

## 5.0 Alternatives

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### 5.1 INTRODUCTION

The alternatives analysis is intended to inform the public and decision-makers of alternatives to the project and to provide a meaningful evaluation, analysis, and comparison of these alternatives with the project. Section 15126.6 of the *California Environmental Quality Act (CEQA) Guidelines* requires that an Environmental Impact Report (EIR) contain a range of reasonable alternatives to a project that could feasibly obtain most of the basic objectives of the project while avoiding or substantially lessening any significant impacts. The analysis also evaluates the comparative merits of the alternatives. Alternatives that avoid or substantially reduce significant impacts are evaluated, even if these alternatives would impede to some degree the attainment of project objectives or would be more costly.

The project is described and analyzed in the previous chapters with an emphasis on significant impacts and mitigation measures to avoid these impacts. The range of alternatives evaluated in this Chapter were developed based on the impacts identified in **Chapter 4.0**.

An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (*State CEQA Guidelines* Section 15126.6(a)). This chapter evaluates three alternatives to the project and compares the impacts anticipated under these alternatives to each of the impacts documented for the project in **Chapter 4.0** of this EIR. When new impacts would occur under one of the alternatives that would not occur as part of the project, these are described.

CEQA requires that a No Project (No Build) alternative be considered. The purpose of describing and analyzing a No Build alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the project. The *State CEQA Guidelines* state that the No Build alternative is the circumstance under which the project would not proceed. If the No Build alternative would not result in the preservation of existing conditions, the consequences of not approving the project along with the environmental changes that would result should also be addressed.

The *State CEQA Guidelines* require that an environmentally superior alternative be identified when compared to the project and other alternatives. If the alternative with the least environmental impact is determined to be the No Project (No Build) alternative, the

EIR must designate the next best alternative as the environmentally-superior alternative. The analysis of the environmentally superior alternative is provided in **Subsection 5.6** below.

## **5.2 ALTERNATIVES TO THE PROPOSED PROJECT**

To develop project alternatives, STA, as the Lead Agency, considered the significant impacts of the project as proposed and, in light of the project objectives, identified those impacts that could be substantially avoided or reduced through an alternative.

### **5.2.1 PROJECT OBJECTIVES**

STA identified the following primary project objectives to satisfy the requirements of *State CEQA Guidelines* Section 15124(b):

- Provide an alternative alignment for the portion of the existing Gordon Water Line that is in conflict with the Jameson Canyon Project.
- Downsize the diameter of the Gordon Water Line to provide a more balanced design for the Vallejo water system.
- Reduce maintenance costs associated with the existing water system.
- Avoid future conflicts (and relocation costs) associated with other planned roadway improvements along the I-80/I-680/SR 12 corridor that are currently being evaluated as part of the I-80/I-680/SR 12 Interchange project

### **5.2.2 PROJECT IMPACTS**

The analysis in **Section 4.0** revealed that the project would result in potentially significant and significant impacts to three resource areas: biological resources, cultural resources, and groundwater quality. A summary discussion of these project impacts are provided below.

- **BIO-1: Construction of the project could impact nesting habitat for Swainson’s hawk and other migratory birds. (Potentially Significant).** Nesting habitat for the Swainson’ hawk and other protected bird species are present in trees adjacent to the ROW and in other section of the project area. Construction of the project would require pruning and tree removal along the shoulder of Rockville Road, which could potentially disturb nesting of the Sawinson’s hawk and other migratory birds. This is a potentially significant impact prior to mitigation.
- **BIO-2: Construction of the project could impact waterways or associated riparian habitat where sensitive species could exist.**

**(Potentially Significant).** The project could potentially impact suitable habitat for the sensitive species that reside in Green Valley Creek riparian system, through stormwater runoff and construction debris. This is considered a potentially significant impact prior to mitigation.

- **Impact CULT-1: Ground disturbing activities would impact known cultural resources (P-48-188 (CA-SOL-364)). (Significant).** Given the previous discovery of human remains at shallow depths during utility trenching, it is highly probable that additional burials (and associated “unique archaeological deposits”) exist underneath the pavement of Rockville Road. Earth moving activities associated with the project would have the potential to impact known subsurface archeological deposits within the project site. This is a potentially significant impact prior to mitigation.
- **Impact CULT-2: Ground-disturbing activities could impact unknown subsurface archeological resources. (Potentially Significant).** Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. This is a potentially significant impact prior to mitigation.
- **Impact CULT-3: Ground-disturbing activities could impact unknown human remains. (Potentially Significant).** Subsurface construction has the potential to impact unknown subsurface archaeological deposits at the disturbed archaeological midden outside of the recorded sites P-48-188 (CA-SOL-364) and P-48-818, as well as other areas along the project alignment. This is a potentially significant impact prior to mitigation.
- **Impact HYDRO-1: Excavation of the trench to a depth between 5 and 7 feet deep would impact groundwater quality. (Significant)** The project includes excavation of the trench to depths between 5 to 7 feet. Based on boring data, groundwater was encountered at boring locations within the proposed alignment. Given this, there is a potential to encounter groundwater during trenching activities. This is significant impact prior to mitigation.

### 5.2.3 ALTERNATIVES CONSIDERED IN DETAIL

Based on a review of the project impacts, STA selected the following range of alternatives and evaluated each alternative’s ability to reduce or avoid the potentially significant impacts of the project:

#### **Alternative 1 - No-Build Alternative (relocation within the SR 12 corridor)**

The No Build alternative, Alternative 1, assumes that the relocation of the Gordon Water Line to the Rockville Road ROW would not occur.

### **Alternative 2 - Mangels Boulevard Alternative**

Under this alternative, the Gordon Water Line would be relocated to Mangels Boulevard and would connect the existing 14-inch Green Line to the Gordon Water Line within Suisun Valley Road. The existing Gordon Water Line within the SR 12 and I-80 ROW would be abandoned, similar to the proposed project.

### **Alternative 3 – Oakwood Drive Alternative**

Under the Oakwood Drive Alternative, the Gordon Water Line would be relocated to the Rockville Road ROW, similar to the proposed project. However, to avoid sensitive cultural resources, the alignment of the water line would deviate southward along Oakwood Drive, and then eastward through pasture land before connecting to the existing Gordon Water Line in Suisun Valley Road.

## **5.2.4 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL**

No alternatives were considered and rejected. All reasonable alternatives were carried forward and are evaluated in an equal level of detail in this Chapter.

## **5.3 ANALYSIS OF ALTERNATIVES**

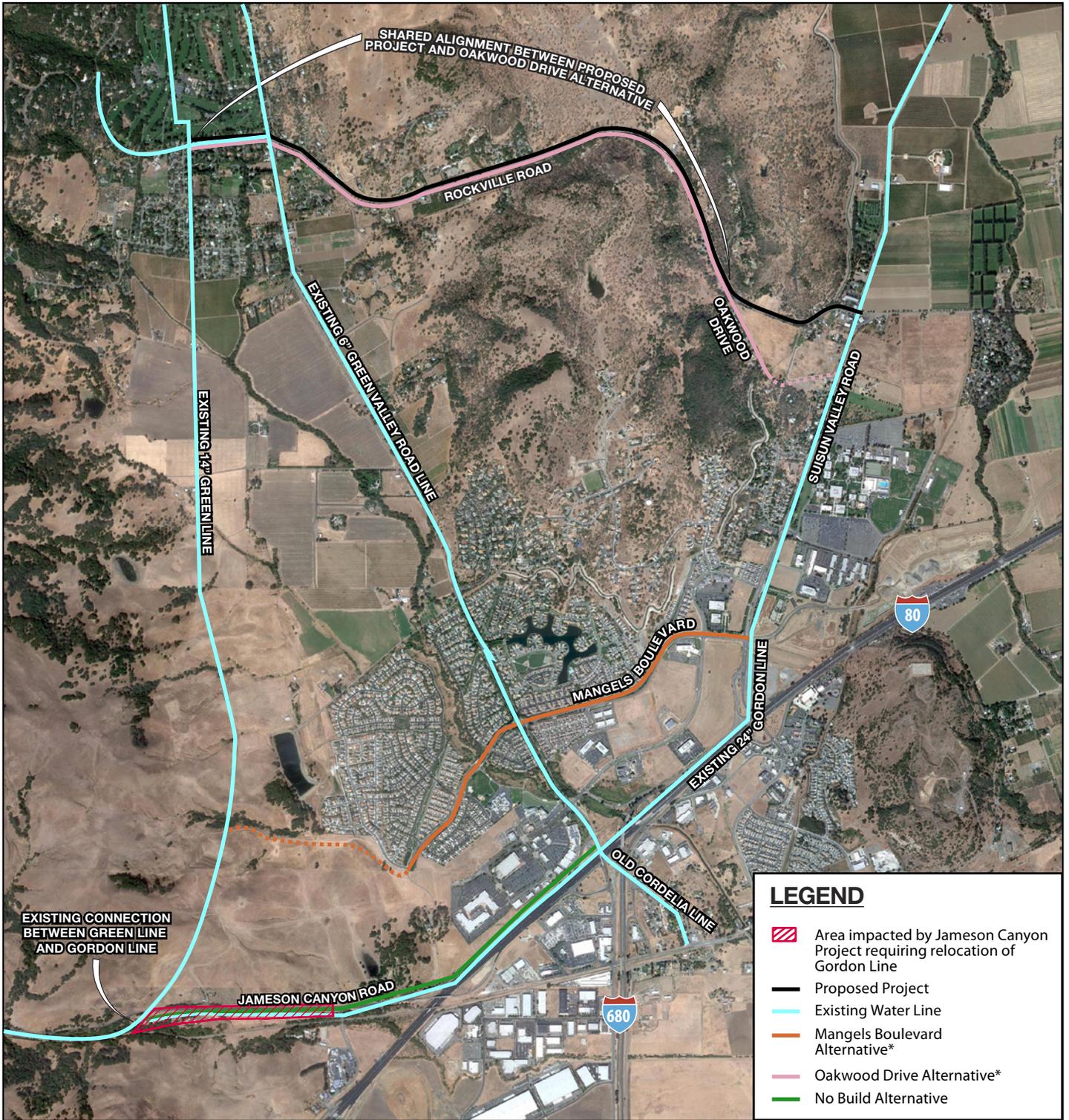
### **5.3.1 ALTERNATIVE 1 – NO BUILD ALTERNATIVE (RELOCATION WITHIN THE SR 12 CORRIDOR)**

The No Build alternative, Alternative 1, assumes that the relocation of the Gordon Water Line would not occur within the Rockville Road corridor.

The Gordon Water Line is currently located along the north side of the SR 12 and I-80 corridor (see **Figure 6**). Relocation of the line within the SR 12 corridor was already evaluated and approved as part of a joint mitigated negative declaration/environmental assessment prepared by STA in 2008 for the Jameson Canyon Road project. For the purposes of this draft EIR, the No Build alternative encompasses the relocation of the line within the SR 12 corridor as already approved for the Jameson Canyon Road project.

This alternative would require permanent and temporary acquisition of undeveloped land north of SR 12.

The following analysis compares the impacts of the project to the known impacts of relocating the line outside of the existing SR 12 ROW as discussed in the Jameson Canyon Road initial study/mitigated negative declaration.

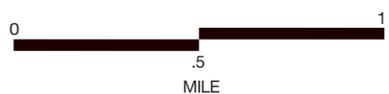


**LEGEND**

-  Area impacted by Jameson Canyon Project requiring relocation of Gordon Line
-  Proposed Project
-  Existing Water Line
-  Mangels Boulevard Alternative\*
-  Oakwood Drive Alternative\*
-  No Build Alternative

Note: Water line locations are approximate

\*Dashed line indicates portions of the proposed alignments that fall outside of the existing roadway ROW.



## **Comparative Analysis for Alternative 1**

### Biological Resources

With the No Build alternative, the Gordon Water Line would be installed on the north side of the existing SR 12 ROW in undeveloped land. Relocation of the water line, and other utilities for that project, outside of the existing SR12 ROW would require permanent and temporary acquisition of undeveloped areas that contain sensitive biological resources.

According to the Jameson Canyon Road initial study/mitigated negative declaration, biological resources that would be impacted by the relocation of the water line would include live oak woodland, potential jurisdictional wetlands, and other waters of the United States. All of these impacts would be greater than the project as proposed. Tree removal on the north side of SR 12 to facilitate the installation of the Gordon Water Line under this alternative would result in potential impacts to Swainson's hawks and other migratory birds. Impacts to wetlands would require federal and state agency permitting implementation. The No-Build alternative would therefore appear to have greater impacts and have greater effects on biological resources when compared to the project.

### Cultural Resources

According to the initial study/mitigated negative declaration prepared for the Jameson Canyon project, there are no known recorded archeological sites or historical properties that would be impacted by the proposed alignment of the water line along SR 12. Selection of this alternative would eliminate the significant impact to known cultural resources identified for the project. However, similar to the project, the No Build alternative has the potential to impact unknown cultural resources associated with ground disturbing activities.

### Other Resources

Implementation of the No Build alternative would result in construction of the water line outside of the existing SR 12 ROW. Construction under the No Build alternative would be required to comply with all Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, the no Build Alternative would have similar impacts compared to the proposed project.

## **5.3.2 ALTERNATIVE 2 – MANGELS BOULEVARD ALTERNATIVE**

Under this alternative, the Gordon Water Line within the SR 12 and I-80 ROW would be abandoned, similar to the proposed project. The Gordon Water Line would be relocated to Mangels Boulevard and would connect the existing 14-inch Green Line to the Gordon Water Line within Suisun Valley Road (see **Figure 6**).

Mangels Boulevard ends at a point west of Green Valley Road and does not extend to the location of the 14-inch Green Line. Installation of the water line beyond west of Mangels Boulevard would therefore require acquisition of an easement and construction through undeveloped land on private property. This portion of the alignment would also require more intensive construction activities along steep hillsides. Existing utility lines are also present within Mangels Boulevard and could conflict with the construction of the new water line.

## **Comparative Analysis for Alternative 2**

### Biological Resources

A windshield survey and pedestrian reconnaissance of the proposed alignment for the Mangels Boulevard alternative was conducted by RCL Ecology. Based on the survey of the area, the portion of the Mangels Boulevard alternative that would be constructed within the ROW of the existing road would have similar effects on biological resources when compared to the project. Specifically, limited tree removal and/or pruning could impact nesting habitat for the Swainson's hawks and other migratory birds. Green Valley Creek crosses Mangels Boulevard and construction work occurring near the crossing of Green Valley Creek could have impacts to the water quality and riparian habitat of that creek.

The undeveloped portion of this alignment crosses an ephemeral drainage before tying into the Green water line. This drainage area is likely to be considered a sensitive natural community that may serve as habitat to special-status species. The ephemeral drainage may also qualify as a jurisdictional wetland feature requiring agency permitting and mitigation. The Mangels Boulevard alternative would therefore appear to have greater impacts and have greater effects on biological resources when compared to the project.

### Cultural Resources

An extensive records search for the Mangels Boulevard alternative was conducted by Condor County Consulting for prehistoric and historic site records of the California Historical Resources Information System (CHRIS), Northwest Information Center (NWIC) at California State University, Sonoma. The CHRIS records search revealed that there are recorded cultural resources located within the proposed alignment for the Mangels Boulevard alternative. There are three known archeological sites, CA-SOL-268, CA-SOL-355 and CA-SOL-356, which may include human burials similar to the site at the Suisun Valley Road and Rockville Road intersection.

Additional research would be required to verify the actual presence of burial sites within this proposed alignment. The portion of the Mangels Boulevard alternative that would require construction through undeveloped land has never been surveyed for cultural resources, but has geographical features (i.e., ephemeral drainage/stream) that give it a high potential for cultural resources to exist. There are also two historic walls that are in close proximity to Mangels Boulevard.

Given the known archeological and historic sites that would likely be impacted by the Mangels Boulevard alternative, this alignment would have similar to identical effects to Native American cultural resources, and potentially greater impacts to historic properties when compared to the project.

#### Other Resources

The Mangels Boulevard ROW has been previously disturbed during the construction of the roadway and surrounding land uses. Similar to the project, construction under this alternative would be required to comply with all Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, impacts related to groundwater quality under this alternative would be similar when compared to the project.

Mangels Boulevard is mostly surrounded by urban residential land uses and is a heavily used arterial by residents accessing the I-80. If lane closures are required, although the closures would be a temporary condition, construction under this alternative would slow traffic substantially along Mangels Boulevard. Therefore, this alternative would result in greater temporary impacts to local traffic conditions.

### **5.3.3 ALTERNATIVE 3 – OAKWOOD DRIVE ALTERNATIVE**

Under the Oakwood Drive Alternative, the Gordon Water Line would be installed in the Rockville Road ROW, similar to the proposed project. However, to avoid sensitive cultural resources, the alignment of the water line would deviate southward along Oakwood Drive, and then eastward through pasture land before connecting to the existing Gordon Water Line in Suisun Valley Road. Lands outside the Oakwood Drive ROW are privately owned and would require acquisition of an easement for the water line (see **Figure 6**). These lands are also being considered for a 33 single-family residential subdivision development (Woodcreek Residential Subdivision). An initial study/mitigated negative declaration was prepared for this project in January 2009.

#### **Comparative Analysis for Alternative 3**

##### Biological Resources

A windshield survey and pedestrian reconnaissance of the proposed alignment for the Oakwood Drive Alternative was conducted by RCL Ecology. The portion of the Oakwood Drive alternative that would be constructed within the same ROW as the project would have identical effects to biological resources when compared to the project. Limited tree removal and/or pruning could impact nesting habitat for the Swainson's hawks and other migratory birds. Construction work occurring near the crossing of Green Valley Creek could have impacts to the water quality and riparian habitat of that creek.

However, the portion of the Oakwood Drive alternative that would require construction along Oakwood Drive and through open pasture land would have a greater effect on biological resources in the study area when compared to the project. Oakwood Drive is a narrow country road with limited shoulders. There is a ditch along the east side of the roadway that appears to be a remnant of a natural drainage channel beginning at a point just south of Rockville Road to the pasture land at the end of Oakwood Drive. While it may be possible to avoid impacting the upper reaches of the channel by constructing the proposed water line along the west shoulder of Oakwood Drive, the water line may need to ultimately cross the channel before continuing east across the pasture. Based on the survey of the area, and the wetlands delineation and biological assessment prepared for the Woodcreek Residential Subdivision project, the canal and ditch along Oakwood Drive have been designated as jurisdictional waterways.<sup>1</sup> This canal and ditch is considered a sensitive natural community that may serve as habitat to special-status species. The channel may also qualify as a jurisdictional wetland feature requiring agency permitting and mitigation. The Oakwood Drive alternative could therefore increase impacts and have greater effects on biological resources when compared to the project.

#### Cultural Resources

An extensive records search for the Oakwood Drive alternative was conducted by Condor County Consulting for prehistoric and historic site records of the California Historical Resources Information System (CHRIS), Northwest Information Center (NWIC) at California State University, Sonoma. The portion of the Oakwood Drive alternative that would be located within the Rockville Road ROW, which encompasses the majority of the line, would result in similar impacts to cultural resources when compare to the project.

The CHRIS records search revealed that there are no known recorded archeological sites or historical properties that would be impacted by the portion of the alignment that would deviate from the project at Oakwood Drive. The closest known archeological sites to the Oakwood Drive alternative are 500 to 750 feet away. However, not all of the proposed alignment has been surveyed. Because there are no known cultural resources that would be impacted by this alternative, the Oakwood Drive alignment is therefore expected to have fewer impacts and have lesser effects on cultural resources when compared to the project.

#### Other Resources

Implementation of the Oakwood Drive alternative would result in construction of the water line within the Rockville Road ROW, Oakwood Drive ROW and pasture land. For the portion of this alternative located in the Rockville Road ROW, all impacts would be identical when compared to the project. Construction under this alternative would also

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<sup>1</sup> Initial Study and Mitigated Negative Declaration Woodcreek Subdivision, Department of Resource Management, County of Sonoma, January 2009.

implement Caltrans water pollution control standards to protect water quality during construction. Standard Caltrans dewatering procedures would be followed during trenching if groundwater is encountered to protect groundwater quality. Therefore, impacts related to groundwater quality under this alternative would be similar when compared to the project.

#### **5.4 SUMMARY OF COMPARATIVE IMPACTS**

**Table 5.1** summarizes the comparative impacts of each of the alternatives when compared to the project.

#### **5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

CEQA requires the identification of the Environmentally Superior Alternative among the alternatives to the project. The Environmentally Superior Alternative is the alternative that would avoid or substantially lessen, to the greatest extent, the environmental impacts associated with the project. Additionally, if the No Build alternative is determined to be the Environmentally Superior Alternative, CEQA requires that the EIR identify an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)).

The identification of the Environmentally Superior Alternative results from a comparison of the impacts associated with each alternative, as summarized above. In comparing the three project alternatives, Alternative 3 is considered environmentally superior because its reduced length when compared to alternative 1 and 2 would reduce the potential for additional impacts to biological and cultural resources.

As shown in Table 5-1, all three alternatives would avoid the project's direct impact to a known cultural resource. However, all three alternatives have the potential to affect unknown cultural resources that might be uncovered during construction. All three alternatives would also require acquisition of an easement across privately-owned property.

Impacts to biological resources would be greater under Alternative 1, 2, and 3 when compared to the project. In contrast to the project where trenching would occur entirely within an existing road ROW, Alternative 1 and 2 would each require trenching across approximately 3,000 feet of undeveloped land, while Alternative 3 would require trenching across approximately 1,000 feet of residential property that is already being considered for development. The reduced length of the trenching required for Alternative 3 would result in a reduced potential for additional impacts to biological and cultural resources.

Overall, the physical impacts to the environment would be similar between Alternative 3 and the proposed project. Although Alternative 3 would reduce impacts to cultural resources by avoiding a known archeological site, it would result in a greater impact to

Table 5-1 Summary of Comparative Impacts

Environmental Impact		Project Impacts (Before Mitigation)	Relative Impact Under Different Alternatives		
			Alternative 1: No Build	Alternative 2: Mangels Boulevard	Alternative 3: Oakwood Drive
<b>Biological Resources</b>					
Impact BIO-1	Loss of nesting habitat for Swainson's hawks and migratory birds	Potentially Significant	Similar	Similar	Similar
Impact BIO-2	Degrade water quality in riparian areas	Potentially Significant	Similar	Similar	Similar
Impact NA	Loss of federally protected wetland	No Impact	<b>Greater</b>	<b>Potentially Greater</b>	<b>Greater</b>
<b>Cultural Resources</b>					
Impact CULT-1	Damage known archaeological resources (including human remains)	Significant	No Impact	No Impact	No Impact
Impact CULT-2	Damage unknown archaeological resources	Potential Significant	Similar	Similar	Similar
Impact CULT-3	Uncover unknown human remains	Potentially Significant	Similar	Similar	Similar
N/A	Damage historic structures	No Impact	No Impact	<b>Greater</b>	No Impact
<b>Other Resources</b>					
HYDRO-1		Potentially Significant	Lesser	Similar	Similar

Source: CirclePoint 2010

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biological resources since it would have a direct impact to a known jurisdictional waterway along Oakwood Drive. Alternative 3 would also require acquisition of an easement across privately-owned property while the project as proposed would be constructed entirely within County-owned property. All other impacts would be similar to those identified for the project.

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