

domestic animal bone (see Figure 28E, Survey Location Site Photographs, Photo 9). The shells were in an area about 5 meters wide by 20+ meters long and are assumed to be a modern deposit of shell, possibly to stabilize the sand for an access driveway or just a trash scatter. This concentration of shell and bone fragments is not considered to be a significant resource. No prehistoric or significant historic cultural artifacts were identified on the northern side of Southland Street.

- ***Pipeline Corridor along Orchard Road from Southland Street to Grande Avenue***

This segment of the pipeline route follows Orchard Road that is bordered by residential areas, some cut banks and weeds and grasses (see Figure 28D, Survey Location Site Photographs, Photo 8). The topography is flat to gently rolling terraces with sandy soil and small gravels. No cultural materials were observed in this area.

- ***Pipeline Corridor along South Frontage Road Southland Street to Grande Avenue***

This segment of the project begins at Southland Street and follows the South Frontage Road north to Grande Avenue. It is bordered on the west by vacant parcels, commercial development, multi-family and residential lots (see Figure 28D, Survey Location Site Photographs, Photo 7). Two previously-recorded prehistoric sites were identified in the records check on the west side of the Frontage Road (see Figure 28E, Survey Location Site Photographs, Photo 10.)

- ***Pipeline Corridor under Highway 101 and along Darby Lane to South Oakglen Avenue***

Darby Lane between Highway 101 and South Oakglen Avenue is a cul-de-sac street terminating at Highway 101 which is bordered by older, single family residences. No cultural resources were observed on either side of the street between Oakglen Avenue and Highway 101.

- ***Pipeline Corridor along South Oakglen Avenue from Darby Lane to Tefft Street***

South Oakglen Avenue from Darby Lane to Tefft Street is bordered by single family homes. No cultural resources were observed on either side of the street between Darby Lane and Tefft Street. SLO-1394 is located west of this pipeline corridor southeast of the intersection of Tefft Street and Highway 101.

2. Thresholds of Significance

The CEQA Guidelines state that a project involves a “substantial adverse change” to cultural resources when one or more of the following occurs:

FIGURE 28D
Survey Location Site Photographs



Photo 7: South Frontage Road looking South along Pipeline Route

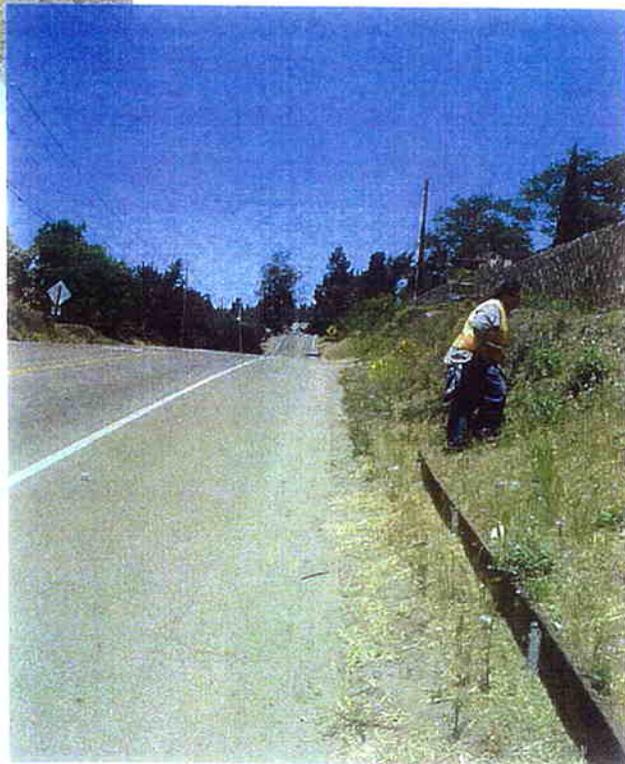


Photo 8: Orchard Avenue looking North along Pipeline Route

FIGURE 28E
Survey Location Site Photographs



Photo 9: Southland Street East of Orchard Avenue
Modern Shell Concentration



Photo 10: Graded Parcel West of South Frontage Road
near Site SLO-808

- Substantial adverse change in the significance of a historical or archaeological resource through physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.
- The significance of an archaeological resource is materially impaired when a project:
 - a. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in or eligibility for inclusion in the California Register of Historical Resources; or
 - b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant or
 - c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

3. Project Impacts

Impact F-1. *Project construction may disturb or materially alter areas containing prehistoric cultural resources which may be related to an identified prehistoric site.*

As noted above, two prehistoric sites, SLO-808 and SLO-1254 were identified at the northern end of the proposed project adjacent to the South Frontage Road, one prehistoric site, SLO-1394, was identified southeast of Tefft Street and Highway 101 and one area of shells and shell fragments was identified on the south side of Southland Street.

SLO-808 is located on a vacant lot near the intersection of Hill Street and the South Frontage Road (see Figure 28E, Survey Location Site Photographs, Photo 10). It is unknown if intact cultural deposits of SLO-808 exist beneath the South Frontage Road. Both north and south of SLO-808, prehistoric sites originally extended across the highway and frontage roads towards Nipomo Creek. It is possible that displaced and/or intact cultural resources from SLO-808 may be encountered during construction trenching along the South Frontage Road during Phase I construction of the proposed project. Given the lack of information concerning intact portions of SLO-808, it is recommended that cultural resources monitoring accompany construction trenching along

the South Frontage Road in the vicinity of Grande Avenue. If any displaced or intact cultural resources are unearthed, work in that area should halt until they can be evaluated by a qualified archeologist and Chumash representative and appropriate recommendations made.

SLO-1254 is located southwest of the intersection of Division Street and the South Frontage Road. No cultural resources were observed between the South Frontage Road and the multi-family residential development on the adjacent lot. However, several artifacts were observed in a cut bank at this location. It is possible that either intact or displaced cultural resources are located beneath the South Frontage Road between Division Street and Story Street which may be encountered during construction trenching along the South Frontage Road during Phase I construction of the proposed project. Given the lack of information concerning intact portions of SLO-1254, it is recommended that cultural resource monitoring accompany construction trenching along the South Frontage Road from Division Street south to Story Street. If any displaced or intact cultural resources are unearthed, work in that area should halt until they can be evaluated by a qualified archeologist and Chumash representative and appropriate recommendations made.

SLO-1394 is located southeast of the intersection of Tefft Street and Highway 101. This site, located on a vacant lot, consists of a scatter of Pismo clam shells. While the proposed project will not directly impact these resources, the vacant lot should not be utilized as a staging area for project construction.

A significant amount of weathered shell fragments and a bone fragment were observed on the south side of Southland Street on a lot directly south of 641 Southland. Although these shell and bone fragments are not considered to be a significant resource, a 100 meter long area should be monitored during construction trenching along Southland Street during Phase I construction of the proposed project in order to record the distribution and nature of the shells. If any trash pits or unusual items are unearthed they can be examined by a qualified principal archeologist and appropriate recommendations made.

For the remainder of the project areas for pipeline routes, facilities and staging areas, no prehistoric cultural materials (chert flakes, weathered shell or other prehistoric materials) or historic cultural materials were noted and no cultural resource monitoring is recommended during construction unless undiscovered cultural materials are accidentally unearthed.

Table 20, Cultural Resources Summary provides a listing of all survey locations, the presence or absence of cultural materials, potential project impacts and proposed mitigation measures. With implementation of these measures, impacts to cultural resources due to project construction are considered to be potentially significant, but mitigable impacts.

Impact F-2. *Project grading and construction may result in the discovery of currently-unknown cultural resources.*

Surface walkover surveys did not reveal any prehistoric or historic resources beyond those discussed above. Although no other significant cultural resources were encountered in the area during site surveys, there remains the potential that currently unknown cultural resources may be unearthed during project grading or construction. If any cultural resources are unearthed during project grading or excavation, work will be temporarily halted in that area until the unearthed cultural resources are examined and appropriate recommendations are made. In addition, an archaeological workshop shall be conducted for construction personnel to educate them as to the types of cultural resources that may be encountered during construction grading and excavation. These workshops are effective in preventing accidental damage to significant cultural resources during the construction phase of a project; they also help to reduce unnecessary delays in

**TABLE 20
CULTURAL RESOURCES SUMMARY**

Locations of Various Project Alternatives and Elements	Surface Description	Cultural Materials Present	Potential Adverse Impacts	Mitigation
South of River				
Pump Station 1, Site 1 – west of Blosser Road	flat alluvial terrace	asphalt and tar sand runway	none	none
Pump Station 1, Site 2 – west of Blosser Road	flat alluvial terrace	none	none	none
Water pipeline along Blosser Road	flat alluvial terrace	none	none	none
Pipe laydown along Blosser Road	flat alluvial terrace	none	none	none
Bore pit, laydown, south side of River	alluvial terrace, levee	none	none	none
North of River				
Storage Tank 1 – north of River SE of Orchard Avenue	flat terrace, both disturbed and non disturbed	none	none	none
Storage Tank 2 – north bank of River	knoll/flat alluvial terrace	none	none	none
Storage Tank 3 – north of River	knoll/flat alluvial terrace	none	none	none
Joshua Street north to Southland Street	agricultural fields, roads	none	none	none

Orchard Road from Southland Street to Grande Avenue	natural sloped terraces, roads	none	none	none
Division Street at Alegre Street	natural sloped terrace/road	none	none	none
Southland Street from Orchard Road to South Frontage Road	natural sloped terrace/road residential	shell and bone frags, probably modern	none	cultural resource monitoring
South Frontage Road between Grande Avenue and Story Street	disturbed and graded, road	SLO-808 and SLO-1254	possible	cultural resource monitoring

South Frontage Road fro Story Street to Southland Street	disturbed and graded, road	none	none	none
Under Highway 101 and Darby Lane to South Oakglen Avenue	disturbed and graded, residential	none	none	none
South Oakglen Avenue from Darby Lane to Tefft Street	disturbed and graded, residential	SLO-1394	possible	avoidance of SLO-1394

construction activity. The ability to halt grading or excavation when unknown cultural resources are encountered coupled with the archaeological workshops for construction personnel will result in potentially significant, but mitigable impacts.

4. Cumulative Impacts

There are several development projects under construction, approved or pending approval in the South County Planning Area. With the exception of potential impacts to identified prehistoric cultural resources and to unknown cultural resources unearthed during project construction, the proposed project will not result in any other direct or indirect impacts upon other cultural resources in the area. The proposed project, in combination with other cumulative projects in the area (see Section IV.B, Cumulative Projects) may incrementally contribute to the loss of cultural resources in the area. However, with the limited extent of project related impacts, the proposed project within the cumulative development scenario will not significantly impact regional or cumulative cultural resources conditions.

5. Mitigation Measures

The following measures address Impact F-1, potential disturbance or alteration of prehistoric cultural resources.

- F-1:** Cultural resource monitoring shall accompany construction trenching and excavation along the South Frontage Road near Grande Avenue (SLO-808), between Division Street and Story Street (SLO-1254) as well as along a 100 meter area on the south side of Southland Street directly south of 641 Southland. A Cultural Resource Monitoring Plan shall be developed and approved by the County of San Luis Obispo which will include project review, a pre-construction archeological workshop, Chumash involvement, networking with all involved members of the project and the production of a final monitoring report.
- F-2:** The vacant lot located southeast of the intersection of Tefft Street and Highway 101 containing SLO-1394 shall not be utilized during any project construction activities including, but not limited to, a staging area for project construction.

The following measures address Impact F-2, the discovery of currently-unknown cultural resources during project construction.

- F-3:** An archaeological workshop shall be conducted by a qualified archaeologist at the pre-construction meeting for construction personnel to educate them about what types of cultural material may be encountered during construction grading and excavation. A procedure for notification of accidental discovery and communication network shall be developed so that if any suspected cultural materials are unearthed, they can be quickly examined and evaluated by a qualified archaeologist and appropriate recommendations can be made.
- F-4:** During any grading or excavation associated with the project, if any cultural materials are unearthed, work in that area shall be halted until all cultural materials can be examined by a qualified archaeologist and appropriate recommendations made pursuant to County Land Use Ordinance Section 22.0.

6. Residual Impacts

Mitigation Measures F-1 and F-2 will reduce potentially significant impacts related to the disturbance or alteration of prehistoric cultural resources to an insignificant level (Class II Impact). Mitigation Measures F-3 and F-4 will reduce potentially significant impacts related to the discovery of currently-unknown cultural resources during project construction to an insignificant level (Class II Impact).

G. GEOLOGY

The following analysis of geology is based upon the "Nipomo Community Services District Waterline Intertie Project, Geological Resources Evaluation" prepared by Science Applications International Corporation (SAIC) dated July 29, 2005. This analysis is included in its entirety in Technical Appendix H of this document.

1. Existing Conditions

- ***General Topography and Stratigraphy***

The project area includes the Nipomo Mesa on the north and the Santa Maria Plain to the south. The northern, Nipomo Mesa portion of the project area, which is located generally north of the Santa Maria River, consists of a relatively flat-topped mesa, which rises approximately 120 feet above the adjacent Santa Maria River. This area is underlain primarily by Pleistocene older alluvium, older dune sand and the Orcutt Formation. The older alluvium consists of gravel, boulders, sand and other coarse detrital material of local origin imbedded in a dense matrix of silt and clay. These deposits are crudely stratified, poorly consolidated and locally cemented. Thicknesses of these deposits range between 10 and 90 feet.

The older dune sand deposits consist of coarse- to fine-grained, massive sand beds, containing some silt and clay. The sands are loosely to slightly compacted. These deposits are typically anchored by vegetation and have a well-developed soil mantle. Localized clay layers create perched groundwater conditions. The older dune sand deposits have a maximum thickness of approximately 250 feet in the project area. The Orcutt Formation in the project area consists primarily of loosely compacted, massive, medium-grained sand with lenses of clay. The thickness of the formation is approximately 100 feet.

The southern portion of the project area, which is underlain by the relatively flat-lying Santa Maria River bottom, is underlain by Holocene alluvium, consisting primarily of unconsolidated, poorly-bedded, poorly sorted sand, gravel, silt, and clay with some cobbles and boulders. The alluvium is approximately 130 feet thick in the project area. Interbedded clay, clayey sand and gravel are present at depths below 130 feet.

- ***Site-Specific Topography and Stratigraphy***

The southern terminus of the project area is located approximately one mile south of the Santa Maria River at the intersection of Blosser Road and West Taylor Street. The east-west trending flood control levee along the southern bank of the Santa Maria River consists of a sediment core that is armored by partially grouted boulders and is underlain by Holocene alluvial deposits. Immediately north of the southern flood control levee is a relatively flat-lying overbank area of the Santa Maria River. An approximate six foot high river bank is present along the boundary of the main (i.e. active) river channel, which ranges between 30 and 50 feet in width. Sediments in the southern overbank area,

which is approximately 1,500 feet wide, consist of relatively loose, unconsolidated fine- to medium-grained alluvial sands, with lenses of cobbles. The main river channel similarly consists of unconsolidated sands, but contains an abundance of pebbles and cobbles, up to 10 inches in diameter. Other linear areas of abundant pebbles and cobbles, such as those found in the main river channel, are also likely present beneath the overbank deposits, as active river channels generally migrate laterally through time. The overbank area on the north side of the main channel ranges between 100 and 1,000 feet in width in the project area resulting in a total river width ranging between 1,650 and 2,500 feet. The northern boundary of the Santa Maria River abuts the near-vertical, approximately 120-foot high bluff which defines the southern extent of the Nipomo Mesa. These bluffs are comprised of Pleistocene older dune sand which are generally erodible resulting in rilling and gulying on the bluff face. North of the river is a gently sloping alluvial canyon, underlain by Holocene alluvial sand, pebbles, and gravel. The canyon is bordered by steep bluffs of older dune sand to the west and the Pleistocene Orcutt Formation to the east.

The relatively flat top of the Nipomo Mesa is underlain by relatively soft, erodible older dune sand. The Nipomo Mesa has a surface elevation of approximately 300 feet above mean sea level with slope gradients ranging between zero and five percent. Surface elevations across the mesa gently decrease from east to west consistent with the coastal plain in the surrounding area.

- ***Faulting and Seismicity***

- *Faulting*

There are no active faults in the immediate vicinity of the project area although it is located in a seismically active area of Southern California, due to the presence of the active San Andreas Fault, located approximately 38 miles northeast of the project area. Other active faults in the vicinity include the offshore Hosgri Fault Zone, located approximately 22 miles northwest of the project area, the Los Osos Fault, located approximately 23 miles northwest of the project area and the Los Alamos Fault, located approximately 19 miles to the southeast.

Two potentially active northwest-trending faults, the Santa Maria River and Wilmar Avenue Faults, may traverse the project area. The location of these faults is not well defined. The existence of the Santa Maria River Fault was proposed to explain: 1) the southward truncation (i.e. cutting off) of a thick section of early Miocene volcanic siltstone and claystone, 2) the northward truncation of late Miocene and early Pliocene diatomaceous mudstone and siltstone associated with the Santa Maria Basin, 3) an up-to-the-northeast vertical offset of Franciscan bedrock and 4) other stratigraphic contrasts evident from subsurface data. This fault appears to have played a major role in the formation of the Santa Maria Basin. The youngest fault activity along this fault may have occurred as recently as late Quaternary.

The northwest-trending Wilmar Avenue Fault is a late Quaternary reverse fault which is exposed only at a sea cliff in Pismo Beach, but may extend south along the front of the San Luis Range and along the northeast margin of Nipomo Mesa, to the northern part of the Santa Maria Valley, where it may be cut off by the Santa Maria Fault. Along this southerly segment, the alignment of this fault is indicated by the alignment of subtle geomorphic and geologic features, including a straight segment of Nipomo Creek.

In addition, the northern terminus of the potentially active Santa Maria Fault is located approximately 0.5 mile south of the Santa Maria River. The Santa Maria Fault is a concealed high angle reverse fault which transects the City of Santa Maria. Because the location of the fault is based primarily on oil well data, its precise location is not determined. The Plio-Pleistocene Paso Robles Formation is the youngest strata offset by the Santa Maria Fault, therefore, this fault should be considered potentially active.

- ***Seismicity***

- *Ground Shaking*

Ground shaking or ground motion is caused by the release of accumulated energy during a seismic event. Energy is released in the form of seismic waves that travel outward in all directions from the earthquake epicenter. The intensity of ground shaking at a particular location is a function of several factors including: maximum ground acceleration, magnitude of the earthquake, near surface amplification, distance from earthquake epicenter, duration of strong shaking and the natural vibration period. The potential for severe ground shaking at the project site could occur as a result of movement along one of several active faults in the vicinity of the site, including the San Andreas or Hosgri Fault Zones.

- *Liquefaction*

Liquefaction is the process in which saturated sandy soil loses strength during moderate to intense seismic-induced ground shaking. The potential for liquefaction is greatest in areas with loose, granular, low density soils and where the water table is shallow, usually within 40 to 50 feet of the ground surface. Liquefaction can cause extreme differential settlement of structures potentially resulting in severe damage. Alluvial sediments within river bottoms, such as those present along the Santa Maria River, typically contain shallow groundwater (i.e. less than 50 feet) and loose unconsolidated sediments which may be prone to liquefaction in the event of a moderate to severe earthquake. However, groundwater levels derived from data collected in the project area in 2004 ranged from 100 feet to 110 feet above mean sea level or at a depth of approximately 100 feet below the ground surface. In a runoff event, there will be mounding of groundwater close to the river channel. However, this area is a relatively free draining recharge zone. Therefore, the potential for liquefaction is generally limited to periods of runoff.

Sediments underlying Nipomo Mesa would be less likely to liquefy in the event of an earthquake as the older dune sand deposits in this area are largely unsaturated. Local

zones of perched groundwater occur within the older dune sands on the mesa, but not continuously across the mesa.

- ***Slope Stability***

The topography across most of the project area is relatively flat to gently sloping; therefore, the potential for landslides, mudslides, or debris flows is very low. However, a near-vertical, 120-foot high, south-facing bluff is present on the north side of the Santa Maria River. This bluff face consists of soft, erodible, older dune sand, which contains extensive rills and gullies. Such slopes are generally susceptible to severe erosion and shallow slope failures in the event of a prolonged, high-intensity rainfall.

- ***Expansive Soils***

Expansive soils are generally clay-rich soils that swell when saturated and shrink when dry. When structures are placed on expansive soils, foundations may rise each rainy season and fall with the succeeding dry season. Movement may vary under different portions of a structure (i.e. differential settlement), resulting in cracks in foundations, walls and ceilings, distortions in various portions of a building and warping of windows and doorways. The project area is generally underlain by sandy soils which are generally not prone to expansion.

- ***Mineral Resources***

The Surface Mining and Reclamation Act of 1975 (SMARA) was enacted to promote conservation of the State's mineral resources and to ensure adequate reclamation of lands once they have been mined. Among other provisions, SMARA requires the State Geologist to classify land in California for mineral resource potential. The four classifications include: Mineral Resource Zone (MRZ-1), involving areas of no mineral resource significance; MRZ-2, areas of identified mineral resource significance; MRZ-3, areas of undetermined mineral resource significance, and MRZ-4, areas of unknown mineral resource significance.

To be considered significant for the purpose of mineral land classification, a mineral deposit, or a group of mineral deposits that can be mined as a unit, must meet marketability and threshold value criteria adopted by the California State Mining and Geology Board. The criteria varies for different minerals depending on the following: (1) whether the minerals are strategic or non-strategic, (2) the uniqueness or rarity of the minerals and (3) the commodity-type category (metallic minerals, industrial minerals, or construction materials) of the minerals.

Mineral resources in the project area consist primarily of construction-grade aggregate, consisting of sand, gravel and crushed stone. Aggregate provides bulk and strength to Portland cement concrete (PCC), asphaltic concrete, plaster, and stucco. Aggregate is also used as road base, subbase, railroad ballast and fill. Aggregate normally provides from 80 to 100 percent of the material volume for these uses.

The portion of the project area located south of Nipomo Mesa (i.e. the Santa Maria River bed) is located in an area designated as MRZ-2. The Nipomo Mesa area is located in an area designated as MRZ-3. There is a high likelihood that significant deposits of PCC-grade aggregate are located in MRZ-2 of the project area. Several active mining claims are located within the Santa Maria River bed portion of the project area. Mining claims north of the Santa Maria River include the Troesh Ready Mix, Inc. and the Santa Maria Sand Company and River Sand and Gravel, Inc. mining claims.

2. Thresholds of Significance

Geologic impacts would be considered significant if any component of the proposed project were to:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic groundshaking or seismic-related ground failure, including liquefaction or landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project or potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

Mineral resource impacts would be considered significant if the project were to:

- Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3. Project Impacts

Impact G-1. *The proposed project could expose facilities to potential substantial adverse effects, including the risk of loss, involving strong seismic ground shaking and associated ground failure, including liquefaction.*

Several regionally active faults are capable of producing significant ground shaking in the project area which could damage and/or rupture the proposed pipeline, water tank and related facilities. Other possible types of seismic-related ground failure include lateral spreading, differential settlement, tectonic subsidence and liquefaction. Lateral spreading typically occurs when unsupported stream banks or drainage banks fail laterally during strong ground shaking, resulting in expansion cracks and ground collapse. The proposed pipeline associated with the proposed horizontal directional drilling would be buried well

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below the ground surface, thus minimizing the potential for lateral spreading impacting these pipelines. However, proposed above ground structures, such as the proposed pump stations, as well as pipelines in trenched areas, would be located at or near the ground surface and would potentially be subject to damage as a result of lateral spreading. Damage to such infrastructure cannot be totally precluded even with implementation of modern engineering and construction practices.

Differential settlement or subsidence typically occurs when non-uniformly compacted soils or non-uniformly competent bedrock settle differing amounts during ground shaking, potentially resulting in damage to overlying pipelines and related infrastructure. During very large earthquakes, subsidence could occur instantaneously and may total several feet, resulting in pipeline damage and/or rupture.

Although generally limited to periods of surface runoff, the Santa Maria River is also located in an area of potential liquefaction susceptibility. Liquefaction-induced ground failure could also result in damage and/or failure of the proposed pipeline, water tank, pump stations and other related facilities.

Several design measures are required by the State of California Uniform Building Code to minimize the potential earthquake shaking impacts noted above. A 50-foot setback is required from active faults. In addition, engineering designs must incorporate reinforcement and materials that can withstand seismic activity effects related to known credible ground acceleration factors. Although no active faults are located in the immediate vicinity of the site, all structures would be required to incorporate designs consistent with the Uniform Building Code Seismic Zone IV, corresponding to 0.75 g to 0.80 g. Because these measures are regulated by ordinance, they would be required as part of standard San Luis Obispo County Department of Planning and Building plan check review. Therefore, these regulations would reduce the potential impacts of earthquake ground shaking on proposed pipeline, water tank, pump stations and other related facilities. These potential seismic impacts are considered to be less than significant.

Impact G-2. *The proposed project could expose facilities to the risk of landslides.*

With the exception of the steep, south-facing bluffs of the Nipomo Mesa, the topography along the proposed pipeline alignment is generally gently sloping. Therefore, the potential for landslides is low. The steep bluffs of the Nipomo Mesa generally consist of loose, unconsolidated sand deposits, which are prone to severe erosion and shallow slope failures during prolonged, heavy rainfall events. However, the proposed pipeline extension would be bored at a significant depth beneath this slope. Therefore, the potential for landslides, as a result of the proposed project, is low and impacts are considered to be less than significant.

Impact G-3. *The proposed project could result in substantial soil erosion or the loss of topsoil into the Santa Maria River or other local drainages.*

The proposed horizontal directional drilling would generate large quantities of drilling cuttings, which must be temporarily stockpiled prior to off-site disposal. Exposure of such soil cuttings could result in erosion-induced siltation of local drainages or the Santa Maria River. Excavating and grading for the proposed pipeline, water tank, pump stations and other facilities could result in potential erosion. Such activities would result in a short-term increase in soils exposed to wind and water erosion. Removal of vegetation, creation of temporary spoil piles, construction of temporary haul roads and excavation and filling operations could also result in disturbance of on-site soils, which would potentially contribute to increased erosion. Pipeline repair activities, such as in the event of seismically induced failure, would involve excavating a portion of the trench to expose the pipe, temporary stockpiling of soil, the use of temporary haul roads, backfilling and compaction operations. These activities could similarly result in erosion-induced siltation of local drainages and the adjacent Santa Maria River, resulting in a potentially significant, but mitigable impact.

Impact G-4. *The proposed project would be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and could potentially result in lateral spreading, subsidence, liquefaction, or collapse.*

The proposed pipeline extension is located in an area of potential lateral spreading and liquefaction susceptibility. Lateral spreading and liquefaction-induced ground failure could result in pipeline damage and/or failure. However, as previously discussed, several design measures are required by the State of California Uniform Building Code to minimize potential earthquake shaking impacts. Because these measures are regulated by ordinance, they would be required as part of standard San Luis Obispo County Department of Planning and Building plan check review. As a result of these regulations, the potential impacts of earthquake ground shaking on the proposed pipeline, water tank, pump stations and other project facilities are considered to be less than significant.

Impact G-5. *The proposed project would potentially result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state and that is delineated on a local general plan, specific plan or other land use plan.*

The Santa Maria River portion of the project area is located in an area designated as MRZ-2. There is a high likelihood that significant deposits of PCC-grade aggregate are located in this area. The proposed horizontal directional drilling traverses the Troesh Ready Mix, Inc. mining claim. However, the pipeline easement would be approximately 10 to 16 feet wide. The quantity of potential aggregate that would be unavailable for mining along this corridor as a result of the proposed project, in comparison to extensive unmined MRZ-2 areas along the Santa Maria River, as well as the area surrounding the City of Santa Maria, would be negligible. Therefore, impacts associated with the potential loss of the availability of mineral resources are considered to be less than significant.

4. Cumulative Impacts

There are several development projects under construction, approved or pending approval in the South County Inland Planning Area. All geology-related project impacts (landform, seismicity, etc.) are largely confined to the project site. Any seismic activity impacting the project site will similarly impact surrounding areas. The proposed project in combination with other cumulative projects in the area (see Section IV.B. Cumulative Projects) will incrementally impact regional geologic conditions but not to a significant degree.

Potential erosion induced siltation of drainages and creeks at individual grading sites would contribute the most to potential cumulative geologic impacts. Future projects could result in accelerated erosion and sedimentation impacts, particularly projects that are located in proximity to the Santa Maria River, Nipomo Creek, Deleissigues Creek, Mehlschau Creek or other unnamed local creeks and drainages. However, the project's contribution to cumulative impacts would not be substantial, because the construction activities for the proposed project are limited in scope and duration. Construction of the cumulative projects would not likely occur concurrently and project specific mitigation measures for establishment of erosion control measures would minimize erosion-induced sedimentation. In addition, these cumulative projects would be subject to environmental review and appropriate mitigations established for each project prior to development. The proposed project's contribution to cumulative impacts on geology is considered less than significant.

5. Mitigation Measures

The following measure addresses Impact G-3, erosion of temporarily exposed soils into Nipomo Creek, the Santa Maria River and other drainages.

G-1: The following shall be included in Final Grading and Drainage Plans to prevent erosion induced siltation of on-site and off-site drainages:

- The use of temporary berms and sedimentation traps, such as silt fencing, straw bales, and sand bags, to be installed in association with project excavations, grading and underground horizontal directional drilling activities in order to minimize erosion of soils and sedimentation into the Santa Maria River and other local drainages. Sedimentation basins and traps shall be cleaned periodically with silt removal and disposal in a location approved by the District.
- A prohibition against grading during the rainy season (November 1-April 15) unless erosion control measures found adequate by the District are implemented.
- Methods for revegetation of disturbed soils for long-term stabilization.

6. Residual Impacts

Mitigation Measure G-1 will reduce potentially significant impacts associated with erosion induced siltation of the Santa Maria River and other local drainages to an insignificant level (Class II Impact).

Potential impacts related to exposure of facilities to seismic ground shaking and associated ground failure, exposure of facilities to landslides, locating the project on an unstable geologic unit or unstable soils or the loss of availability of a known mineral resource are considered to be less than significant (Class III Impact).

H. TRAFFIC

1. Existing Conditions

Primary access to the project area is provided via State Highway 101. In the project area, Highway 101 is a four-lane freeway served by interchanges at Tefft Street, Hutton Road (Highway 166) and Broadway Street. Other regional roadways near the project area are State Highway 1 and State Highway 166. The local circulation system serving the Nipomo area includes Joshua Street, Orchard Road, Southland Street, South Frontage Road, Darby Lane, South Oakglen Avenue and Tefft Street. With the exception of the four lanes on Tefft Street, all these local roadways are two-lane paved roads. Immediately north of the Santa Maria River, Cuyama Lane and Hutton Road west of Highway 101 are the two-lane paved roadways serving the industrial and commercial uses in this area.

On the south side of the Santa Maria River, local roadways include Blosser Road, *a four lane roadway north of West Taylor Street*, and Preisker Lane, *a two lane roadway*. *Priesker Lane* leads to the four lane Broadway Street and its interchange at Highway 101.

2. Thresholds of Significance

The County of San Luis Obispo defines Level of Service C as the lowest acceptable service level for intersections and roadway segments in rural areas. According to San Luis Obispo County significance criteria, a significant traffic-related impact would occur if the addition of project traffic causes an intersection or roadway segment currently operating at acceptable levels of service (LOS C or better) to reduce to unacceptable levels (below LOS C) or if a project contributes additional traffic to intersections or roadways currently operating at unacceptable levels of service.

Construction activities may result in significant impacts to traffic circulation if they result in the long-term diversion of traffic or closure of a roadway or intersection resulting in an unacceptable level of service. Construction activities may also result in significant impacts if they result in the creation of insufficient parking, block or impede access to other properties or result in hazards to pedestrians or bicyclists.

3. Project Impacts

Impact H-1. *The proposed project will generate additional traffic which could result in traffic congestion or unacceptable levels of service on an adjacent roadway or intersection.*

The proposed project will generate a minor amount of traffic during construction activities. The traffic generated by project construction activities will involve automobile trips associated with worker commutes, haul trucks and construction equipment. As noted in Table 21. Construction Employee Breakdown, a maximum total of employees for Phase I project construction is 54 workers. Given its extensive nature, Phase I

construction activities represent a maximum probable impact (“worst case”) scenario for traffic impacts during project construction. It should be noted however that this employee total is distributed to five separate locations. The maximum number of employees at any one location is fifteen workers.

**TABLE 21
CONSTRUCTION EMPLOYEE BREAKDOWN**

Construction Function	Foreman	Operators	Laborers	Specialists	Total
Horizontal Directional Drilling Santa Maria River Crossing	1	4	7	3	15
NCSD System Pipeline Improvements	1	3	5	1	10
Blosser Road Water Main & Flow Meter Pump Station & Reservoir	1	3	5	1	10
	2	4	7	2	15
Wellhead Chloramination Improvements	1	1	2	0	4

Assuming two daily vehicle trips per employee combined with an additional two trips per employee to account for vehicle trips associated with supervisors, haul trucks, construction equipment, etc. results in an estimated maximum of 216 total vehicle trips per day with no individual site generating more than 60 vehicle trips per day. These low daily volumes combined with the short-term nature of construction activities results in a less than significant impact. Regional traffic flows will not be affected by the long-term operation of project facilities.

Impact H-2. *Project construction activities may result in the diversion of traffic creating an unacceptable level of service, insufficient parking, blocking or impeding access to adjacent properties or result in hazards to pedestrians or bicyclists.*

Project construction activities may result in the short-term diversion of automobile traffic or farm equipment from adjacent agricultural farmlands on certain local roadways. These roadways may include Blosser Road, West Taylor Street and Atlantic Place south of the Santa Maria River and Joshua Street, Orchard Road, Southland Street, South Frontage Road, Darby Lane, South Oakglen Avenue and Tefft Street north of the Santa Maria River. With the provision of traffic controls or flagmen, where necessary, these impacts to traffic and circulation are considered to be potentially significant, but mitigable impacts.

Project construction may result in the temporary loss of available parking on roadways. However, most areas of project construction have adequate on- or off-street parking generally in areas with little parking demand. The potential loss of parking is considered to be short-term and, therefore, represents a less than significant impact.

Project construction activities may also result in the temporary blockage of access to adjacent properties or pedestrian or bicycle routes on roadways subject to construction. These blockages are considered to be short-term and with the provision of traffic controls or flagmen, where necessary, are considered to represent potentially significant, but mitigable impacts.

2. Cumulative Impacts

Cumulative traffic conditions are based upon existing traffic levels combined with projects under construction, approved or pending approval in the South County Planning Area (see Section IV.B., Cumulative Projects). With the exception of short-term traffic generation and circulation impacts associated with construction, the proposed project will generate little in the way of long-term traffic volumes. The proposed project within the cumulative development scenario will, therefore, not significantly impact regional or cumulative traffic conditions.

3. Mitigation Measures

The following measure addresses Impacts H-1 and H-2, potential diversion of traffic, impeding access to adjacent properties and potential hazards to bicyclists and pedestrians.

H-1: All project construction sites accessing onto or occurring adjacent to public roadways shall provide adequate signage, barriers and, if necessary, flagmen in order to insure the safe diversion of traffic, bicyclists and/or pedestrians. These measures shall also insure continued access from adjacent properties to local roadways.

4. Residual Impacts

Mitigation Measure H-1 will reduce potentially significant impacts related to the diversion of traffic, impeding access to adjacent properties and potential hazards to pedestrians or bicyclists to an insignificant level (Class II Impact).

Potential impacts related to construction-related traffic generation and the potential loss of available parking are considered to be less than significant (Class III Impact).

I. NOISE

1. Existing Conditions

Ambient noise levels in the project area range from the low-30 to mid-60 dBA. Noise sources include traffic on Highway 101, automobile and truck traffic noise on local roadways, industrial uses, including the existing concrete batch plant located at the current terminus of Hutton Road and the adjacent waste transfer station, the Santa Maria Speedway, occasional small aircraft and other less obtrusive non-urban noise sources.

The County of San Luis Obispo specifies outdoor and indoor noise limits for various land uses impacted by noise sources. The noise limits specified in the County's Noise Element are in terms of Community Noise Equivalent Level (CNEL). The County Noise Ordinance states that for residential uses, the exterior noise exposure level shall not exceed 60 CNEL and the interior noise exposure level shall not exceed 45 CNEL. There is no exterior noise standard for commercial and industrial uses. Several activities are exempted from the Noise Ordinance standards. Noise sources associated with construction are exempted, provided that such activities do not take place before 7:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday.

2. Thresholds of Significance

Noise impacts from the proposed project, both temporary and long-term, are measured against the County of San Luis Obispo Noise Ordinance. Construction activities as well as ongoing project operations must comply with the County Noise Ordinance. In community noise assessment, changes in noise levels greater than 3 dB are often identified as significant. Changes less than 1 dB will not be discernable to local residents. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. A 3 dB or greater noise level increase is considered to be significant.

Long-term off-site impacts from traffic noise are measured against two criteria. Both criteria must be met for a significant impact to be identified. First, project traffic must cause a substantial noise level increase on a roadway segment adjacent to a noise sensitive land use. Second, the resulting noise levels must exceed the criteria level for the noise sensitive land use. In this case, the criteria exterior noise level is 60 CNEL for adjacent residential uses.

3. Project Impacts

Impact I-1. *The proposed project will generate construction noise which may impact surrounding areas containing noise sensitive uses.*

Construction noise represents a short-term impact on ambient noise levels. The primary sources of construction noise are heavy equipment either from underground horizontal

directional drilling or noise generated by construction equipment, including trenching equipment, trucks, graders, bulldozers, concrete mixers and portable generators that can reach high levels. Grading generates the highest levels of noise during construction. The peak noise level for most of the heavy equipment that will be used during underground horizontal directional drilling and for water storage tank and booster station sites grading is 70 to 95 dBA at a distance of 50 feet. At 200 feet, the peak construction noise levels range from 58 to 83 dBA. At 400 feet, the peak noise levels range from 52 to 77 dBA. These noise levels are based upon worst-case conditions. Typically, construction-related noise levels near the construction site will be less.

Noise sensitive uses in the immediate vicinity of proposed locations for construction activities associated with the proposed horizontal directional drilling include residential uses adjacent to Blosser Road and Atlantic Place south of the Santa Maria River and existing residential uses in areas adjacent to Joshua Street and Orchard Road north of the river and the Maria Vista residential tract.

Maximum noise levels from construction equipment associated with the proposed horizontal directional drilling at the southern HDD laydown area to the nearest residence which is located adjacent to Blosser Road or Atlantic Place on the south side of the Santa Maria River (a distance of approximately 1000 feet from the proposed construction area) is 69 dBA. Existing residences on the north side of the river are located no less than 500 feet from the proposed construction area. Noise generated by the installation of a pipeline underneath the southern levee using jack-and-bore construction techniques which may impact residences located adjacent to Blosser Road and Atlantic Place will not generate noise levels that meet or exceed those associated with underground directional drilling. However, the proximity of existing residences adjacent to Blosser Road or Atlantic Place (a distance of approximately 200 feet from the construction area) results in a maximum noise exposure of 83dBA. In all cases, these maximum noise levels would be temporary and represent "worst case" estimates of construction noise. Average noise levels during peak periods of construction are not expected to exceed 60 CNEL.

The County of San Luis Obispo Noise Ordinance requires construction activities and their resultant noise impacts occur during the hours between 7:00 a.m. and 9:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays and Sundays. In addition, all project construction equipment utilizing combustion engines will be equipped with mufflers.

Project construction is expected to commence with construction of facilities at various locations along the proposed pipeline extension. Phase I construction activities include: 1) construction of the Blosser Road pipeline (120 to 140 days); 2) Santa Maria River crossing (280 to 300 days); 3) Pump Station # 2 and Storage Tank construction (300 to 320 days) and 4) NCSO distribution system improvements (200 to 220 days). Start-up and testing of these facilities is estimated to require an additional 30 to 40 days. Phase I project construction is estimated by the project engineer to require a total of 350 to 380 calendar days. Several of the construction activities noted above will be performed

concurrently within this overall range of timing. Phase II project construction is estimated to require a total of 110 to 150 calendar days. Concurrent construction activities include: 1) Pump Station # 2 upgrades (90 to 120 days) and 2) NCSD distribution system improvements (90 to 120 days). Start-up and testing of these facilities is estimated to require an additional 10 to 20 days. Phase III project construction is estimated to require a total of 350 to 380 calendar days for the additional or replacement waterline on Blosser Road, the provision of a water main to the Quad Storage Tanks and construction of or upgrades to Pump Stations No. 1 and No. 2. These construction noise impacts are considered short-term and with mitigation measures represent a potentially significant, but mitigable impact.

Impact I-2. *The proposed project will generate increased noise levels due to long-term project operations.*

Noise associated with long-term operations of the proposed project will involve the operation of the pump stations, metering and electrical equipment as well as occasional vehicle trips for maintenance.

Maximum exterior noise levels from equipment within the enclosed pump stations is not expected to exceed 60 dBA. Any stationary noise sources located within 300 feet of any occupied residential dwellings must be contained within a housing enclosure or other appropriate noise screen in order to insure that exterior noise levels do not exceed 60 CNEL. Noise generated by long-term project operations or vehicle traffic is considered negligible. Long-term noise impacts are considered to be potentially significant, but mitigable impacts.

4. Cumulative Impacts

Cumulative noise conditions are based upon existing noise levels combined with noise from projects under construction, approved or pending approval in the South County Planning Area (see Section IV.B. Cumulative Projects). With the exception of noise impacts associated with project construction, which are considered to be short-term, the proposed project does not represent a long-term noise source. The proposed project within the cumulative development scenario will not significantly impact regional or cumulative noise conditions.

5. Mitigation Measures

The following measures address Impact I-1, increased noise levels during project construction.

I-1: All project construction activities shall comply with the County of San Luis Obispo Noise Ordinance Section 22.06.042(d) which limits noise-generating construction activities to the hours between 7:00 a.m. and 9:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturdays and Sundays.

I-2: All construction equipment utilizing combustion engines shall be equipped with “critical” grade (rather than “stock” grade) noise mufflers that are in good condition. Noise level reductions with the use of “critical” grade mufflers can be as high as 5 dBA. Back up “beepers” will also be tuned to insure lowest possible noise levels.

I-3: All necessary measures to muffle, shield or enclose construction equipment shall be implemented in order to insure that noise levels at the property line of the nearest residence do not exceed an exterior noise level of 60 dBA. During project construction, noise monitoring shall be conducted by a qualified acoustical engineer in order to insure the acceptable noise threshold of 60 dBA at the property line of the nearest sensitive receptor.

The following measure addresses Impact I-2, increased noise levels due to long-term project operations.

I-4: Stationary noise sources (i.e. pump stations and other project facilities) shall be located at least 300 feet from any occupied residential dwellings unless noise-reducing engine housing enclosures or other appropriate noise screens are provided in order to insure that exterior noise levels do not exceed 60 CNEL.

6. Residual Impacts

Mitigation Measures I-1 through I-3 will reduce potentially significant impacts related to the generation of short-term construction noise to an insignificant level (Class II Impact).

Mitigation Measure I-4 will reduce potentially significant noise impacts associated with long-term project operations to an insignificant level (Class II Impact).

J. AIR QUALITY

1. Existing Conditions

- *Climate*

The climate of the project area can be generally described as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, mild temperatures are the rule throughout the year due to the moderating influence of the Pacific Ocean. This effect is diminished inland in proportion to distance from the ocean or by major intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a considerably wider range of temperature conditions. Maximum summer temperatures average approximately 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90's. Average minimum winter temperatures range from the low 30's along the coast to the low 20's inland.

- *Air Quality*

The California Clean Air Act (CCAA) requires that all Air Pollution Control Districts (APCDs) and Air Quality Management Districts (AQMDs) adopt and enforce regulations to achieve and maintain the state ambient air quality standards for the area under its jurisdiction. The CCAA requires nonattainment districts to develop and adopt an Air Quality Management Plan (AQMP). The AQMP must include emission reduction strategies and control measures sufficient to demonstrate that California air quality standards will be attained by the "earliest practicable date." As a demonstration of progress toward attainment, the CCAA requires that emissions of nonattainment pollutants be reduced by at least 5% per year (compared to 1991 emission levels) until the standards are achieved. The Act identifies transportation control measures as an essential element of the attainment plan.

The closest monitoring stations to the project operated by the San Luis Obispo County Air Pollution Control District are the Nipomo Regional Park Monitoring Station located at West Tefft Street at Pomeroy Road and the Nipomo – Guadalupe Monitoring Station located at 1300 Guadalupe Road. These stations measure nitrogen oxides (NOx) and ozone (Nipomo Regional Park Monitoring Station) and sulphur oxides (SOx) (Nipomo – Guadalupe Monitoring Station). Between September, 2007 and September, 2008 these monitoring stations did not record any exceedences of State or Federal standards for these three pollutants.

San Luis Obispo County has been designated a nonattainment area for the State standards for ozone and particulate matter. Ground level ambient ozone is primarily generated by combustion byproducts reacting with sunlight and ambient conditions. San Luis County's primary areas where ozone violations occur are in the northern and eastern portions of the County where the summer temperatures are high. In addition, ozone is transported to San Luis Obispo County from upwind regions in the state.

Ambient PM₁₀ concentrations have been primarily a localized issue of concern in the southern portion of San Luis Obispo County, providing the major impetus for the County's non-attainment designation for the State PM₁₀ standard. The major sources for PM₁₀ are mineral quarries, grading, demolition, agriculture tilling, road dust and vehicle exhaust. *One local source of particulates is off-road vehicle use at the Oceano Dunes Recreation Area.*

The San Luis Obispo County Air Pollution Control District is the agency charged with monitoring air pollutant levels to insure that air quality standards are met and if they are not, developing and updating the Attainment Plan for this County. Updates to these plans must be performed every three years until attainment is reached.

- ***Global Climate Change***

Global climate change (GCC) refers to change in the average weather of the earth which can be measured by wind patterns, storms, precipitation and temperature. The impact of man-related activities on GCC is evident in the scientific correlation between rising global temperatures, atmospheric concentrations of CO₂ and other greenhouse gases (GHGs) and the industrial revolution.

The greenhouse effect is a natural process by which some of the radiant *heat* from the sun is captured in the lower atmosphere of the earth. The gases that help capture the heat are called greenhouse gases. While GHGs are not normally considered air pollutants, all have been identified as forcing the earth's atmosphere and oceans to warm above naturally occurring temperatures. Some GHGs occur naturally in the atmosphere, while others result from human activities. Naturally occurring GHGs include water vapor, carbon dioxide, methane, nitrous oxide and ozone. Certain human activities add to the levels of most of these naturally occurring gases. The United States is the top producer of GHG in the world. California's GHG emissions rank second in the United States (behind Texas) and rank internationally just below Australia. The primary contributors to man-related GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources; industry; agriculture and forestry and other sources, which include commercial and residential activities.

According to the 2006 California Climate Action Team Report (CCAT, 2006) the following climate change effects are predicted in California over the course of the next century:

- Diminishing Sierra snow pack by 70 to 90%, threatening the state's water supply.
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit under the higher emission scenarios, leading to a 25 to 35% increase in the number of days ozone pollution levels are exceeded in most urban areas.
- Rising sea level (from 4 to 33 inches), causing coastal erosion along the length of California and sea water intrusion into the Delta. This would also exacerbate flooding in already vulnerable regions.

- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the State's agriculture industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established that GHG emissions should be reduced to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050. In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. The California Air Resource Board (CARB) has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. In January 2008, a statewide cap for 2020 emissions based on 1990 levels was adopted. By January 2009, CARB must adopt mandatory reporting rules for major sources of GHGs and also a plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions.

2. Thresholds of Significance

The San Luis Obispo County Air Pollution Control District (APCD) has published recommended thresholds in their "2003 CEQA Air Quality Handbook (revised 2005)". Construction activities involving the generation of NO_x and ROG exceeding 185 lbs/day or 2.5 tons/quarter of particulate emissions are considered to represent a significant short-term air quality impact.

Long-term daily emissions are considered to be significant if carbon monoxide levels exceed 50 pounds per day and levels for reactive organic gases, nitrogen oxides, sulfur oxides and particulates exceed 10 pounds per day. These represent the Tier 1 significance thresholds from the San Luis Obispo County Air Pollution Control District. If these Tier 1 thresholds are exceeded, mitigation measures contained in the 2003 APCD CEQA Handbook are recommended to be incorporated in the project. If the Tier 2 thresholds (550 pounds per day for carbon monoxide and 25 pounds per day for reactive organic gases, nitrogen oxides and particulates) are exceeded, all feasible mitigation measures must be incorporated into the project. If any of the pollutant emissions exceed 25 tons/year (Tier 3 threshold), offsets or off-site mitigation may be required.

No air district in California, including the San Luis Obispo Air Pollution Control District (APCD), has identified a significance threshold for Greenhouse Gas (GHG) emissions or a methodology for analyzing air quality impacts related to GHGs. Even though the GHG emissions associated with an individual development project could be estimated, there is no emissions threshold that can be used to evaluate the California Environmental Quality Act (CEQA) significance of these emissions. In addition, GHG models are not sensitive

enough to be able to predict the effect of individual projects on global temperatures and the resultant effect on climate. Therefore, they cannot be used to evaluate the significance of a project's impact. Thus, insufficient information and predictive tools exist to assess whether an individual project would result in a significant impact on global climate.

3. Project Impacts

Air quality impacts are usually divided into short term and long term. Short term impacts are usually the result of grading operations, construction of project facilities and construction-related vehicle traffic. Long term impacts are associated with the operation of the proposed waterline intertie project.

Impact J-1. *The proposed project will result in the generation of air pollutants during project construction activities.*

The proposed project involves the construction of a waterline intertie under the Santa Maria River as well as the installation of other underground pipelines and other infrastructure facilities including pump stations, a water storage tank, and metering and electrical equipment.

Particle matter in the form of fugitive dust will be generated during the grading required for site preparation of the proposed pump stations and water storage tank as well as for installation of various pipelines. Emissions associated with grading to prepare for construction and/or installation of these facilities are based upon estimates which assume that a maximum probable ("worst case") impact assessment of project grading impacts include the simultaneous construction of one pump station (Pump Station No. 2), the proposed underground water storage tank and approximately 1,000 linear feet of pipeline at one time. The size of the area to be disturbed with this maximum (or "worst case") level of project construction is 35,000 square feet or 0.80 acres (10,000 square feet for the pump station, 10,000 square feet for the water storage tank and 15,000 square feet for the pipeline). These estimates also assume 21 working days per month. Construction activities for large development projects are estimated in the San Luis Obispo County Air Pollution Control District CEQA Handbook to generate approximately 40 pounds per acre per day, or approximately 0.42 ton per acres per month of disturbed soil. If water or other soil stabilizers are used to control dust, the emissions can be reduced by 50 percent.

This grading activity is estimated to generate a "worst-case" total of 0.168 tons of particulate matter per month or approximately 16 pounds of particulates per day. With implementation of proposed mitigation measures to reduce dust generation during project construction, this total does not exceed the APCD Tier 2 significance thresholds. With these measures, short-term air quality impacts associated with fugitive dust generation during project construction are considered to represent a significant but mitigable impact. It should be noted that the impact due to grading is very localized. Additionally, this material is inert silicates rather than the complex organic particulate matter released from combustion sources which are more harmful to health. In some cases, grading may be

near existing development. Care should be taken to minimize the generation of dust. Common practice for minimizing dust generation is watering before and during grading.

Serpentine rock has been identified by the State Air Resources Board (ARB) as having the potential to contain naturally-occurring asbestos, identified by the ARB as a toxic air contaminant. Under the ARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at the site, a geologic analysis will be necessary to determine if asbestos-bearing serpentine rock is present. If naturally occurring asbestos is found at the site, an Asbestos Health and Safety Program and an Asbestos Dust Control Plan are required to be approved by the Air Pollution Control District prior to project grading.

Air pollutants will be emitted by construction equipment including equipment necessary for the proposed underground horizontal directional drilling as well as the construction of the proposed pumps stations, a water storage reservoir and other pipeline and water well improvements. During the anticipated period of operation of this equipment, nitrogen oxides, reactive organic gases, sulphur oxides, particulates and carbon monoxide will be emitted. Operation of diesel fueled drilling or trenching equipment may generate pollutants that exceed the SLOAPCD thresholds of significance. In particular, diesel equipment used in proposed horizontal directional drilling shall either be certified pursuant to the California Air Resources Board's Portable Equipment Registration Program (PERP) or will be subject to an Authority to Construct issued by the San Luis Obispo County Air Pollution Control District (APCD). This permit will allow implementation of Best Available Control Technologies including diesel particulate filters and proper fuel selection. According to the County APCD, with implementation of proposed mitigations, total emissions from this equipment is not expected to exceed the calendar quarter SLOAPCD emissions thresholds for these pollutants.

As discussed in Section V.H, Traffic, a maximum total employees for Phase I project construction is 54 workers. Given their extensive nature, i.e. construction work at five separate locations, Phase I project construction activities represent a maximum probable ("worst-case") scenario for air quality impacts associated with project construction. Assuming two daily vehicle trips per employee combined with an additional two trips per employee to account for vehicle trips associated with supervisors, haul trucks, construction equipment etc. results in an estimated maximum of 216 vehicle trips per day. Assuming an average trip length of ten miles results in a total of 2,160 vehicle miles per day during the maximum probable construction conditions. Pollutant generation resulting from construction traffic is provided in Table 22, Construction Traffic Emissions.

**TABLE 22
CONSTRUCTION TRAFFIC EMISSIONS**

Pollutant	Factor (gms/mile)	Emissions (lbs/day)	Tier 1 Significance Threshold (lbs/day)
CO	7.48	35.5	50
ROG	0.48	2.28	10
NOx	0.82	3.89	10
PM ₁₀	0.06	70.01	10
SOx	0.29	1.38	10

These totals do not exceed the APCD Tier 1 significance thresholds. Short-term air quality impacts associated with project construction vehicular use is considered to be an insignificant impact.

Impact J-2. *The proposed project will generate pollutants associated with long-term project operations.*

Long-term project operations will involve the operation of pump stations, metering and electrical equipment and vehicle trips for District personnel. Long-term operation of 75 horsepower pumps are required in order to handle the anticipated flow rates of the imported water as well as provide backup (standby) service. Pumps will be sized to accept water from the City of Santa Maria water system at Blosser Road and West Taylor Street and boost pressure for transport and to enter the higher pressure NCS D water supply system. The primary pumps used for pumping the imported water will be electrically powered, the backup (standby) pump, to be used only on an emergency basis during power outages or equipment breakdown. Table 23, Project Power Requirements provides a detailed breakdown of electrical usage associated with project pumping.

**TABLE 23
PROJECT POWER REQUIREMENTS**

Project Phase	Water Delivery (acre-feet/year)	Annual Power (kwh/year)	Daily Power (kwh/day)
I	1000	476,611	1,306
	1500	714,917	1,959
	2000	453,222	2,612
II	2500	1,241,018	3,400
	3000	1,489,221	4,080
III	6300	3,208,223	8,789

Based upon these electrical usage rates, pollutant generation totals associated with long-term project operations, primarily due to water pumping, are provided in Table 24, Project Operations Emissions.

**TABLE 24
PROJECT OPERATIONS EMISSIONS**

Project Phase	Daily Power (KWH/day)	Emissions (lbs/day)				
		CO	ROG	NOx	PM10	SOx
I	2,612	0.52	0.03	3.00	0.10	0.32
II	4,080	0.82	0.05	4.69	0.17	0.49
III	8,789	1.76	1.77	10.11	0.36	1.06

With the exception of nitrogen oxides at the completion of Phase III of the proposed project, these totals do not exceed the APCD Tier 1 significance thresholds of 10 pounds per day. The Phase III generation of nitrogen oxides falls slightly above this threshold, however, the use of electric power combined with other proposed mitigation measures generates pollutants during the operation of pumps which is considered to be a potentially significant, but mitigable impact.

It should be noted that pollutants generated by electrical use are produced at the power plant rather than at the project site. As such, these pollutants will not be introduced into the local but rather regional air inventory.

It should also be acknowledged that the use of diesel-powered pumps, as an alternative to electric power, generates significantly greater pollutant generation at the project site rather than at the power source. Table 25, Emissions Comparison, Diesel and Electric Powered Pumps provides a comparison of pollutant generation rates as expressed in pounds per day and the net change in pollutant generation expressed in pounds per day and tons per year. These factors are based upon 24-hour operation of each type of power source. As noted in the table below, the use of diesel powered pumps would result in significantly increased levels of pollutant generation as compared to the proposed use of electric powered motors.

**TABLE 25
EMISSIONS COMPARISON
DIESEL AND ELECTRIC POWERED MOTORS**

Pollutant Generation Factors (lbs/day)					
Motor	ROG	NOx	SOx	PM10	CO
Diesel (lbs/day)	3.57	22.36	3.02	1.74	1,680.11
Electric (lbs/day)	0.03	3.15	0.33	0.11	0.55
Net Change (lbs/day)	3.54	19.21	2.69	1.63	1,679.56
Net Change (tons/year)	0.65	3.50	0.49	0.30	306.52

The use and operation of metering and other electrical equipment within the pump stations, at pressure reducing stations and at District wells will generate insignificant amounts of pollutants well below the APCD Tier 1 significance thresholds. As such,

potential air quality impacts associated with the use and operation of metering and electrical equipment is considered to represent an insignificant impact.

The use of service vehicles by the NCSD to monitor the long-term operations and/or repair project facilities is anticipated to involve the following trip profile:

- Two vehicle trips per day from the District Management Facility located at 509 Southland Street to monitor/repair the proposed Pump Station No. 2, water storage facility and various wells sites. With an average trip length of three miles, a total of 12 vehicle miles per day is generated.
- One vehicle trip per week from the District Maintenance Facility to monitor/repair facilities within Santa Maria, on the south side of the Santa Maria River. With an average trip length of nine miles, a worst-case total of 18 miles on any one day is generated.

Pollutants generated by this level of vehicle use, a “worst-case” total of 30 miles per day, are considered to be minimal and well below the APCD Tier 1 significant thresholds. As such, potential air quality impacts associated with the use of service vehicles by the NCSD is considered to represent an insignificant impact.

- ***Global Climate Change***

In the absence of quantitative emissions thresholds, consistency with adopted programs and policies is used by many jurisdictions to evaluate the significance of cumulative impacts. A project’s consistency with the implementing programs and regulations to achieve the statewide GHG emission reduction goals established under Executive Order S-3-05 and AB 32 cannot yet be evaluated because they are still under development. Nonetheless, the Climate Action Team, established by Executive Order S-3-05, has recommended strategies for implementation at the statewide level to meet the goals of the Executive Order. In the absence of an adopted plan or program, the Climate Action Team’s strategies serve as the current statewide approach to reducing the State’s GHG emissions.

The Climate Action Team strategy involving the reduction of fuel usage and thus greenhouse gases during the operational phases of a proposed project is implemented through the proposed use of electric power for the ongoing project pumping. This results in a significant reduction in greenhouse gas generation as compared to the use of diesel-powered pumps. An additional mitigation measure recommends the use of alternative energy sources.

The Climate Action Team strategy of fuel usage reduction and thus greenhouse gases during project construction is implemented through mitigation measures which insure proper tuning and maintenance of construction equipment, use of the proper diesel fuels, minimizing the use of diesel equipment, certification of horizontal directional drilling equipment and implementation of Best Available Control Technologies.

These measures involve the most effective, yet reasonably feasible methods of greenhouse gas reduction during both short-term project construction activities and long-term project operations.

4. Cumulative Impacts

Project construction will represent an incremental addition of pollutants to the regional air quality inventory. The proposed project in combination with pollutants generated by projects currently under construction in the South County Planning Area (see Section IV.B Cumulative Projects) represents an incremental but temporary addition of pollutants to regional air quality conditions. The proposed project does not represent a long-term source of air pollutants. With the exception of pollutants generated during project construction which are considered to be short-term, the proposed project within the cumulative development scenario will not significantly impact regional or cumulative air quality conditions.

5. Mitigation Measures

The following measures address Impact J-1, the generation of pollutants during project construction.

- J-1:** Water trucks or sprinkler systems shall be used in sufficient quantities to prevent airborne dust from leaving any construction site. Increased watering frequency will be required whenever wind speeds exceed 15 mph. Reclaimed water, if available, shall be used for dust control and other construction-related purposes during project construction.
- J-2:** All dirt stock-pile areas shall be sprayed daily as needed.
- J-3:** Exposed ground areas that are planned to be reworked at dates greater than one month shall be sown with a fast-germinating native grass seed and watered until vegetation is established.
- J-4:** All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting or other methods approved by the APCD.
- J-5:** All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- J-6:** Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at a construction site.
- J-7:** All trucks hauling dirt, sand, soil or other loose materials shall be covered or maintain at least two feet of freeboard.

- J-8:** Where vehicles enter and exit unpaved roads onto streets, wheel washers or gravel pads shall be installed or trucks and equipment will be washed when leaving the site.
- J-9:** Streets shall be swept at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where possible.
- J-10:** All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice a day with complete coverage, preferably in the late morning and after work is done for the day.
- J-11:** All PM10 mitigation measures required must be included on any grading or building plans. These plans shall indicate the source of reclaimed water to be used for dust control. In addition, the contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of particulate matter off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to construction.
- J-12:** All construction equipment shall be properly maintained and tuned according to manufacturer's specifications.
- J-13:** All off-road and portable, diesel-powered equipment, including, but not limited to, bulldozers, grading, cranes, loaders, scrapers, backhoes, generator sets, compressors or auxiliary power units, shall be fueled exclusively with CARB motor vehicles diesel fuel. Such equipment shall be stored within a fenced enclosure during non-working hours in order to minimize potential vandalism.
- J-14:** Where possible, diesel powered equipment shall be replaced with gasoline, electrical, CNG or LPG powered equipment.
- J-15:** Diesel equipment used in proposed horizontal directional drilling shall either be certified pursuant to the California Air Resources Board's Portable Equipment Registration Program or will be subject to an Authority to Construct issued by the San Luis Obispo County Air Pollution Control District (APCD). This permit will allow implementation of Best Available Control Technologies including diesel particulate filters and/or proper fuel selection.
- J-16:** Prior to any project grading, a geologic analysis will be performed in order to determine if asbestos-bearing serpentine rock is present. If naturally occurring asbestos is found at the project site, an Asbestos Health and

Safety Program and an Asbestos Dust Control Plan will be submitted to the Air Pollution Control District for review and approval prior to project grading.

The following measures addresses Impact J-2, the generation of pollutants associated with long-term project operations.

J-17: The daily water pumping operations for the proposed projects shall utilize electric-powered pumps; diesel pumps shall be provided for backup (standby) operation to be used only on an emergency basis during power outages or equipment breakdown.

J-18: The District shall investigate the feasibility and cost-effectiveness of the use of solar power or other alternative energy sources to power water pumps or other project facilities. *This analysis shall assess the existing technologies and tradeoffs in order to determine the feasibility of alternate energy sources including solar power. This assessment will be based upon cost constraints, reliability, space requirements and other implementation factors.*

6. Residual Impacts

Mitigation Measures J-1 through J-16 will reduce potentially significant air quality impacts associated with project construction to an insignificant level (Class II Impact).

Mitigation Measures J-17 and J-18 will reduce potentially significant air quality impacts related to pollutant generation associated with long-term project operations to an insignificant level (Class II Impact).