

# Appendix A

## References

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# Appendix B

## Alternative Figures

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Figures start on next page.

Figure B-1  
Alternative 1 - Infiltration

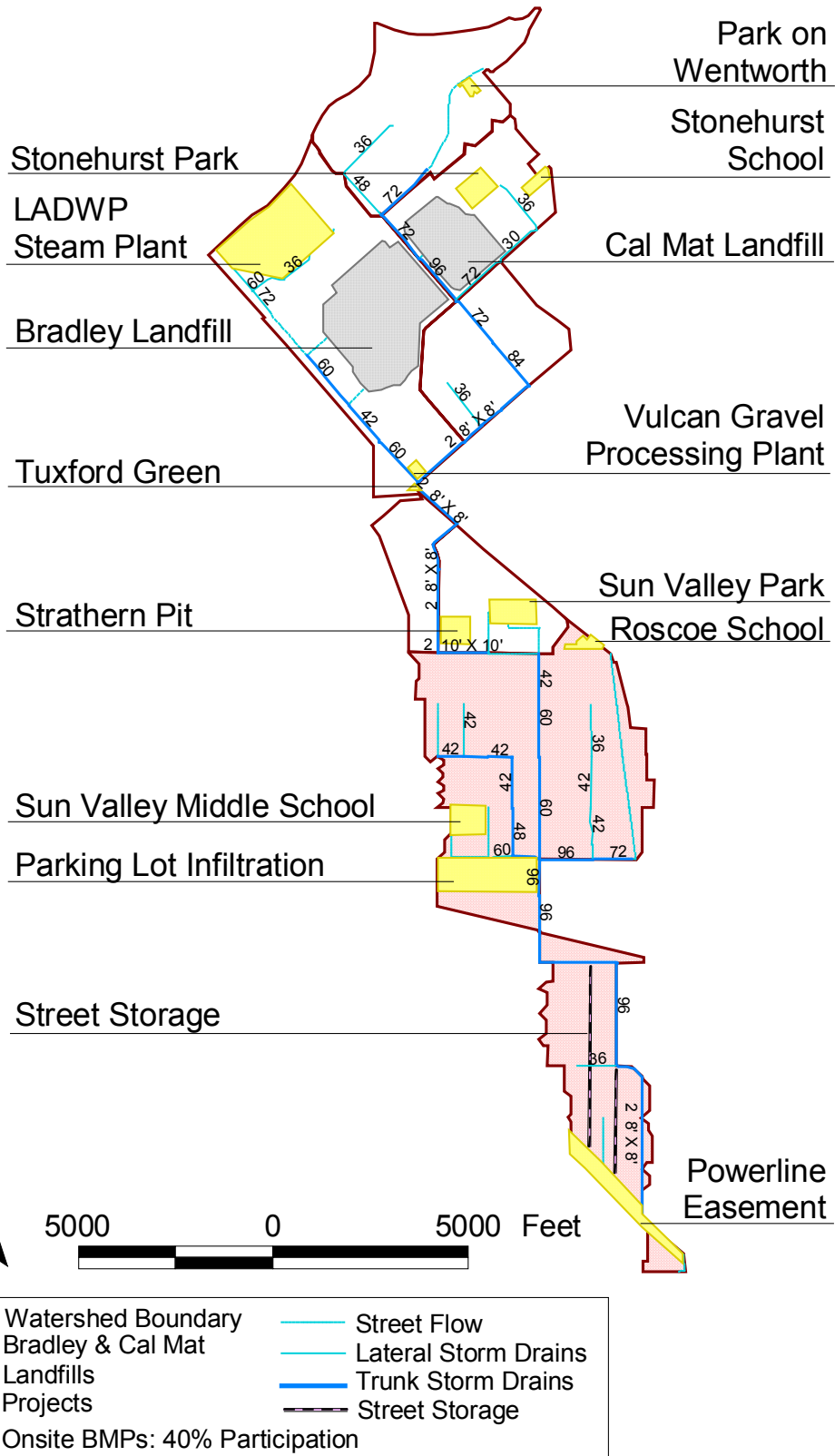
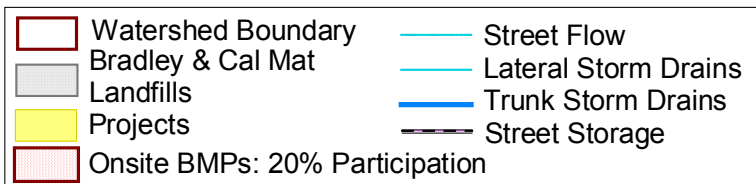
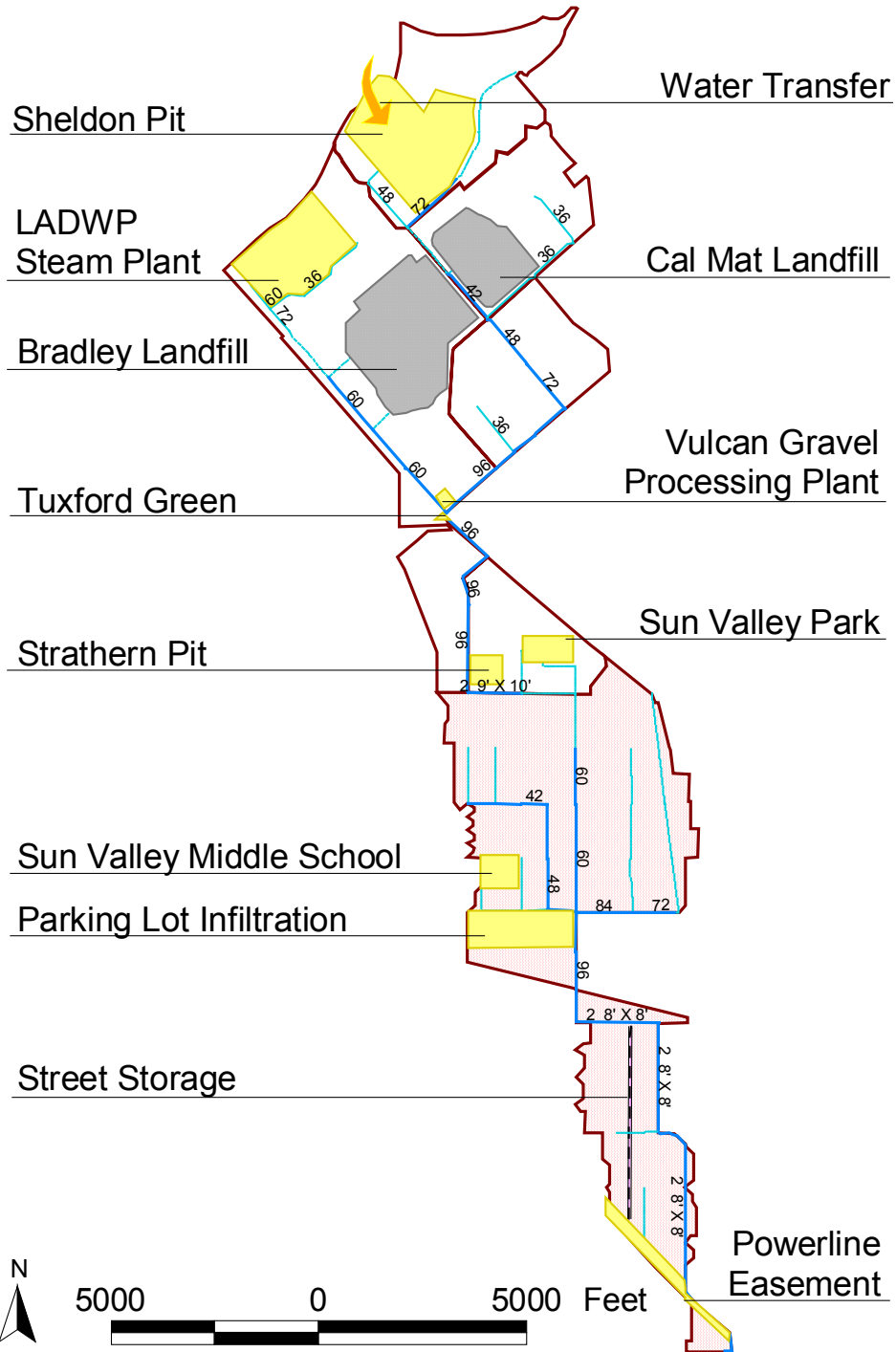
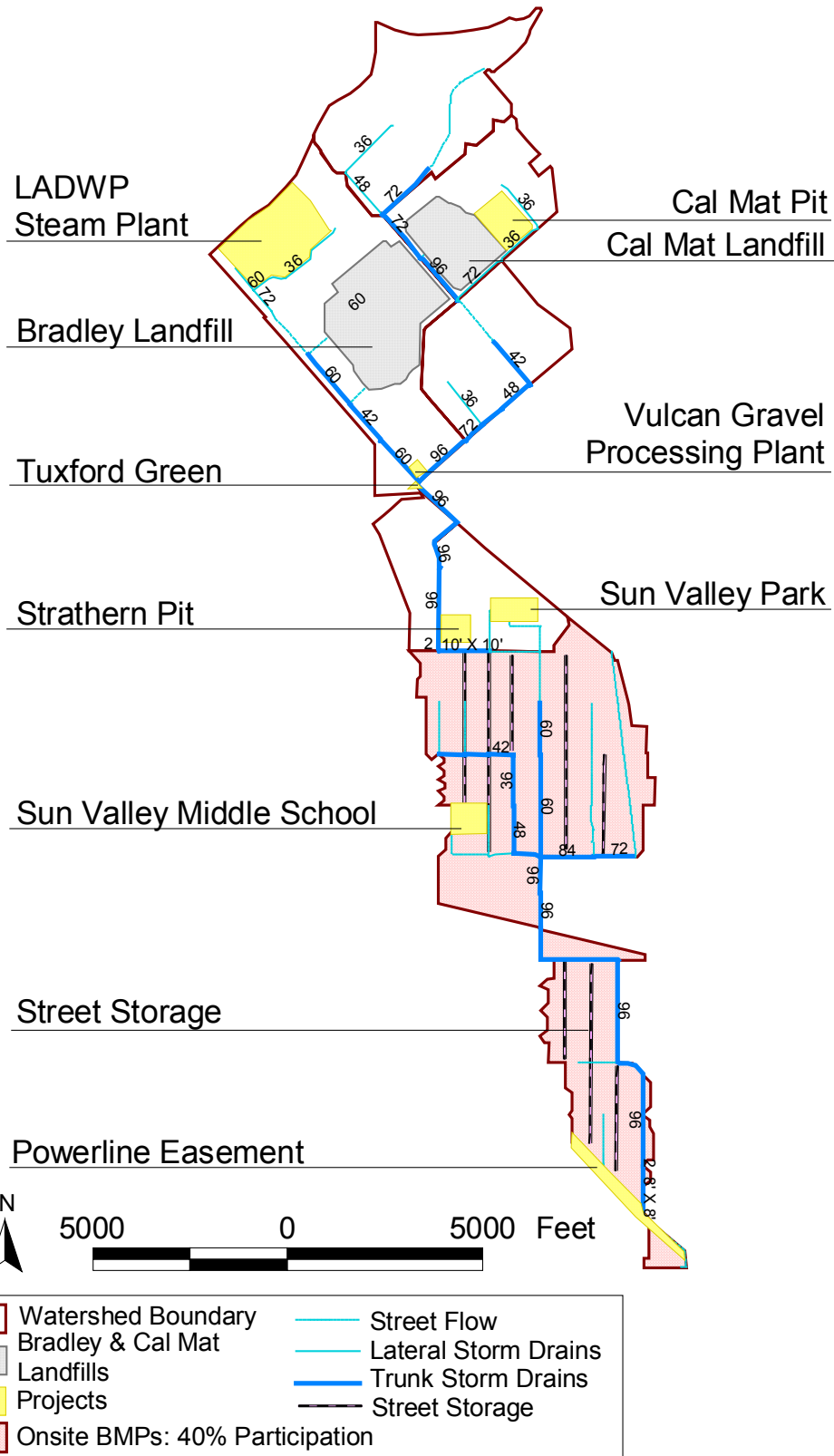


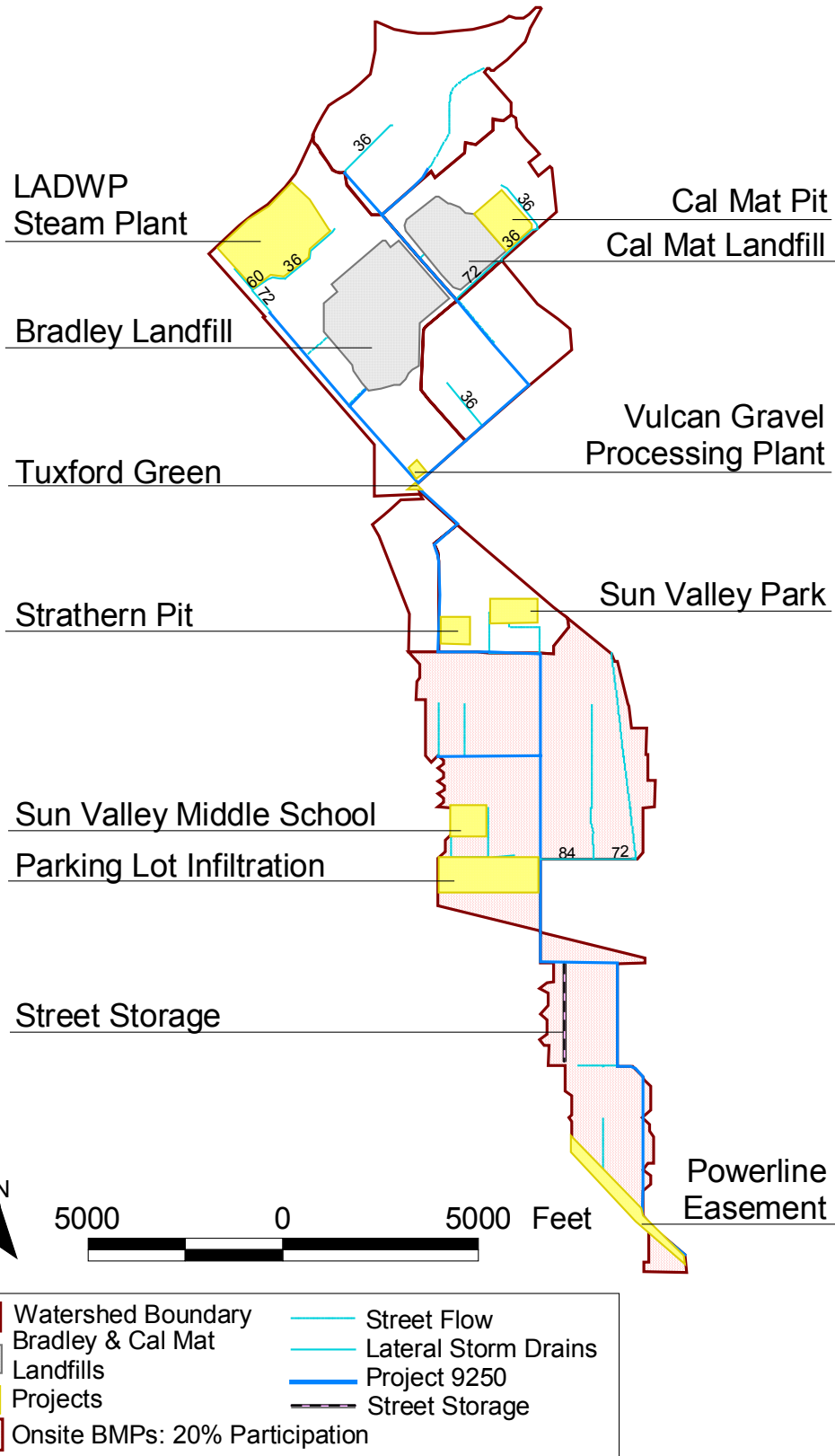
Figure B-2  
Alternative 2 – Water Conservation



**Figure B-3**  
**Alternative 3 – Stormwater Reuse**



**Figure B-4**  
**Alternative 4 – Urban Storm Protection**



## **Appendix B – Alternative Figures**

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# Appendix C

## Summary of Tech Memo 3 Alternatives Analysis

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Bold face type indicates alternatives that were considered further in Tech Memo 4.

Alternative	Description	Considered in Tech Memo 4	Explanation
1	Detention with gravel pits	No	Detention alone does not meet flood control objective
2	Detention with gravel pits (no Sheldon)	No	Detention alone does not meet flood control objective
3	<b>Infiltration with gravel pits (no Sheldon)</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>
4	<b>Regional non-potable reuse with Cal-Mat Pit</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>
5	<b>Onsite non-potable reuse without pits in Upper Watershed</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>
6	Detention without gravel pits	No	Detention alone does not meet flood control objective
7	<b>Infiltration with all gravel pits</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>
8	<b>Infiltration with tunnel to pits and maximize private property</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>
9	Infiltration with no pits or residential BMPs	No	Infiltration on industrial or commercial properties is unlikely due to water quality concerns
10	<b>Regional non-potable reuse with all gravel pits</b>	<b>Yes</b>	<b>Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives</b>

## Appendix C – Summary of Tech Memo 3 Alternative Analysis

Alternative	Description	Considered in Tech Memo 4	Explanation
11	Onsite non-potable reuse without gravel pits	Yes	Achieves a significant portion of the project objectives and lends itself to being combined with other alternatives
12	Regional potable and non-potable reuse with gravel pits	Yes	This alternative scored higher than any alternative
13	Maximize use of public properties	No	Components of this alternative can be combined into any alternative
14	Maximize water transfers	No	Components of this alternative can be combined into any alternative. This alternative scored lowest of all alternatives.
15	Maximize recreation and wildlife opportunities	No	Components of this alternative can be combined into any alternative
16	<b>Project 9250</b>	Yes	<b>This alternative will be evaluated to provide a comparison for other alternatives</b>
17	Minimize Cost	No	Alternative by itself does not meet flood control objective. Components of this alternative can be combined into any alternative
18	Maximize funding partners	No	Components of this alternative can be combined into any alternative
19	County Scenario 1	No	This alternative was the third lowest scoring alternative.
20	<b>County Scenario 5</b>	Yes	<b>Previous qualitative analysis and results of original Runoff Model are inconclusive; additional quantitative analysis is necessary</b>
21	<b>County Scenario 7</b>	Yes	<b>Previous qualitative analysis and results of original Runoff Model are inconclusive; additional quantitative analysis is necessary</b>
22	<b>County Scenario 8</b>	Yes	<b>Previous qualitative analysis and results of original Runoff Model are inconclusive; additional quantitative analysis is necessary</b>

# Appendix D

## Additional Wildlife Habitat Information

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### BACKGROUND

A number of terms have been used in various wildlife movement studies, such as “wildlife corridor”, “travel route”, “habitat linkage”, and “wildlife crossing” to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

*Travel Route*—a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.

*Wildlife Corridor*—a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.

*Wildlife Crossing*—a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent “choke points” along a movement corridor.

It is important to note that, in a large open space area in which there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors as defined above may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (canyons, ridgelines, trails, riverbeds, and others), wildlife will use these “local” routes while searching for food, water, shelter, and mates, and will not need to cross into other large open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles such as roads and highways, the remaining landscape features or travel routes that connect the larger open space areas can “become” corridors as long as they provide adequate

## **Appendix D – Additional Wildlife Habitat Information**

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space, cover, food, and water, and do not contain obstacles or distractions (e.g., man-made noise, lighting) that would generally hinder wildlife movement.

### **CONSTRAINTS**

Utility and public works entities are required by state and local regulators to perform regular maintenance within their easements in order to protect public health and safety. As an example, flood control and electric utilities are mandated to remove or clear vegetation from within floodways or to maintain certain clearances from electric conductors (or other devices such as a capacitors, transformers, etc.) in order to maintain flood capacity or to prevent power outages and/or fires that may result from direct vegetation contact with electric utility infrastructure. It is anticipated that implementation of the Sun Valley Watershed Management Plan would permit existing utilities and public works entities, as well as residential, commercial, and industrial development, within the project area to continue with their mandated operation and maintenance activities consistent with all applicable rules, regulations, and codes.

Based on the size, location, vegetative composition, and availability of food, urban development or construction of physical obstacles such as roads and highways, wildlife habitat enhancement within the project area would have the potential to facilitate the establishment of wildlife corridors or wildlife crossings. Due to the urban nature of the project area, it is anticipated that the availability of adequate space, cover, food, and water relative to anthropogenic obstacles or distractions would limit use of these enhanced areas to small mammal, reptiles, and birds. Larger mammals, such as mountain lions and bears would not be expected to utilize any areas enhanced, though carnivores such as coyotes would be expected due to their ability to adapt to urbanized settings. Furthermore, because wildlife habitat enhancement would likely occur conjunctively within utility or public works easements, there would be some level of separation from local neighborhoods due to fencing and other access controls already implemented to protect the easements from intrusion by local residents or the local residents from wildlife using the easements.

Potential “take” or impacts to endangered, threatened, or other special status plants, animals or habitats are not anticipated to occur during initial project implementation. However, if it is subsequently documented that special status plant or animal species have established themselves in the Sun Valley Watershed Management Plan area, then any potential impacts to those species would occur consistent with federal, state or local regulations or policies.

Landfills and mineral extraction facilities, though not considered significant habitat areas while operational, may provide the most viable locations for future wildlife habitat enhancement or restoration upon the cessation of their operational life. Portions of landfills and mineral extraction facilities within the plan area that are either no longer in use, or have been inactive for years, may provide the most viable locations for wildlife habitat enhancement or restoration.

### **RECOMMENDATIONS**

Restricting further unnecessary development within the utility or public works easements, while allowing mandated maintenance to continue, would allow for the opportunity to enhance or restore habitat within these areas. Furthermore, locations within the area where other land uses

## **Appendix D – Additional Wildlife Habitat Information**

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occur, such as parking, landfills, and mineral extraction, may also provide wildlife habitat enhancement and linkage opportunities in the project area. This may be accomplished by working with utilities, public works, businesses, or real property owners to manage their easements or property conjunctively for wildlife through habitat enhancement, habitat restoration, or the granting of biological easements that would allow these activities to occur in the future.