Chapter 2
Project Alternatives

2.1 Introduction

This chapter includes a detailed description of the project alternatives, which are analyzed in detail in this Draft Environmental Impact Report (EIR). In addition, this chapter includes information about project construction, the construction schedule, the environmental commitments that would be implemented as part of the Proposed Project, and the required permits and approvals. Chapter 2 concludes with a discussion of the alternatives that were considered but eliminated from detailed analysis.

2.2 Project Alternatives

Placer County (County) has identified the project alternatives that would meet the project objectives and satisfy the purpose and need as described in Chapter 1, *Introduction*. These alternatives are described below along with the No Project/No Action Alternative. Alternatives that were previously considered but determined not to be feasible and, therefore, eliminated from evaluation are also discussed at the end of this chapter.

2.2.1 Alternative 1 – Decommission Applegate WWTP and Construct Pipeline and Pump Station(s)

Under Alternative 1, the County would construct a new pipeline, potentially replace portions the existing pipeline, construct up to two new pump stations, and decommission the wastewater treatment ponds at the Applegate Wastewater Treatment Plant (WWTP). Although the new pipeline and replacement pipeline would be sized to accommodate the existing Applegate demand (54 equivalent dwelling units [EDUs]) as well as potential future flows (approximately 438 additional EDUs), the pipe replacement (upgrading to larger diameter pipe) would only include those segments that need to be upgraded to accommodate Applegate's existing 54 EDUs. In other words, to accommodate potential future flows, additional segments of the existing pipeline would also need to be upgraded.

Up to two new wastewater pump stations with storage facilities would be constructed. Only one storage tank and one septic tank effluent pumping (STEP) tank would be installed at the pump station(s); however, since the pump station(s) would be designed to provide space for three storage tanks and three STEP tanks, the pump station(s) could be easily expanded to accommodate potential future growth beyond the existing 54 EDUs, if required at a later date.

Alternative 1 would not allow new connections beyond the 54 existing EDUs, due to the downstream limitations in the SMD 1 collection system and pump station(s). However, the infrastructure constructed would be sized to accommodate future growth. As a result, this alternative would meet the project objectives while eliminating the need to replace infrastructure in the future and reducing associated future environmental impacts. The components of this alternative are discussed in more detail below.

Construct New Wastewater Conveyance Pipeline

Under Alternative 1, a new 10-inch-diameter force main pipeline would be constructed to connect the Applegate collection system to the SMD 1 collection system. The force main would have a maximum buildout capacity of 0.01 million gallons per day, which is enough capacity to accommodate the Applegate system's existing flows (54 EDUs) plus approximately 438 additional EDUs.

The new pipeline would follow the alignment shown in Figure 2-1, extending for approximately 4 miles. The alignment would start in the vicinity of Merry Lane and continue south along Applegate Road in the public right-of-way. The alignment would travel near the shoulder on the west side of the southbound lane. The major crossings along this segment include crossing under the Union Pacific Railroad overpass bridge, over the Boardman Canal (owned by the Placer County Water Agency [PCWA]), and over the existing 36-inch-diameter raw water culvert and 72-inch-diameter culvert owned by PCWA and the California Department of Transportation (Caltrans), respectively.

Approximately 1.7 miles from the starting point (to the south of Fairidge Drive on Applegate Road) the proposed pipeline would pass under Interstate 80 (I-80) near Clipper Gap Road. The crossing would be made using trenchless methods, which are described in greater detail in Section 2.3.2. The crossing would begin near the existing park-and-ride area and would end to the south of the intersection of Placer Hills and Lake Arthur roads.

From this intersection, the pipeline would then turn north on Placer Hills Road and would continue within the pavement on the west side of the southbound lane to Sugar Pine Road. The major crossings along this segment include two concrete canals owned by PCWA. A minimum of 5 feet of clearance would be maintained between the proposed pipeline and the existing canals. The alignment would avoid the existing fiber optic cable and overhead electrical lines located near the shoulder area on the east side of the northbound lane.

The alignment would continue west within the pavement on the north side of the westbound lane to Winchester Club Drive and then to the connection point with

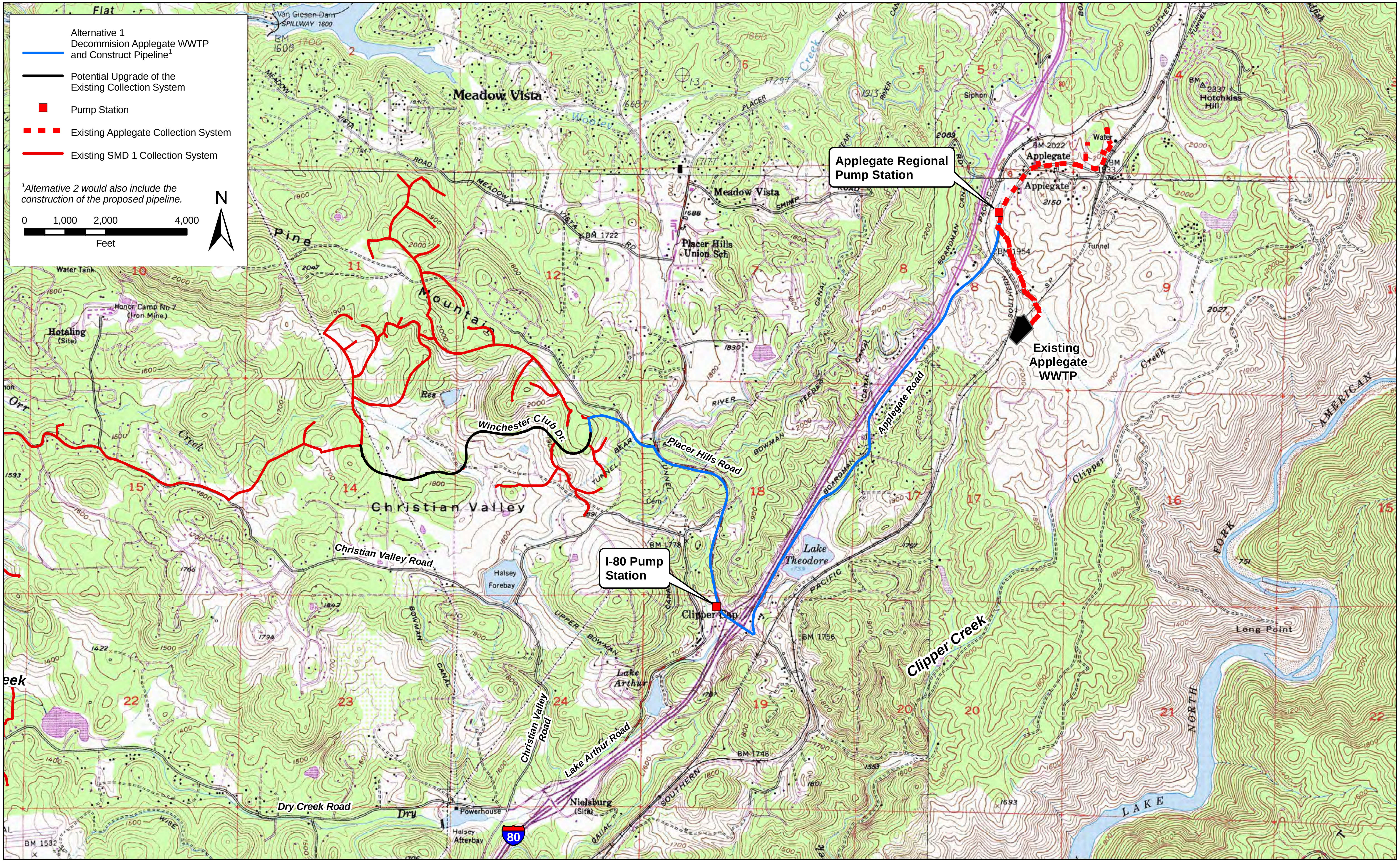

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Figure 2-1
Proposed Project

the existing sewer (SMD 1 Connection in Figure 2-1). The proposed pipeline would connect to the SMD 1 STEP system at Winchester Club Drive west of Sugar Pine Road.

Upgrade Existing Collection System

If determined necessary, up to approximately 7,750 feet of pipeline that is part of the existing SMD 1 collection system in the Winchester subdivision would be upgraded (Figure 2-1). The pipe replacement would only include those pipeline segments that need to be upsized to accommodate existing Applegate demand (54 EDUs); however the new segments would be sized to accommodate potential future flows (54 existing plus an additional 438 EDUs).

Depending on the extent of the upgrade required, the upgrading would begin from the connection point to the SMD 1 collection system and continue along Winchester Club Drive up to approximately 150 feet from the intersection of Winchester Club Drive with Lodge View Drive. The existing collection system in Winchester was constructed in approximately 2000.

Although the particular segments of pipeline installed would have capacity for future connections, the overall collection system has limitations that would prohibit future connections. In other words, after the Proposed Project is constructed, up to approximately 26,000 feet of additional pipe upgrading would be required from the Winchester system to the SMD 1 system, before the collection system could accommodate the future 438 EDUs.

Construct New Pump Stations and Community Septic Tanks

As part of Alternative 1, up to two new wastewater pump stations with storage facilities would be constructed. The first pump station (Applegate Regional Pump Station) would be located at the beginning of the pipeline alignment north of the Union Pacific Railroad crossing near Merry Lane. If determined necessary, a second pump station (I-80 Pump Station) would be located north of the I-80 crossing (Figure 2-1). These pump stations would pump wastewater from the existing collection system to the SMD 1 connection point. The existing collection system, including a pump station and gravity pipeline (Figure 2-1) would be left in place.

The Applegate Regional Pump Station would have two pumps (one duty and one standby). Four pumps would be necessary at the I-80 Pump Station. Under Alternative 1, the pumps would be sized to handle only existing flows (54 EDUs); however since the wet wells would be sized to accommodate additional future connections, only the pumps would need to be replaced to accommodate potential future flows. Wells would also be constructed at the pump stations to provide water for use in the case of emergencies for eye wash and safety showers.

Septic tanks would be employed at both pump station locations for the collection of settleable solids. Removal of solids would be necessary, because the proposed pipeline would connect to the Winchester collection system, which is designed to convey only liquids. Emergency storage facilities constructed at the new pump stations would mitigate the risk of a sanitary sewer overflow during larger storm events or during a potential system failure. The emergency storage tanks would provide 8 hours of average daily flow storage. The depths of the pump stations would be determined by pump operating requirements, depth of the incoming sewers and force mains, and emergency storage requirements. Above ground there would be electrical panel(s) housing power supply, control, and telemetry facilities. The pump station would also house a standby generator.

Under this alternative, only one storage tank and one STEP tank would be installed at the pump station(s); however, since the pump station(s) would be designed for and provide space for three storage tanks and three STEP tanks, the pump station(s) could be easily expanded to accommodate potential future growth.

The pump station would include a small building. A fence would be constructed around the building. Power may be brought to the facility by overhead or buried cable and all signals would be sent to a remote control terminal. Odor control equipment would be installed at each pump station as necessary.

Decommission Existing Applegate WWTP

Once the new pump stations and conveyance pipeline become operational, the existing Applegate WWTP would be decommissioned. The existing evaporation and percolation ponds would be restored or abandoned and the chlorination facilities and temporary storage tanks would be removed. Restoration would include grading the site, restoring natural drainage, and returning the topography to natural conditions. Abandonment would include dredging and dewatering the ponds and likely include some level of ongoing maintenance of the site.

2.2.2 Alternative 2 – Decommission WWTP and Construct Smaller Pipeline and Pump Station(s)

Similar to Alternative 1, under Alternative 2, the County would construct a new pipeline to connect to the existing collection system, potentially replace portions of the existing collection system, construct up to two new pump stations, and decommission the wastewater treatment ponds at the Applegate WWTP. However, under Alternative 2, the new pipeline (which would include upsizing only those segments needed to accommodate existing Applegate flows) would be smaller, sized only to accommodate the existing Applegate wastewater demand (54 EDUs). Similarly, the pipe replacement, would also only be sized to

accommodate those existing demand. In addition, the pump station(s) would be smaller in size and components, resulting in a smaller physical footprint.

Alternative 2 would only construct what is currently required to divert existing Applegate flows and remain within the downstream limitations of the SMD 1 collection system and pump station(s). This alternative would not accommodate future growth by allowing new connections beyond the 54 existing EDUs; pipelines and pump stations would need to be replaced to accommodate future growth in the area.

The components of this alternative are discussed in more detail below.

Construct Wastewater Conveyance Pipeline

Under Alternative 2, the pipeline alignment would be the same as under Alternative 1, but the diameter of the new and replacement pipe would be smaller, designed only to accommodate the existing Applegate connections (54 EDUs).

Upgrade Existing Collection System

Similar to Alternative 1, it could be necessary to upgrade up to approximately 7,750 feet of pipeline in the Winchester subdivision, which is part of the existing SMD 1 collection system (Figure 2-1). As under Alternative 1, pipe replacement under Alternative 2 would only include those segments necessary to accommodate existing Applegate connections (54 EDUs). Unlike Alternative 1, the new segments would only be upgraded to the diameter necessary to accommodate existing Applegate demand (54 EDUs).

Construct New Pump Stations and Community Septic Tanks

Under Alternative 2, the pump station(s) would be designed to handle only existing Applegate flows. For example, the amount of storage capacity, STEP tank capacity, pump capacity, and wet well size needed would be less than under Alternative 1; therefore, the pump station(s) would have a smaller footprint than those constructed under Alternative 1.

Because of the pump station limitations, Alternative 2 would not allow new connections to the collection system other than those already connected to the existing Applegate system.

Decommission Existing Applegate WWTP

The Applegate WWTP decommissioning would be the same as described for Alternative 1.

2.2.3 Alternative 3 – No Project/No Action Alternative

Both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) require consideration of the no-project/no-action alternative regardless of whether it meets the project objectives or purpose and need, or whether it would substantially reduce or avoid one or more of the project's significant impacts. The no-project alternative discloses the impacts that might reasonably be expected to occur if the project were not approved and the site remained more or less in its current state, subject to foreseeable changes based on existing plans.

Under the Alternative 3, the No Project/No Action Alternative, the Applegate WWTP would not be decommissioned and the proposed pump stations and pipeline would not be constructed. However, treatment of wastewater using the evaporation and percolation ponds could not continue because of the risk of discharge of treated and disinfected effluent to the local watercourses. A discharge to surface waters would violate the Cleanup and Abatement Order No. 5-01-708 issued by the CVRWQCB. So, under this option, the County would be forced to continue to collect all wastewater before it reaches the Applegate WWTP and convey it by tanker to an alternative treatment facility during wet weather. Fines and other enforcement actions would follow for failure to comply with the terms of the Settlement Agreement.

For these reasons, the No Project/No Action Alternative does not meet the project objectives or purpose and need. However, as required under both CEQA and NEPA, this alternative was carried forward for further analysis in this Draft EIR.

2.3 Project Construction

2.3.1 Construction Schedule

Construction activities associated with either Alternative 1 or Alternative 2 would be expected to occur beginning in the spring of 2012 with completion at the end of that year. Construction would normally occur between 6:00 a.m. and 8:00 p.m., Monday through Friday. Construction might also occur on Saturdays between 8:00 a.m. and 8:00 p.m. Some nighttime construction might also be required.

2.3.2 Construction Equipment and Activities

Construct New Wastewater Conveyance Pipeline

General Construction Conditions

In most areas, the proposed pipeline for either Alternative 1 or Alternative 2 would be installed using open-cut trenching. In areas where open-cut trenching is not possible because of a restricted construction area, geotechnical conditions, road crossings, or sensitive areas, alternative construction techniques such as trenchless tunneling (e.g., horizontal directional drilling or microtunneling) would be employed. Along some portions of the pipeline alignment, several areas of hard bedrock or large boulders may require blasting or the use of a large hoe-ram to complete the excavation.

Most of the proposed pipeline would be installed within existing roadways or on road shoulders. Construction activities may require temporary construction easement acquisition in some areas. However, no additional right-of-way would be required along existing roadways.

Pipeline installation could occur at a rate of up to 300 feet per day where the alignment is in low-use sections of roadways. In busier roadway areas, the installation rate would be expected to average approximately 100 feet per day. Pipeline construction rates also depend on the number of separate crews working on the pipeline. At this time, it is anticipated that at least two crews would be working on the pipeline, with a third crew responsible for the trenchless tunneling activities.

Open Trench Installation

Approximately four to six workers would install the pipeline. The primary pieces of construction equipment would include backhoes, compactors, repaving equipment, front-end loaders, tracked excavator, ten-wheel dump trucks, water trucks, forklifts, flat-bed delivery trucks, compressors and jack hammers, and concrete trucks. In most areas, the pipeline would be installed in open trenches at the edge of a lane, wherever practicable using conventional cut-and-cover construction techniques. Construction would be confined within a 20-foot-wide temporary construction zone from either side of the centerline of the roadway. It is anticipated that excavation would be standard backhoe trench construction with depths of 5 to 10 feet for the majority of the alignment. However, to minimize impacts on sensitive biological resources along the pipeline corridor, the construction zone would be narrowed along any affected sections of the pipeline alignment.

The key steps in this construction process would include utility relocation, surface clearing, trench excavation, shoring, dewatering (if required), pipe installation, trench backfilling, miscellaneous valve and access way installation, pipeline testing, and surface restoration.

A backhoe or excavator would be used to excavate the trenches for pipeline placement. Shoring would be installed in trenches as required to protect workers from trench wall failure and cave-ins. If shallow groundwater was encountered during construction activities, dewatering activities would be required. If this groundwater could not be contained on site or pumped into tank trucks and transported to a disposal facility, the groundwater would be discharged to a surface water body if a General Order for Dewatering and Other Low Threat Discharges to Surface Water Permit (National Pollutant Discharge Elimination System [NPDES] # CA0083356) was obtained from the Central Valley Regional Water Quality Control Board [CVRWQCB]).

For purposes of the impact analysis in this Draft EIR, it is assumed that all excavated soil would be hauled off site and would be replaced by imported fill. In reality, native backfill would be used to the extent feasible and would likely constitute up to 50% or more of the fill material on site. Under the worst case assumption, all soil removed from trenches would be loaded directly into dump trucks and hauled away for disposal per applicable requirements. Imported backfill would be delivered to stockpiles near the open trench.

During construction, vertical wall trenches would be temporarily closed at the end of each work day, either by covering with steel trench plates and backfill material, or by installing barricades to restrict access, depending on the conditions of the encroachment permit from the County. A temporary patch would be used until final repaving of the affected area occurs, about 2 to 6 months after pipeline installation was complete within a given road segment.

The final phase of pipeline construction would be surface restoration. In areas where pipe is installed along roadways, repaving would be the final step. Where temporary patching was done, permanent repaving would occur. Final repaving would be done at one time, after the entire pipe installation was completed or after pipe installation was completed for a particular reach of pipeline. Grasses, shrubs, and trees would be replanted to restore unpaved surfaces. Trees would not be planted directly over the pipeline in order to prevent root damage to the pipe.

Trenchless Installation

The specific type of trenchless technology to be used would depend on what is deemed most appropriate by the design engineer and could likely include horizontal directional drilling or microtunneling techniques. Depending on the method used, trenchless installation may involve the use of machines or augers to drill the hole and either a hydraulic jack to push through a casing and carrier pipeline or other machinery to pull the pipeline through.

Horizontal directional drilling involves the use of a directional drill bit to bore a pilot hole. Once the pilot hole is advanced, several reaming passes will follow. Next a casing pipe and likely the carrier pipe would be pulled through simultaneously. The microtunneling method may involve the use of a horizontal bore machines or augers to drill a hole, and a hydraulic jack to push a casing

through the hole under the crossing. As the bore proceeds, a steel casing pipe is typically jacked into the hole in a pit located at one end and the pipeline is then installed in the casing. Shoring that is appropriate to the pit depth is used to secure the walls. An additional area is needed around the pit for temporary storage of the pipe sections and for loading material removed from the bore. The receiving pit at the other end of the bore is smaller. Backhoes and dump trucks are used to haul away excavated materials to disposal sites. A typical crew size is 8 to 10 people, including haul truck drivers.

Construct New Pump Stations and Community Septic Tanks

Construction of the pump stations and septic tank systems would likely require the use of cranes, backhoes, compaction equipment, and dump trucks.

Decommission Existing Applegate WWTP

The existing evaporation and percolation ponds would be decommissioned. It is anticipated that the ponds would be filled with onsite material unless determined to be inappropriate. The ponds would be graded to ensure that any artesian groundwater flows do not compromise the integrity of the restored facilities. Decommissioning would likely include the use of cranes, backhoes, compaction equipment, and dump trucks. Construction and demolition materials would be hauled to appropriate disposal sites as determined by demolition contractors.

2.4 Environmental Commitments

2.4.1 Blasting

Environmental Commitment EC-1. Prepare and Implement a Blasting Plan

Blasting activities may be required for the Proposed Project along some portions of the pipeline alignment. As part of the project plans and specifications, the County will require the contractor to retain a qualified blasting specialist to develop a site-specific blasting program report to assess, control, and monitor airblast and ground vibration from blasting. The report will be reviewed and approved by the County prior to issuance of a blasting permit. The report will include, at minimum, the following measures:

- The contractor will use current state-of-the-art technology to keep blast-related vibration at offsite residential, other occupied structures and well sites as low as possible, consistent with blasting safety. In no instance will blast vibration, measured on the ground adjacent to a residential, other occupied

structure, or well site be allowed to exceed the frequency-dependent limits specified in the Alternative Blasting Level Criteria contained in the U.S. Bureau of Mines Report of Investigations 8507. Blast vibration levels at structures determined by the County to be extremely susceptible to vibration damage will be limited to 0.12 inch per second (in/sec).

- The project contractor will use current state-of-the-art technology to keep airblast at offsite residential and other occupied structures as low as possible. In no instance will airblast, measured at a residence or other occupied structure, be allowed to exceed the 0.013-pounds-per-square inch (133-decibeal) limit recommended in U.S. Bureau of Mines Report of Investigations 8485.
- The project contractor will monitor and record airblast and vibration for blasts within 1,000 feet of residences and other occupied structures to verify that measured levels are within the recommended limits at those locations. The contractor will use blasting seismographs containing three channels that record in three mutually perpendicular axes and which have a fourth channel for recording airblast. The frequency response of the instrumentation shall be from 2 to 250 Hertz, with a minimum sampling rate of 1,000 samples per second per channel. The recorded data must be such that the frequency of the vibrations can be determined readily. If blasting is found to exceed specified levels, blasting will cease, and alternative blasting or excavation methods shall be employed that result in the specified levels not being exceeded.

Airblast and vibration monitoring shall take place at the nearest offsite residential or other occupied structure. If vibration levels are expected to be lower than those required to trigger the seismograph at that location, or if permission cannot be obtained to record at that location, recording will be accomplished at some closer site in line with the structure. Specific locations and distances where airblast and vibration are measured will be documented in detail along with measured airblast and vibration amplitudes.

2.4.2 Traffic Control

Environmental Commitment EC-2. Prepare and Implement Traffic Management Plan

The contractor will prepare, submit, and implement a traffic management plan. The plan will include the necessary items and requirements to reduce, to the maximum extent feasible, traffic congestion during construction. The County will coordinate with the Placer County Road Department and the Placer County Sheriff's Office, and will meet their standard traffic control performance criteria.

For any construction activity requiring the complete closure of a roadway, the project construction contractor will incorporate a road closure plan, to the satisfaction of the Placer County Department of Public Works and Placer County Office of Emergency Services. The contractor will consult with these two departments in preparation of the road closure plan. The plan must outline

measures for alerting potentially affected residences, businesses, and institutions; identify alternate routes during road closure; and outline procedures for safely reopening the road in the event of an emergency.

2.4.3 Utilities

Environmental Commitment EC-3. Stabilize Existing Utilities and Prevent Interruption of Utilities Service

Critical existing utilities along the alignment may not be disrupted during construction activities. Existing utilities, such as power poles, sewer and water facilities, natural gas facilities, and others will be stabilized during construction in order to avoid undue service interruption.

Underground utility lines in the project area potentially include gas pipelines and fiber-optic cables. To prevent interruption of these and other below-ground services, detailed surveying and potholing (i.e., drilling to verify the location of utilities) will be performed and subsequent planning to traverse above and/or below existing lines will occur. Relocation of some utilities may be required.

2.4.4 Staging Areas

Environmental Commitment EC-4. Ensure Staging Area Will Not Affect Environmental Resources

At this stage of the project planning and preliminary design process, additional construction staging areas may be considered. Typically, the County would identify these areas as part of the design contract. To avoid significant environmental damage and the need for additional CEQA compliance work, the County would require that all staging areas be identified and cleared as acceptable. If additional staging areas are needed, they will be located as close to construction corridors and sites as possible to minimize construction-related traffic disruption. These areas will be used to store pipe, construction equipment, construction employee vehicles, and other construction materials such as gravel, asphalt, backfill material, and excavated soil. The staging areas are expected to be approximately 1 acre in size and will be established in areas that are open and easily accessed by vehicles. Previously disturbed areas with little or no native vegetation will receive priority. Any additional staging areas will be sited to avoid environmental impacts. In the event that additional environmental impacts are identified, the County will complete the appropriate environmental review process.

2.4.5 Solid Waste Disposal

Environmental Commitment EC-5. Comply with Solid Waste Disposal Regulations

All construction-related solid waste will be disposed of in compliance with the applicable Department of Resources Recycling and Recovery (CalRecycle) and local regulations and at the Recology Auburn Placer Transfer Station in Auburn, California or the Western Placer Waste Management Authority Materials Recovery Facility in Lincoln, California.

2.4.6 Geotechnical Analysis

Environmental Commitment EC-6. Implement Geotechnical Interpretive Report Recommendations

As part of their general plan, the County requires the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils, avalanches, and so on). Additionally, Article 15.48 of Chapter 15 of the Placer County Code states that a soil or geologic investigation report should be performed in areas of known or suspected geological hazards, including landslide hazards and hazards of ground failure stemming from seismically induced ground shaking (Ord. 5407-B § 13, 2006: Ord. 5056-B [part], 2000).

The pump station, storage facilities, and pipeline will be constructed in accordance with recommendations set forth in the Geotechnical Interpretive Report (Kleinfelder 2010)[1]. The recommendations associated with this report are presented in Section 3 of that report.

2.4.7 Seismic Standards

Environmental Commitment EC-7. Implement Seismic Standards into Design

The project applicant will be required to implement California Building Code Seismic Zone 4, California Building Standards Commission, and Placer County general plan standards into the project design for applicable features to minimize hazards associated with potential fault rupture, ground-shaking, and liquefaction.

[1] This report may be obtained by request from the Placer County Planning Department or by visiting the Placer County website.

2.4.8 Other Disturbance Requirements

Environmental Commitment EC-8. Prepare and Implement a Stormwater Pollution Prevention Plan

Under the NPDES Phase II Rule, construction activity disturbing 1 acre or more must obtain coverage under the State's General Construction Permit. General Construction Permit applicants are required to prepare a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP), and implement and maintain best management practices (BMPs) to avoid adverse impacts on receiving water quality as a result of construction activities, including earthwork.

The SWPPP will include a spill prevention and control plan. The County or its contractors will develop and implement a spill prevention and control program to minimize the potential for, and effects of, spills of hazardous, toxic, or petroleum substances during construction activities. The program will be completed before any construction activities begin. Implementation of this measure will comply with state and federal water quality regulations.

The federal reportable spill quantity for petroleum products, as defined in 40 Code of Federal Regulations [CFR] 110 is any oil spill that 1) violates applicable water quality standards, 2) causes a film or a sheen upon or discoloration of the water surface, or 3) causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. If a spill is reportable, the contractor will notify the Placer County Environmental Health Services Department, which has spill response and cleanup ordinances to govern emergency spill response. A written description of reportable releases must be submitted to CVRWQCB. This submittal must include a description of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases will be documented on a spill report form.

If an appreciable spill has occurred and results determine that project activities have adversely affected surface or groundwater quality, the County will be responsible for ensuring that a registered environmental assessor will perform a detailed analysis to identify the likely cause of contamination. This analysis will conform to American Society for Testing and Materials standards and will include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the County or its contractors will select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions.

Environmental Commitment EC-9. Prepare and Implement a Grading and Erosion Control Plan

The County's grading and erosion control ordinance is intended to control erosion and sedimentation caused by construction activities. A grading permit is

typically required for construction-related projects. As part of the permit, the project applicant usually must submit a grading and erosion control plan, vicinity and site maps, and other supplemental information. Standard conditions in the grading permit include a description of BMPs similar to those contained in a SWPPP. Article 15.48 of Chapter 15 of the Placer County Code describes permitting and issues related to grading, erosion, and sediment control. It also describes special restrictions and exemptions.

Environmental Commitment EC-10. Incorporate Placer County General Construction Specifications into Design

Placer County General Construction Specifications contain information on grading, sub-bases and bases, surfaces and pavements, structures, drainage facilities, right-of-way and traffic control facilities, and materials. These specifications along with those from the County's Land Development Manual and applicable land use ordinances will be incorporated into the project design, where appropriate.

2.5 Permits and Approvals

The following other local, state, and federal agencies may be responsible for issuing permits and approvals that may be needed to proceed with the Proposed Project. These include but are not limited to the following:

- CVRWQCB
  - NPDES permit
  - The U.S. Environmental Protection Agency (EPA) has delegated responsibility for issuance of Clean Water Act (CWA) NPDES permits to the Regional Water Quality Control Boards (RWQCBs) within California. These permits are required to ensure protection of surface waters from construction and other land-disturbing activity.
- CWA Section 401 water quality certification
  - Section 401 requires that the discharge of dredged or fill material into waters of the United States, including wetlands, does not violate state water quality standards. If a CWA Section 404 permit is necessary for the Proposed Project for any impacts on jurisdictional waters, a Section 401 water quality certification also would be necessary to comply with Section 404 permit conditions.
- Placer County Air Pollution Control District
  - Authority to Construct
- Placer County Improvement Plan Approval

- Placer County will be responsible for the review and approval of improvement plans consistent with the requirements of the Placer County Land Development Manual.

- Placer County Encroachment Permit
  - An encroachment permit is required to provide access to work within Placer County's right-of-way from Placer County Public Works.
- California Department of Transportation (CalTrans) Permit
  - Work within state right-of-way associated with I-80 will require a permit from CalTrans to ensure that no impacts on traffic or safety occur.

- U.S. Fish and Wildlife Service and the California Department of Fish and Game
  - Consultation is required with these agencies if a project has the potential to take or otherwise harm federally or state-protected wildlife and plant species.

- U.S. Army Corps of Engineers
  - The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under CWA Section 404.

- California Office of Historic Preservation
  - The State Historic Preservation Officer (SHPO) is required to ensure that the Proposed Project complies with the National Historic Preservation Act and other regulations pertinent to the protection of cultural resources.

2.6 Alternatives Considered but Eliminated

2.6.1 Alternative Pipeline Alignments

Additional pipeline alignments were considered for further analysis in this Draft EIR. However, the other alternatives were either economically less attractive or included multiple pump stations, technical and operational challenges associated with pumping low flows through high pumping heads, significant elevation changes, and/or extensive modification of a STEP system pressurized force main in the Winchester subdivision. Within each chosen alternative, optional routes were also considered for different crossings at I-80. The alignments and the options were analyzed in greater detail by Hatch Mott MacDonald in the Pipeline Routing Study (Hatch Mott MacDonald 2007[2]). Those that were considered but dismissed from further analysis in this Draft EIR are discussed below and shown in Figure 2-2.

[2] This report may be obtained by request from the Placer County Planning Department or by visiting the Placer County website.

Pipeline Alignment A

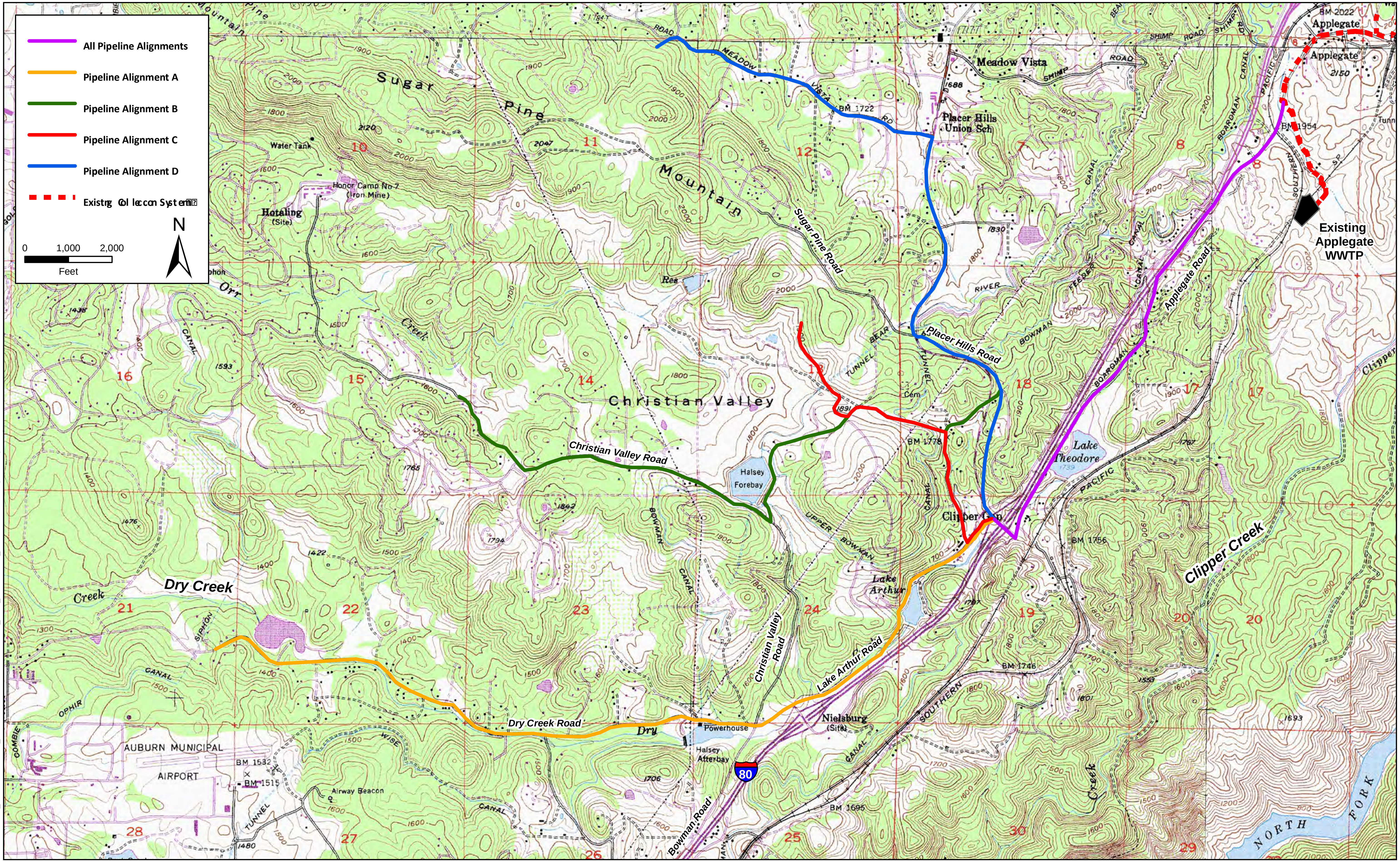
Pipeline Alignment A (referred to as Alignment 1B in the Pipeline Routing Study) would begin in the vicinity of Bon Vue Drive and continue south along Applegate Road in the public right-of-way. Approximately 1.7 miles from the starting point (to the south of Fairidge Drive on Applegate Road) the pipeline would pass under I-80 near Clipper Gap Road and continue northwest to the intersection of Placer Hills Road and Lake Arthur Road. The proposed pipeline would continue approximately 1.6 miles southwest on Lake Arthur Road to its intersection with Dry Creek Road. From the intersection of Lake Arthur Road/Dry Creek Road with Christian Valley Road/Bowman Road, the proposed pipeline would continue to travel west along Dry Creek Road in the public right-of-way. Approximately 2.9 miles from the intersection, the pipeline would connect to the existing SMD 1 sewer network at the intersection of Dry Creek Road and Blue Grass Drive, west of Windsong Place.

Pipeline Alignment A was initially considered in the NOP/IS issued by the County. It was originally preferred because of its potential to provide service to more users, resulting in additional revenue to fund the project. However, it has not been chosen for further consideration, because it has higher construction costs and construction-related impacts. The higher costs/impacts would result from it being approximately 2 miles longer than the alignment proposed under Alternatives 1 and 2. Additionally, it has since been determined that future demand would be insufficient along this alignment to justify the costs/impacts.

Pipeline Alignment B

Pipeline Alignment B (referred to as Alignment 5D in the Pipeline Routing Study) would connect to the existing SMD 1 sewer on Christian Valley Road at Williams Drive/Williams Court. This pipeline would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap toward Lake Arthur Road. From this point, the proposed pipeline would run northwest on Placer Hills Road to its intersection with Pinewood Way. The proposed pipeline would then run north on Pinewood Way to Bancroft Road where it would turn west to Christian Valley Road and continue to the connection point with the existing sewer. This routing is within the public right-of-way.

Pipeline Alignment B was not chosen for further consideration because it would be relatively long (6 miles) compared to Alternative 1 or Alternative 2, and it would not offer any reduction in construction costs or associated construction-related impacts compared to those alternatives. In addition, Pipeline Alignment B would follow Christian Valley Road, which exhibits relatively higher volumes of traffic compared to most of the other routes, and could result in greater traffic disruption during construction.



K:\PROJECTS_1\PCDFS\00201_08\MAPDOC\2011\EIR\FIG2-2_ALTS_ELIMINATED_20110504.MXD SS (05-05-11)

Figure 2-2
Alternative Pipeline Alignments Eliminated from Further Discussion

Pipeline Alignment C

Pipeline Alignment C (referred to as Alignment 2B in the Pipeline Routing Study) would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap Road to Lake Arthur Road. From Lake Arthur Road the proposed pipeline would run west to turn north on Pinewood Way to Bancroft Road, where it would turn west to Conifer Lane. At Conifer Lane the pipeline would leave the public right-of-way and cross to Granite Park Lane in a new easement across private land. From Granite Park Lane, the pipeline would run north along Pinnacle View Drive to the connection point with the existing sewer. The pipeline would connect with the Winchester STEP system at the intersection of Pinnacle View Drive West and Winchester Club Drive.

Pipeline Alignment C was not chosen because there would be the need for private party right-of-way acquisition and potential increases in construction costs associated with the alignment following narrow winding streets.

Pipeline Alignment D

Pipeline Alignment D (referred to as Alignment 4B in the Pipeline Routing Study) would connect to the existing SMD 1 sewer at Ridgemore Drive near Meadow Vista. The proposed pipeline would run from the new Applegate Regional Pump Station in the vicinity of Applegate Road and Bon Vue Drive south along Applegate Road, crossing I-80 near Clipper Gap Road along Placer Hills Road toward Lake Arthur Road. From this point, the proposed pipeline would run north on Placer Hills Road to Meadow Vista Road, then west along Meadow Vista Road to the connection point with the existing sewer at Ridgemore Drive.

Pipeline Alignment D was not chosen for further consideration because it would be relatively long (5 miles) compared to Proposed Project. In addition, the high static lift to higher elevations would require additional pump stations(s) with associated higher capital and operation and maintenance costs. There would also be a potential for traffic disruption in Meadow Vista and along Placer Hills and Meadow Vista Roads.

2.6.2 Alternatives for Wastewater Treatment

The County also investigated several wastewater treatment alternatives and presented them to CVRWQCB in reports titled Applegate Wastewater Treatment System Sewage Disposal Options (Placer County 1998) and Applegate Wastewater Treatment System Feasibility Analysis of Sewage Disposal Options (Placer County 2001). The alternatives and their features are organized by discharge type and summarized below.

Land Disposal

Percolation and Evaporation Ponds with Irrigation

The County investigated the feasibility of increasing the volume of the percolation and evaporation ponds and adding an irrigation system as a method to meet the discharge requirements. Wet weather wastewater flows, combined with rain falling directly into the ponds and slow percolation and evaporation, exceed the capacity of the existing WWTPs to store and dispose of wastewater. This alternative would deepen the existing ponds, construct one additional pond, and add an irrigation spray field. Because of shallow groundwater or rocky, difficult to remove soil beneath the existing ponds, it was assumed that the ponds could only be deepened through augmentation of the levees. Pond surface area would decrease to allow taller, sloped levees. A previous feasibility study estimated that 5 feet of height would need to be added to the existing pond levees in conjunction with the addition of a 2.3-acre pond to provide the necessary storage. The new pond would need to have a total depth of 8 feet to allow a usable depth of 6 feet. The County would also have to construct a 2-acre irrigation spray field to dispose of treated wastewater. The study concluded that seasonal operation from May 15 to October 15 would be sufficient to dispose of the surplus treated wastewater via spray irrigation.

This alternative would require the lease or purchase of additional land. The surrounding land use is primarily large 2- to 7-acre residential/agriculture lots. Property identified in the original 1998 study as the probable WWTP expansion site has since been developed. Clipper Creek bisects a secondary property leaving it with insufficient irrigation area. Expansion of the Applegate WWTP in the direction of existing homes or development may be against the desire of the community served.

Construction difficulties would also likely hinder the project completion. It may be difficult or infeasible to excavate to the specified new pond depth. Augmentation of the existing pond levees would require importation of fill material. Truck transport of fill material to the existing WWTP site is difficult because of the steeply graded gravel road that parallels active railroad tracks. The railroad owner has limited large truck access in the past.

The existing WWTP is both adjacent to Clipper Creek and situated in a high groundwater level area. While Clipper Creek has not inundated the pond area, groundwater has inundated the lowest pond. The 1998 study documented Pond 3 as typically containing 2 feet of standing groundwater at the end of a dry season. The County has installed three monitoring wells on site to monitor groundwater quality.

Subsurface Disposal

The County investigated two other alternatives that would involve the infiltration of treated wastewater into the soil. Poorly draining soils and smaller lot sizes prohibit 23 of the 26 Applegate County Service Area landowners from using this method of wastewater treatment and disposal individually on their lots. The County investigated options to dispose of treated wastewater as a community, including the following alternatives.

Community Septic Tank and Leach Field

This alternative would abandon the existing ponds and construct a community septic tank and subsurface disposal system on a new parcel of land. It would require the construction of a new force main and lift station or gravity system to connect the existing collection system to a new community septic tank. The design of the large septic tank would accommodate peak wet weather flow of 20,000 gallons per day, with 2.5 days of storage. Such a tank would be approximately 40 square feet with a 5-foot depth. The County would be required to construct a recirculating sand filter or packed-bed filter system and a subsurface disposal area.

The existing Applegate WWTP site cannot be used as a leach field because of the underlying bedrock and because the Applegate WWTP has to remain in use until a new subsurface disposal area is constructed. The County considered four other properties as candidates for the new facilities. The chosen property would need a sufficient buffer from neighboring homes, private domestic wells, and other sensitive receptors, and be capable of infiltrating wastewater at the design flow rate.

As stated above, some areas of the Applegate WWTP have high groundwater levels. The County would need to select a property with lower groundwater levels. Groundwater monitoring wells would likely need to be installed onsite. Placer County discontinued investigation of this alternative because of the anticipated difficulty in acquiring a suitable parcel for construction of the leach field.

Individual Septic Tank and Leach Fields

This alternative would construct individual septic tanks and leach fields for each individually served parcel. Because only 3 of the 28 parcels in the County Service Area have adequate area for on-site disposal, this alternative was not pursued further.

Surface Water Discharge

The following alternatives would include the treatment of wastewater and subsequent discharge to Clipper Creek. Alternatives for surface water discharge share some potential challenges, including securing and meeting the requirements of a surface water discharge permit. Because the discharge combines with the surface water and flows downstream, the permit administrator considers it available for public recreation and drinking water uses. Constituents such as metals, pesticides, pharmaceuticals, and disinfection byproducts in the treated wastewater become a concern and are now regulated by the National Toxics Rule (NTR) and California Toxics Rule (CTR). Disinfecting effluent with ultraviolet light instead of chlorine averts the creation of disinfection byproducts but carries a substantially higher cost. The wastewater treatment process is not designed to substantially remove or disable the other NTR or CTR constituents. It should be noted that this is also true for all municipal wastewater treatment alternatives. Nevertheless, surface water discharges are often required to limit and reduce the discharge of such constituents. With a small service population, the unit cost of wastewater treatment can become too expensive. The County seeks a project that will meet the discharge requirements while reducing the per capita operating costs. As such, the following alternatives for surface water discharge were investigated, but not selected as feasible alternative.

Percolation and Evaporation Ponds

This alternative would make improvements to the existing pond treatment system to enable discharging treated, disinfected effluent only when the receiving water is able to dilute the discharge by at least a 20:1 ratio. A higher capacity electrical service would be required for greater control of disinfection, dechlorination, and discharge quantities. Improvements to the existing Applegate WWTP site would include constructing a weir in Clipper Creek, installing a small effluent pump station, providing new chlorination controls and a dechlorination tank, and providing an outlet structure for Pond 2.

This alternative is based on the assumption that the County could obtain a permit to discharge to Clipper Creek with a flow-dependent effluent limitation. Some other small WWTPs in the area have effluent limitations that allow higher turbidity, total coliform and/or total dissolved solids discharge concentrations during periods where the receiving water is able to dilute the discharge by at least a 20:1 ratio. The County investigated the feasibility of meeting such discharge limitations in December 2000 and concluded that, with chlorination system improvements, discharges from the Applegate WWTP would not adversely affect downstream beneficial uses of the receiving waters. Another key conclusion was that the effluent is not expected to cause toxicity to aquatic life in the receiving water, based on the April 2001 three-species chronic bioassay results (Placer County 2001).

Feasibility of this alternative is contingent on other discharge and construction limitations. The applicable effluent coliform bacteria limitations would need to

remain at a limit of 23 most probable number daily maximum per 100 milliliters. The County did not pursue this alternative further because of the unlikelihood that the contingent limitations would be satisfied.

Packaged Equipment with Ponds

This alternative would purchase and install a packaged treatment system capable of meeting surface water discharge requirements. More stringent discharge regulations, increased construction costs, and escalating land prices have made packaged wastewater treatment systems more competitive with conventional, concrete structured mechanical treatment systems. Because this option has only recently become feasible, it has not been fully investigated.

A membrane bioreactor packaged treatment system is capable of completely bypassing the existing wastewater treatment ponds with the addition of a sludge storage tank. It includes screening, a membrane bioreactor, and disinfection. To lower capital costs, the County could attenuate wastewater inflow in one of the existing ponds, and store sludge in another existing pond. A community in Yuba County with a service population of approximately double that of Applegate is currently replacing their WWTP with a membrane bioreactor

Potential challenges to this alternative include securing and meeting the requirements of a surface water discharge permit as discussed generally above. While it is likely that the surface water discharge permit would be obtained relatively easily because of the high-quality effluent, the membrane bioreactor process carries the same treatment limitations mentioned above for NTR or CTR constituents. The County has not investigated this alternative further because of its high unit wastewater treatment cost.