6.0 PROJECT ALTERNATIVES

CEQA requires that an EIR contain a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant effects of the project. According to CEQA Guidelines Section 15126.6(f), the range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice.

The range of alternatives may include alternatives to the project or its location. Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed. In addition to a range of alternatives, the EIR must discuss the "No-Project Alternative," which describes the reasonably foreseeable probable future conditions if the project is not approved (CEQA Guidelines, Section 15126.6).

The lead agency must consider the alternatives discussed in an EIR before acting on a project. The agency is not required to adopt an alternative that may have environmental advantages over the project if specific economic, social, or other conditions make the alternative infeasible (Public Resources Code, section 21002).

In accordance with Section 15126 of the State CEQA Guidelines as referenced above, this section addresses a reasonable range of alternatives to the proposed project, or the location of the project, which could feasibly attain the basic objectives of the project. The project Initial Study dated April 2007 and the revised Initial Study provided in this EIR evaluate four tank alternatives including an aboveground and belowground tank design at two sites (A7 and A8) as well as five alternative pipeline routes (two associated with the A7 site and three associated with the A8 site). The body of this EIR is focused on two of the tank alternatives evaluated in the Initial Study that would result in reduced visual impacts. They are below grade tank designs at either the A7 or A8 tank sites (Tank Alternatives A7B and A8B). The five pipeline alternatives are also retained for evaluation in the body of this EIR.

Although not required in an Initial Study, the Initial Study, Section C 31, included a discussion of other alternatives considered by the District to obtain early public comment. The alternatives discussion from the Initial Study has been moved to this EIR section and expanded in some areas.

The Alternatives discussed below include:

- No Project Alternative
- Non-tank Options
- Alternative Sites
- Replacement at existing tank site

- Mitigated Project (A7B and A8B)

- Environmentally Superior Alternative

It should be noted that the evaluation of alternative sites for the development of a replacement tank for the existing Conifer Tank was initiated by District staff after completion of the 1996 Oak Park Water Service Operations Plan. TSD arrived at the Environmentally Superior Alternative after examining other the other potential alternatives described below. TSD retained Boyle Engineering, Brockmeier Consulting Engineers, Penfield & Smith Engineers, Fugro West (Geotechnical), Earth Systems Consulting Engineers and Geologists, Padre Associates (Environmental), Aquatic Consulting Services, and Conejo Archaeological Consultants to assist with alternative analysis over the past decade.

6.1 NO PROJECT ALTERNATIVE

The No Project Alternative would avoid the environmental impacts associated with development of a new tank at an alternative site; however, the No Project Alternative is not considered feasible from a public safety and operational standpoint over the long-term. The existing Conifer Tank needs to be removed from service. The existing tank sits on a large and very deep landslide. Geological reports have placed the deepest slide plane at approximately 90 feet beneath the surface. It is not practical to mitigate the landslide from a geological, environmental, engineering or cost perspective in terms of slide removal or site stabilization. Replacement of the tank in this location without mitigation cannot be achieved as the geological conditions would not meet the standards. Continued use of this site will continue to place property and possibly life at risk. Also, the existing tank cannot be removed without being replaced because its water storage is needed for reliability. Additional details relating to these factors are provided as follows.

6.1.1 Current Seismic Standards

Triunfo retained Boyle Engineering to prepare an Operations Plan for OPWS in July 1996. During Plan preparation, Boyle Engineering noted three of OPWS's existing water tanks had too large of a height to diameter ratio. (After the Loma Prieta and Northridge Earthquakes, water system engineers recognized tanks previously thought safe were in danger of earthquake damage.) The Kilburn Tank has been strengthened with rock anchors. The Savoy Tank has been stabilized with an innovative concrete ballast addition. Such solutions are not considered feasible for the Conifer Tank due to the size of the landslide at the Conifer site as described below.

6.1.2 Landslide Hazard

Fugro investigations in 1996, 1998, and 2005 confirmed the existing Conifer Tank is situated on a landslide. The landslide is sufficiently unstable that the earth movement likely would nullify any seismic strengthening efforts during an earthquake that would tip the tank. The December 19, 2005 Fugro investigations confirmed the landslide is at over 50 feet deep near the tank. (It might have been feasible to use the existing site without significant

environmental impacts if the landslide were on the order of 5 feet deep over an area less than an acre. Unfortunately, the landslide is more than 50 feet deep and covers over 15 acres.)

6.1.3 Storage Volume

The Calleguas Municipal Water District CMWD) requires interruption of service from time to time to facilitate routine maintenance and repairs, etc., of facilities. The CMWD standard for such interruptions may include all services along four consecutive miles of pipeline for a minimum of 72 hours. Thus, in order to meet demand fluctuations and interruptions of services including emergencies, member agencies such as OPWS are to provide adequate storage or alternate supplies to meet demands.[1] During a hot summer day, OPWS customers use 3.6 million gallons (mg); or about 10 mg over 72 hours. If all potable water irrigation were to cease within an hour (0.1 mg is wasted during that hour), demand would drop to 1.4 mg/day. By eliminating dish washing, clothes washing, and cutting back on showers and toilet flushing, demand could drop under 0.7 mg/day (or about 2 mg over 72 hours). When all tanks are full, OPWS stores 5.6 mg with the existing Conifer Tank, 4.6 mg without the existing Conifer Tank, or 6.6 mg with the proposed new tank.

In reality, the water storage in OPWS tanks currently varies from close to the minimum fire storage volume of 2.8 mg to the full volume of 5.6 mg. Without the existing Conifer Tank, an unexpected interruption of Calleguas water supply could occur when OPWS has only 2.1 mg of water in storage.

Because pipeline alternatives A, B, C and E (all pipeline alternatives except D) would provide for a flow-through tank and the project includes water disinfection refreshing for the entire system, the minimum water storage after construction would be 4.5 mg under these alternatives. The minimum water storage after construction with the Pipeline D Alternative would be 3.2 mg.

6.2 NON-TANK ALTERNTIVES

The 1998 Reliability Study, Section 4.0, considered non-tank projects that might have (prior to investigation) proved an adequate replacement for the existing Conifer Tank. Those options included projects in the categories of “Conjunctive Use of Storage with Another Agency” and “High Volume Potable Water Storage”.

“High Volume Potable Water Storage” involved projects with the potential to store a half-year of water, on the order of 1,500 acre-feet (500-mg or about 2 months’ supply for Oak Park). For example, pre-2003, water could have been stored in an aquifer beneath what was slated to be the Ahmanson Ranch Development. The 1998 Reliability Study explains why no projects in this group were feasible. This particular project became even less feasible in 2005, because the land

[1] Calleguas Ordinance 12

is now within the National Park System, specifically the Santa Monica Mountains National Recreation Area (SMMNRA).

"Conjunctive Use of Storage with Another Agency" involved either building new storage facilities with nearby agencies or sharing existing facilities and building connecting pipelines. The adjacent retail agencies are Las Virgenes Municipal Water District on the south and California Water Service Company (Cal Water) on the west. The Calleguas Municipal Water District (Calleguas) provides the wholesale water.

The 1998 Reliability Study concluded none of the "Conjunctive Use of Storage with Another Agency" projects was feasible. Even so, several were reexamined more recently.

In 2003, the transformation of the proposed Ahmanson Ranch Development into a portion of the SMMNRA opened the potential to rehabilitate Calleguas Municipal Water District's 4 mg Cheeseboro Tank and Palo Camado Pump Station, built in the late 1960s to serve the Ahmanson Ranch. The Cheeseboro Tank proved not to be feasible because the 2-mile distance from Oak Park presents water quality, pipeline reliability, operations, and maintenance issues. Plus, the cost of rehabilitating the 4 mg Cheeseboro Tank and rebuilding the Palo Camado Pump Station exceeds the cost of a new 2 mg tank. These conclusions were not documented in a formal study. During the 2005 Initial Study review, several people raised concerns for a new aboveground tank at the edge of the recreation area in a manner that suggests continuing the life of the existing tank and pump station would be less welcome.

In 2004, conjunctive use of the California Water (Cal Water) Service's Harris Reservoir, was shown to be an inadequate and reliability reducing solution for replacing the Conifer Tank. The connection to Cal Water was not feasible primarily because Cal Water could provide only emergency service. It reduces reliability because it is a net loss of storage for Oak Park and replaces water storage that is furthest from the source with storage that could be cut off outside Oak Park by a break in the pipeline between it and Oak Park. Also, the unnecessarily high Cal Water tank creates increased energy costs (and attendant global climate change gases) for pumping.

The Triunfo Sanitation District Board requested a consultant recommended by both Calleguas and the City of Thousand Oaks prepare a review of the Cal Water option. The Board selected Brown & Caldwell. Brown & Caldwell determined the Cal Water option was not cost competitive with the new tank option. In fact the proposal was also not feasible because it did not offer the daily operational storage (The Analysis of Oak Park Water System Water Storage Replacement Options and Cal Water Operating and Leasing Proposal, Brown and Caldwell, July 22, 2004; and Oak Park Water System Water Storage and Leasing Options Financial Analysis (presentation slides), Brown and Caldwell, undated, are presented in Appendix E to this EIR.)

6.3 ALTERNATIVE SITES

Please see Appendix E to this EIR for a matrix describing alternative locations considered by the District and associated Tank Alternatives Map that shows the general locations of the site.

The locations shown on the map are generic and intended to represent sites of similar elevation within a quarter-mile of the map locations, including existing tanks in Los Angeles County.

6.3.1 Tank Site A8

Site A8 is considered the "benchmark" site by the District staff because it is a nearly flat site with an existing gently sloped access road. A water tank benefits from a nearly flat site in much the same way that trail users, pipeline, roads, and houses are more often built on flat sites. A flat site means a more reliable geologic foundation and eliminates the grading required to sculpt a flat spot on a steep slope. Because it offers flat access, the general area of Site A8 has more previous disturbance than any other 'A' site or C2. Site A8 has been disturbed by a 24-inch water line, an 18-inch, and a 20-inch gas line, and a fire road/trail. Plus, there is evidence some of the area contains fill debris.

A8 was the initial site considered for detailed analysis in a May 2005 Initial Study and has been given a similar level of analysis in the April 2007 Initial Study which also evaluated the A7 site, and as stated above, belowground tank alternatives at the A7 and A8 tanks sites (A7B and A8B Tank Alternatives) are further evaluated un this EIR.

The site is along the facility access and fire road for the Palo Camado Pump Station. The access/fire road is also used as a trail to the SMMNRA. The flat site and visual buffer from residential areas provided by the existing topography means relatively fewer geotechnical and construction impacts.

Development of a flat site would have less physical impacts than a sloped site because much less land surface need be disturbed. Both aboveground and buried tanks require a perfectly flat foundation area slightly larger than the tank diameter. Even at a flat site, some earth is removed to reach a firm foundation.

In short, the relatively flat site of A8, not available for any other site, is why tank, aboveground or buried, at Site A8 creates the least physical area of disturbance and cut and fill volume and incurs the least cost. Although other environmental impacts would result as fully evaluated in this EIR.

Site A8 has the following advantages:

- It disturbs the least land area and associated biota.
- The relatively flat site is inherently more geologically stable, with less obtrusive or expensive mitigations, should any geology issues be found.
- It is at the ideal elevation for system hydraulics.
- The relatively flat site avoids hillside scaring.
- It is visible from the least homes. (Although it is among the more visible sites from the access/fire road/trail and the SMMNRA.)
- It costs the least.

6.3.2 Tank Site A7

Site A7 received detailed attention because it is outside the central landslide area and is not as close to or directly above homes. It also has the potential to serve both Conifer and Lindero Zones, a useful feature mentioned in the 1998 Reliability Study. The location was selected for further detailed analysis due to its potential to minimize environmental impacts relative to other sites. A detailed analysis of tank development at the A7 site was provided in the April 2007 Initial Study and is provided in this EIR.

Since the Reliability Study, Triunfo added pipelines to connect zones, improved automated controls, and installed emergency generators at pump stations. The pipelines and other reliability improvements allow water transfers from any of the four potable water tanks within the District. These improvements have reduced the "need" for a new tank for the Lindero Zone to a useful side benefit.

6.3.3 Tank Sites A1-A4

This was the first area considered for a new tank site. Unfortunately, the entire open space area in the center of Oak Park is honeycombed with landslides. Such geology suggests sites in the entire area are less likely to be as reliable as sites in areas without extensive landslides. (Preliminary Summary of Potential Geotechnical Conditions Anticipated at Conifer Tank Alternative Sites A1 through A4, Fugro, September 14, 2005; and Second Party Review of Anticipated Geotechnical Conditions at the Conifer Tank Alternative Sites A1 through A4 and A8, Southwestern Engineering Geology, September 30, 2005 are provided in the appendix.)

The best site of the group, determined to be A3, represents the best of any potential site within a quarter-mile of any of the sites within the group. That is A3. In the discussion below, issues for A3 are understood to apply to the entire group area.

Site A3 has two potential advantages over Site A8. It is not as close to a trail leading to or as visible from the SMMNRA and there is no temporary road construction disruption.

Site A3 has the following disadvantages relative to Site A8:

- The tank, and the associated steep hillside scaring, is visible from perhaps 30 homes in Los Angeles County, nearby trails, and, from a distance, the SMMNRA.
- It is perched within a few hundred feet of and directly above homes in Agoura Hills.
- Even with a buried tank, the hillside scars will remain noticeable for decades. The steep slope means some tank wall will be visible.
- It is much less reliable. Although not sitting directly on a landslide, the pipelines to it run through or under mapped landslides. Those pipes may break during earth movements. Leaks in the pipes may cause earth movements. Pipe routes without mapped geologic hazards would be much longer with corresponding increased biota disturbance and cost.

- Because it is on a steep slope, it disturbs about eight times the land area and associated biota.
- In order to supply Sites A1 – A5 through the Conifer Zone, a pump station or additional pipeline is necessary. The matrix comparison is based on the less expensive but less sustainable pump station. The pump station uses energy and places a long-term continuous drain on energy resources.
- It costs on the order of $2.8m more for a partially buried concrete tank than for a buried tank on Site A8.

6.3.4 Kimberly Tank and Vicinity

Las Virgenes Municipal Water District owns and operates the Kimberly Tank, situated in Los Angeles County, south of the A1 – A4 area. This is an above ground tank at the top of a hill which was hollowed out to hide most views of the tank. Because the replacement Conifer Tank would be about four times larger, the existing earth screen would have to be removed for the larger tank. The Kimberly site, and nearby area, have all the same disadvantages as Site A3 plus the added complexities of attempting to place a tank in another County and another water district. The action approved by the Las Virgenes Municipal Water District Board provides a summary of their objections, and is provided in the Appendix E of this EIR.

6.3.5 Tank Site A5

Tank Site A5 is on the edge of the central landslide area. The location shown on the map is generic and intended to represent sites of similar elevation within 600 feet of the map location. In the discussion below, issues for A5 are understood to apply to the entire area.

Site A5 has one potential advantage over Site A8. It is not as close to a trail leading to or as visible from SMMNRA.

Site A5 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about four times the land area and associated biota.
- The tank, and the associated steep hillside scaring, is visible from perhaps 3,000 homes in Oak Park and, from a distance, the SMMNRA.
- Even with a buried tank, the hillside scars will remain noticeable for decades. The steep slope means some tank wall will be visible.
- In order to supply Sites A1 – A5 through the Conifer Zone, a pump station or additional pipeline is necessary. The matrix comparison is based on the less expensive but less sustainable pump station. The pump station uses energy and places a long-term continuous drain on the energy resources.
- It costs on the order of $2.8m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.6 Tank Site A6

Site A6 was seriously considered in 2002 because it has the potential to serve both Conifer and Lindero Zones, a useful feature mentioned in the 1998 Reliability Study. However, it is still within the central landslide area. Like other areas, the locations shown on the map are generic and intended to represent sites of similar elevation within 600 feet of the map locations. In the discussion below, the issues apply over the entire A6 area.

Since the Reliability Study, Triunfo added pipelines to connect zones, improved automated controls, and installed emergency generators at pump stations. The pipelines and other reliability improvements allow water transfers from any of the four potable water tanks within the District. These improvements have reduced the "need" for a new tank for the Lindero Zone to a useful side benefit.

Site A6 has one potential advantage over Site A8. It is not as close to a trail leading to or as visible from the SMMNRA.

Site A6 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about four times the land area and associated biota.
- The tank, and the associated steep hillside scaring, is visible from perhaps 2,000 homes in Oak Park and, from a distance, the SMMNRA.
- Even with a buried tank, the hillside scars will remain noticeable for decades. The steep slope means some tank wall will be visible.
- It has by far the most temporary road construction disruption, an order of magnitude more than for A8.

It costs on the order of $3.7m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.7 Tank Site A9

The location shown on the map is generic and intended to represent sites of similar elevation within 600 feet of the map location. In the discussion below, issues for A9 are understood to apply to the entire area.

Site A9 has no advantage over Site A8. It is close to several trails leading to and nearly as visible from the SMMNRA.

Site A9 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about four times the land area and associated biota.

- The tank, and the associated steep hillside scaring, is visible from perhaps 2,000 homes in Oak Park.
- Even with a buried tank, the hillside scars will remain noticeable for decades. The steep slope means some tank wall will be visible.
- It has about two times the temporary road construction disruption.
- It costs on the order of $1.8 m more for a partially buried concrete tank than for a fully buried tank at Site A8.

Additional geotechnical information regarding this site is provided below. This information is provided as a follow-up to issues raised by the public and District Board members regarding a possible alternative site "A13" described further below. The geological consultant from Fugro West, Inc., project engineer for Triunfo Sanitation District and CEQA consultant from Padre Associates, Inc. conducted a follow-up site visit to the Site A13 as well as the A series site area in general. The following are the findings of the geological consultant relative to the A9 site. Alternative site A-9 is located near the nose of a southwest-trending ridgeline with steep slopes that likely will require significant grading to create a tank pad founded in bedrock cut. Published mapping by Dibblee (1993)[2] and by Weber (1984)[3] suggests that the site is underlain by shale bedrock of the Modelo Formation that reportedly dips favorably into the slope at about 30 to 50 degrees to the northeast. Weber (1984) further indicates that the A-9 site is located on the southern limb of a northwest-trending synclinal axis and that a large landslide complex and two smaller landslides are located on the northwestern side of the ridgeline. Geomorphic evidence observed in our aerial photographic review and site reconnaissance suggest that landsliding may exist proximal to a tank site located on the nose area or the southeast-facing slopes of the A-9 site. Additionally, residential development exists downslope of the A9 site, and access appears to be limited. Depending upon the alignments, the access road and pipelines may have to traverse steep slopes with potentially unfavorable bedding orientations and/or cross landslide debris to service a tank at this location, thus exposing the alignments to higher risk of damage from landsliding. On the basis of Fugro's data review and site reconnaissance, the A-9 site appears to be less desirable relative to the A7 and A8 sites from a geologic/geotechnical perspective (memo from Lori Prentice of Fugro West to Mark Capron, July 27, 2007).

6.3.8 Tank Site A10

The location shown on the map is generic and intended to represent sites of similar elevation within 600 feet of the map location. In the discussion below, issues for A10 are understood to apply to the entire area.

[2] Dibblee, T.W., Jr.. and Ehrenpeck, H.E. (1993), *Geologic Map of the Thousand Oaks Quadrangle, Ventura and Los Angeles Counties, California*, Dibblee Geological Foundation, Map DF-49.

[3] Weber, H.F., Jr., (1984), *Geology of the Calabasas-Agoura-Eastern Thousand Oaks Area, Los Angeles and Ventura Counties, California,* California Division of Mines and Geology (CDMG) Open-File Report 84-1 LA.

Site A10 might have one advantage over Site A8. It is close to a trail along the SMMNRA, but might not be as visible from the SMMNRA.

Site A10 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about four times the land area and associated biota.
- It, and the associated steep hillside scaring, is visible from perhaps 30-100 homes in Oak Park.
- Even with a buried tank, the hillside scars will remain noticeable for decades. The steep slope means some tank wall will be visible.
- Although slightly less temporary road construction disruption, the pipeline and construction access would be in a private road.
- It costs on the order of $1.6m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.9 Tank Site A11

The location shown on the map is generic and intended to represent sites of similar elevation within 300 feet of the map location. In the discussion below, issues for A11 are understood to apply to the entire area.

Site A11 might have two advantages over Site A8. It is close to a trail along the SMMNRA, but might not be as visible from the SMMNRA and there is no temporary road construction disruption.

Site A11 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about four times the land area and associated biota filling in a canyon with earth from the canyon walls.
- The tank, and the associated scaring from the borrow and fill, is visible from perhaps 10-100 homes in Oak Park.
- Even with a buried tank, the earth movement scars will remain noticeable for decades.
- It costs on the order of $1.6m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.10 Tank Site A12

The location shown on the map is generic and intended to represent any site that is higher than necessary. All such other sites would have substantially more access construction to offset

any potential advantages. In the discussion below, issues for A12 are understood to apply to the entire area.

Site A12 might have one advantage over Site A8. It is not as close to a trail leading to or as visible from the SMMNRA. There would be very little temporary road construction disruption.

Site A12 has the following disadvantages relative to Site A8:

- It is perched within a few hundred feet of and directly above homes.
- It disturbs about 3 times the land area and associated biota.
- The tank, and the associated steep hillside scaring, is visible from about 100 homes in Oak Park, highly visible from Deerhill Park, and clearly visible from the SMMNRA.
- The topography appears low for a buried tank, mounding earth around the tank will look unnatural and oddly vegetated for decades.
- It costs on the order of $1.7 m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.11 Tank Sites B1-B3

These sites are lower than the necessary elevation. That means either the tank must be elevated on the order of 150 feet high, or a pump station must be built and operated. The locations shown on the map are generic and intended to represent all sites below the necessary elevation. The best site of the group is B1. In the discussion below, issues for B1 are understood to apply to the entire group area. B2 and B3 have more disadvantages than B1.

B1 is split into two sites for clarity. B1a is in the open space between the fire station and Kanan Road. B1b is in the open space between Quarterhorse Lane and Oak Point Drive.

Both B1a and B1b have two potential advantages over Site A8. Neither is as close to an official trail leading to or as visible from the SMMNRA and both have less temporary road construction disruption.

Site B1 has the following disadvantages relative to Site A8:

- It is much less reliable. An elevated tank is inherently less robust in the face of strong winds or earthquakes than a tank at grade or buried. In this case, a tank at grade requires a pump station in order to deliver the water. Mechanical systems are inherently less reliable than gravity. This is an important concern when the water would be needed most; say for fire fighting after an earthquake.
- It disturbs slightly more land area and associated biota.
- Unless the tank is elevated, the project is less sustainable. A pump station uses energy and places a long-term continuous drain on the earth's resources.

- An elevated tank would be highly visible, from 2,000 homes and the SMMNRA. It would shade some homes.
- Buried tanks would be hidden, but the associated pump station increases the security and venting components making it more visible than at Site A8.
- It costs on the order of $700,000 more for a fully buried concrete tank than for a fully buried tank at Site A8.

6.3.12 Tank Site C1

Site C1 was chosen to represent sites higher than the necessary elevation. That means a pump station must be operated to fill the tank. The location shown on the map is generic and intended to represent any site higher than necessary. Site C1 is the best site of the group because it can use an existing pump station.

Site C1 has one potential advantage over Site A8. While close to an official trail leading to the SMMNRA it is not as visible from the SMMNRA. Because the potential site is so tight, the tank must fit under the existing helipad. The slope is so steep, the new tank would have exposed wall surface in addition to slope scars similar to the existing Deerhill Tank.

Site C1 has the following disadvantages relative to Site A8:

- It disturbs slightly more land area and associated biota. (In addition to the graded area, there is no site near the tank suitable for temporarily storing excavated soils. All soils would have to move out and back in along Deerbrook Road.)
- The extra energy use of a higher than necessary tank is less sustainable. The pump station uses energy, places a long-term continuous drain on the earth's resources, and creates substantial additional air pollutant emission associated with power use than a tank that is at the appropriate elevation.
- The partially buried tank and hillside scars would visible from 2,000 homes and the SMMNRA.
- It has about 2 times the temporary road construction disruption.
- It costs on the order of $1.9m more for a partially buried concrete tank than for a fully buried tank at Site A8.

6.3.13 Tank Site C2 (Mr. Coutt's Hidden Bowl Option)

The C2 site (Hidden Bowl Option) was proposed by a member of the public during the scoping process for this EIR. Because the Hidden Bowl Option would have the bottom of the tank at about elevation 1,420 feet above sea level, it is more correctly designated "C2" instead of Mr. Coutts' suggested "A13." The "C" series is for sites that are too high for gravity filling from the Calleguas Municipal Water District. That means Site C2 would require on the order of 130,000 kWh/yr for pumping water. This power demand would generate substantively more air pollutant emissions associated with power use than for a tank site that did not require pumping for filling.

Previously, Site C1 was chosen to represent sites higher than the necessary elevation. Site C1 was considered the best site of the group because it can use an existing pump station. However, Site C2's elevation is lower and would require less power than Site C1.

Site C2 is situated on trails between Pesto Way and Conifer Circle (see the revised alternatives map in appendix E). Because it is surrounded by open space, it does not appear likely to be visible from the Oak Park Community. The access road may be from Savoy Court via the existing Savoy Tank access road or Pesto Way.

Site C2 has the following disadvantages relative to Sites A7 and A8:

- The extra energy use of a higher than necessary tank is less sustainable. The pump station uses energy, places a long-term continuous drain on the earth's resources, and creates substantial additional air pollutant emission associated with power use than a tank that is at the appropriate elevation.
- Its area of environmental disturbance and associated impact on biota and construction cost would appear to be higher than for C1, or the "A" sites, due to the new pump station and longer existing unpaved access roads.

6.3.14 Tank Site A13 (Mr. Fountaine's July 23, 2007 suggestion)

The Alternatives analysis contained in the 2007 Initial Study could have been clearer concerning the potential for finding more alternative sites. The situation is not unlike the reason the Sites A1-A7 locations were selected. Potential sites A1-A7 are the best representative sites (i.e., provide the least constraints for development of a replacement water storage tank) for the entire central Oak Park open space. Likewise potential sites A8-A12 are the best representative sites for the entire east ridge of Oak Park.

After extensive professional and public searching, there are no alternative tank locations that do not have substantially more environmental impacts while having a reliable geologic foundation at the elevation that avoids the environmental impacts of additional pumping.

Specifically concerning Site A13, the geological consultant from Fugro West, Inc., project engineer for Triunfo Sanitation District and CEQA consultant from Padre Associates, Inc. conducted a follow-up site visit to the Site A13 as well as the A series site area in general. The following are the findings of the geological consultant. Alternative site A-13 is located near the head of a southwest-facing, steeply-incised subsidiary canyon drainage on the southeastern side of the main ridgeline between sites A-9 and A-13. Published mapping by Dibblee (1993) and by Weber (1984) suggests that the A-13 site is located northeast of a northwest-trending synclinal axis and is underlain by shale bedrock of the Modelo Formation. The bedrock reportedly dips unfavorably downslope to the southwest at about 35 to 60 degrees in the site vicinity. Published maps by Dibblee and Weber do not indicate the presence of landsliding at the A-13 site, however, strong geomorphic evidence observed during our site reconnaissance and aerial photographic review is highly suggestive of landsliding at the A-13 site. In Fugro's opinion, it likely will be difficult to achieve adequate slope stability factors of safety for static and pseudostatic conditions due to the unfavorable bedding orientations and weak geologic materials that can occur within the Modelo Formation. Significant grading likely will be required to stabilize or remove the suspected landslide

deposits and to create a tank pad founded in bedrock cut due to the steep terrain at the site. Also, depending upon the selected alignments, the access road and pipelines may have to traverse steep slopes with potentially unfavorable bedding orientations and/or cross landslide debris to service a tank at this location, thus exposing the alignments to higher risk of damage from landsliding. On the basis of Fugro's data review and site reconnaissance, a tank at the A-13 site is not recommended due to the suspected landslide features and potential for unfavorable geologic bedding (memo from Lori Prentice of Fugro West to Mark Capron, July 27, 2007).

6.4 REPLACEMENT OF TANK AT THE EXISTING SITE ALTERNATIVE

The District considered replacement of the Conifer Tank at its existing site. However, the seismic hazards evaluation of the Thousand Oaks 7.5 minute quadrangle prepared by the California Geologic Survey (November 17, 2000) identifies the existing site as an area prone to earthquake induced landslide. These areas are locations where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement such that mitigation as defined by Public Resources Code Section 2693c would be required. The landslide hazard at the site was also identified by geologist from Fugro West, Inc. (Capron, personal communication, March 2005). It was determined that adequate mitigation of the hazard to safely accommodate a new tank and pipelines at this site would not be practicably feasible as it would require the removal of massive quantities of earth material which would create substantive environmental impacts (noise, aesthetics, erosion, etc.) at a cost that would be an unreasonable burden on the rate-paying public as the costs are estimated to be on the order of five times as expensive (estimated $20 million) as construction of a new tank at a geologically preferable site such as the currently proposed site.

6.5 MITIGATED PROJECT

6.5.1 Mitigated A7B Tank Alternative

The mitigated A7B Tank Alternative assumes that all of the mitigation measures incorporated into the project as identified in Section 3.0 of this EIR and additional measures identified in Section 5.0 of this EIR would be implemented. This alternative has no significant impacts.

6.5.2 Mitigated A8B Tank Alternative

The mitigated A8B Tank Alternative assumes that all of the mitigation measures incorporated into the project as identified in Section 3.0 of this EIR and additional measures identified in Section 5.0 of this EIR would be implemented. This alternative has no significant impacts.

6.6 THE ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The following analysis provides a relative comparison of environmental effects associated with the Mitigated A7B and A8B Alternatives and the associated pipeline alternatives. However, no significant environmental impact would be associated with any of

these alternatives. Therefore, implementation of any of these alternatives would be in compliance with a lead agency's duty to minimize environmental damage and balance competing public objectives as outline in Section 15021 of the CEQA Guidelines and reproduced below:

> ***CEQA Guidelines Sections 15021. Duty to Minimize Environmental Damage and Balance Competing Public Objectives***
>
> *(a) CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.*
>
> *(1) In regulating public or private activities, agencies are required to give major consideration to preventing environmental damage.*
>
> *(2) A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant[4] effects that the project would have on the environment.*
>
> *(b) In deciding whether changes in a project are feasible, an agency may consider specific economic, environmental, legal, social, and technological factors.*
>
> *(c) The duty to prevent or minimize environmental damage is implemented through the findings required by Section 15091.*
>
> *(d) CEQA recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. An agency shall prepare a statement of overriding considerations as described in Section 15093 to reflect the ultimate balancing of competing public objectives when the agency decides to approve a project that will cause one or more significant effects on the environment.*

All of the alternatives identified above were either considered infeasible or would result in more environmental impacts than either the Mitigated A7B or A8B Alternatives mainly due to geological constraints and are therefore, not considered environmentally superior. Neither the Mitigated A7B Alternative, nor the Mitigated A8B Alternative would result in any significant environmental impacts. However, the Mitigated A8B Alternative would have less adverse effects for a number of issues (e.g., short-term air quality, short-term surface water quality, mineral resources, short-term biological habitat) over the Mitigated A7B Alternative mainly because of the smaller area of impact and required cut and fill. However, the issues with the highest level of controversy, aesthetics and recreation impacts would be more severe for the Mitigated A8B Alternative than the Mitigated A7B Alternative. Additionally, the endangered

[4] emphasis added

Braunton's milkvetch is located at the A8 site, thus the tank must be sited to avoid the plants. For the A7 site the pipeline alternative with the least environmental impact is Pipeline A. For the A8 site, the pipeline with the least environmental impact is Pipeline D. This is described further below and presented in Table 6.6-1. Table 6.6-1 lists issue areas for which each alternative has the least substantial level of impact. Issue areas where there was no impact or where impact levels for alternatives are all the same are not presented.

6.6.1 Tank Alternatives

Short-term air pollutant emission are not significant for either the Mitigated A7B of A8B Alternatives, but A8B would have the least short-term emissions, due to the lesser amount of ground disturbance.

Water resource-related impacts are essentially the same for the Mitigated A7B and A8B Alternatives, but surface water quality impacts could be considered less for A8B due to the requirement for less ground disturbance and subsequent reduced potential for erosion-related water quality impacts.

Mitigated Alternative A8B would have less impact on mineral resources because the access road would not be paved.

Mitigated Alternative A8B would impact less area of habitat area, but would require avoidance of the Braunton's milkvetch located at the site.

No impact to agricultural resources would result for either alternative.

Visual impacts would be less for Mitigated Alternative A7B due to fewer sensitive viewers being affected.

The potential for paleontological impacts would be less for A8B because of the smaller amount of ground disturbance required.

Potential archaeological impacts are less for Mitigated Alternative A7B because known archaeological sites are further from the location. However the Mitigated Alternative A8B would impact less area.

Seismic and geotechnical hazards are similar for both alternatives.

Flooding impacts would be the same for both alternatives (although A7B required mitigation whereas A8B did not).

Table 6.6-1. Least Impact Issues for Each Alternative

Tank A7B	Pipeline A	Pipeline B	Tank A8B	Pipeline C	Pipeline D	Pipeline E
Visual Recreation No B. milkvetch	Air Quality (short-term) Surface water Biology Visual (short-term) Paleontology Archaeology Noise (short-term) Traffic (short-term) Waste Recreation	Geology	Air Quality (short-term) Surface water Mineral Resources Flooding Paleontological Resources Less area of biological habitat disturbance		Air Quality (short-term Mineral Resources Biological Resources Visual Paleontological Resources Archaeological Resources Noise (short-term) Waste Recreation	Seismic Hazards

Table 6.6-1 lists issue areas for which each alternative has the least substantial level of impact. Issue areas where there was no impact or where impact levels for alternatives are all the same are not presented.

No aviation, hazardous material, public health, glare or school impacts are associates with either alternative.

Fire, noise, short-term traffic, utility and police impacts are the same for both alternatives.

Waste impacts would be similar for both alternatives.

Recreation impacts are less for Mitigated Alternative A7B because fewer recreationists would be affected.

6.6.2 Pipeline Alternatives

6.6.2.1 Pipelines Associated with Site A7

Short term air quality impacts are the least for the Pipeline A.

Water resource-related impacts are essentially the same for the Pipeline Alternatives, but surface water quality impacts could be considered less for Pipeline A due to the requirement for less ground disturbance and subsequent reduced potential for erosion-related water quality impacts.

Pipeline A and B would have the same impact on mineral resources since no re pavement would be required specifically for the pipe under either option.

Pipeline A would have the least impact on biological resources.

No impact to agricultural resources would result for either alternative.

Short-term visual impacts would be least for Pipeline A. No long-term visual impacts would be associated with the pipeline alternatives.

Potential paleontological impacts could be considered less for Pipeline A due to the requirement for less ground disturbance.

Potential archaeological impacts can be considered less for Pipeline A because A would concentrate ground disturbance to a more limited area.

Seismic and geotechnical hazards would be less for pipeline B due to the overall (new and old) shorter length of pipeline subject to potential impact.

No aviation, hazardous material, public health, glare or school impacts are associated with either alternative.

Fire, police and utility impacts are the same for both alternatives.

Short-term noise would be the least for pipeline A due to the smaller linear work area for new pipe installation resulting a shorter duration period of construction noise.

Short-term traffic impacts would be the least for pipeline A due to the shorter new pipe construction in public roads.

Waste impacts are anticipated to be less for pipeline A due to the shorter length of new pipeline required.

Pipeline A would result in the least impact to recreation.

6.6.2.2 Pipelines Associated with Site A8

Short term air quality impacts are the least for the Pipeline D.

Water resource-related impacts are essentially the same for the Pipeline Alternatives, but surface water quality impacts could be considered less for Pipeline D due to the requirement for less ground disturbance and subsequent reduced potential for erosion-related water quality impacts.

Pipeline D would use the least amount of mineral resources associated with repaving.

Pipeline D would have the least impact on biological resources.

No impact to agricultural resources would result for any alternative.

Short-term visual impacts would be least for Pipeline D. No long-term visual impacts would be associated with the pipeline alternatives.

Potential paleontological impacts could be considered less for Pipelines D due to the requirement for less ground disturbance.

Potential archaeological impacts can be considered less for Pipelines D due to the requirement for less ground disturbance.

Seismic and geotechnical hazards would be less for pipeline E due to the overall (new and old) shorter length of pipeline subject to potential impact.

No aviation, hazardous material, public health, glare or school impacts are associates with any alternative.

Fire, police and utility impacts are the same for all alternatives.

Short-term noise would be the least for pipeline D due to the smaller linear work area for new pipe installation resulting a shorter duration period of construction noise.

Short-term traffic impacts would be the least for pipeline D due to the shorter new pipe construction in public roads.

Waste impacts are anticipated to be less for pipeline D due to the shorter length of new pipeline required.

Pipeline D would result in the least impact to recreation.