water Quality, and Hazardous Materials**

Alternative 4 would require the implementation of Mitigation Measures 6-1, and 6-3, for water quality. The less-than-significant impact on hydrology from Alternative 4 would be similar to the Proposed Project. Similar to the Proposed Project, Alternative 4 would require Mitigation Measure 6-3 for potential water quality degradation from the use of fertilizers or herbicides during hay production. Since the upstream basins will not capture flood flows from downstream tributaries before they reach the City, they will be less efficient in reducing flooding within neighborhoods along Ulatis and Alamo Creeks as they flow through the City. Potential hazard to the public from accidental spills and breeding mosquitoes would be similar to that of the Proposed Project. Unlike the Proposed Project, the Alternative 4 sites do not contain structures and are not likely to contain lead residue, wells, or septic systems. Therefore exposure of construction workers and the environment to lead, wells, and septic systems likely would not occur.

### **Noise**

Alternative 4 would result in potentially significant short-term construction noise impacts and Mitigation Measures 7-1, 7-2, and 7-3 would be required. Under Alternative 4, removal of dirt would be required and the significant and unavoidable impacts associated with truck-hauling activity would occur but to a lesser degree than under the Proposed Project.

### **Public Services**

Under Alternative 4, impacts on public services would be similar to those of the Proposed Project because the alternative would not result in the direct increase in city or county residents and would not increase the service areas of local law enforcement and fire protection services.

### **Transportation/Traffic**

Alternative 4 would result in traffic impacts that would be less severe than those of the Proposed Project. Construction equipment would still be required. Alternative 4 would result in the removal of dirt for creation of a detention basin and would require haul-truck trips off the Project sites. Potential traffic hazards from construction vehicles could occur, and Mitigation Measure 9-2 would be required. This alternative would include the construction of an access road and could cause deterioration on existing roadways. Mitigation Measure 9-3 would also be required.

## 5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As discussed above and shown in Table 5-1, when the Proposed Project is compared to the Project Alternatives, it appears at first glance that the No-Project/No-Action Alternative would have less severe impacts than the Proposed Project and would therefore be the environmentally superior alternative; however, the long term, unmitigated impacts related to continual flood events in established neighborhoods that would occur with the no project alternative should also be considered. As such, it would appear that the environmentally superior alternative that would most efficiently achieve the flood protection objectives of the City with the least severe impacts would be the Proposed Project.

**Table 5-1. Comparison of Alternatives to the Proposed Project**

Resource	Proposed Project	Alternative 1: No Project	Alternative 2: Drop Structure Modifications	Alternative 3: Limited Channel Improvements	Alternative 4: Offsite, Bucktown Lane (Ulatis Creek) and Gates Canyon Road (Alamo Creek)
Aesthetics and Visual Resources	SU/M	NI	LTS	LTS	SU-
Land Use and Agriculture	SU	SU	LTS	LTS	SU
Air Quality and Greenhouse Gas Emissions	SU/M	SU	SU/M-	SU/M-	SU/M
Biological Resources	LTS/M	LTS	LTS/M-	LTS/M+	LTS/M
Cultural Resources	LTS/M	NI	LTS/M-	LTS/M+	LTS/M
Hydrology, Water Quality, and Hazardous Materials	LTS/M	SU	SU	LTS/M+	SU
Noise	SU/M	SU	LTS/M	SU/M+	SU/M-
Public Services	LTS	SU	SU	LTS+	LTS
Transportation/Traffic	LTS/M	SU	SU	LTS/M+	LTS/M

LTS=All impacts less than significant, requiring no mitigation.

LTS/M=All impacts would be less than significant after mitigation.

SU=One or more impacts would be significant and/or potentially significant after mitigation (or no feasible mitigation is available).

SU/M=Significant even with mitigation

NI=No Impact

+=More severe impacts than under the Proposed Project

-=Less severe impacts than under the Proposed Project

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