PATTERSON PASS
WATER TREATMENT PLANT
SANITARY SEWER PIPELINE PROJECT

ALAMEDA COUNTY, CALIFORNIA

FINAL

Environmental Initial Study/

Mitigated Negative Declaration

Zone 7 Water Agency

December 21, 2011

Contents

List of Figures and Tables

List of Appendices

List of Common Abbreviations and Acronyms

CEQA	California Environmental Quality Act
IS	initial study
MND	mitigated negative declaration
PPWTP	Patterson Pass Water Treatment Plant
Zone 7	Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7 Water Agency)

1. INTRODUCTION

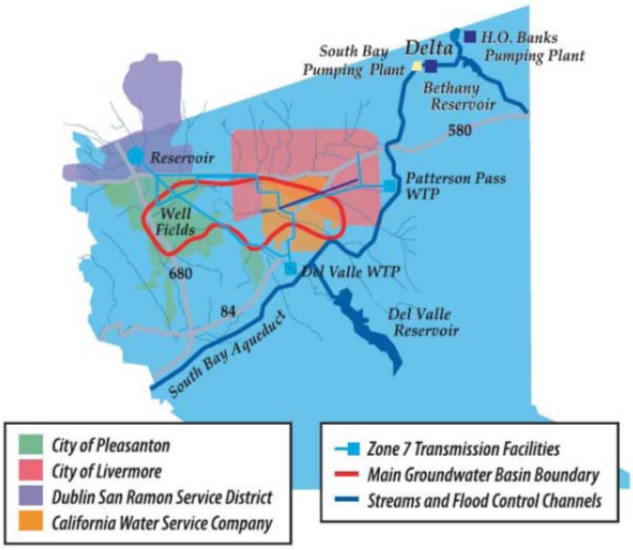
This document is a final Initial Study (IS)/Mitigated Negative Declaration (MND), which incorporates the Draft IS/MND by reference. The final IS/MND includes comments and responses received on the draft IS/MND (see Section 6), which was circulated from November 4, 2011 through December 5, 2011. Changes made to the draft IS/MND are denoted in this document either by blue underlined text (additions) or red strike-out text (deletions).

1.1. Project Background

The Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) is a wholesale water supplier to the cities of Livermore, Pleasanton, Dublin. Zone 7 also provides flood protection in the eastern portion of Alameda County.

Zone 7 regularly undertakes projects involving improvement and maintenance of existing facilities, as well as construction of new facilities, and acts as Lead Agency for projects subject to the California Environmental Quality Act (CEQA). This document is a draft Initial Study /Mitigated Negative Declaration (IS/MND) for the Patterson Pass Water Treatment Plant (PPWTP) Sanitary Sewer Pipeline Project (Project). The Zone 7 Board of Directors will consider the information in the IS/MND at a public meeting, and will decide to adopt or reject the findings.

The Delta supplies Zone 7 with roughly 80% of our water supply, the remaining comes from local rain runoff stored at Lake Del Valle and from groundwater pumped from the Valley's groundwater basin. Zone 7 serves as the primary manager of the local groundwater basin.



Zone 7's Delta water supply originates as snowmelt in the Sierra Nevada, and makes its way here using the Sacramento-San Joaquin Delta as a conveyance system. The water is imported to the Livermore-Amador Valley through State Water Project's South Bay Aqueduct.

Water is treated either at the Patterson Pass Water Treatment Plant or the Del Valle Water Treatment Plant before delivery.

The Project involves installing and connecting approximately 4,000 feet of sanitary sewer pipeline from PPWTP to the City of Livermore's municipal sewer system. The PPWTP currently uses an undersized and aging septic tank system, which will be removed and disposed of as part of the Project.

1.2. Environmental Review

Zone 7, acting as the Lead Agency under CEQA, prepared this report to provide information about the potential environmental effects of the proposed Project.

Pursuant to CEQA, the purpose of an Initial Study is to:

- determine whether the project may have a significant effect on the environment. (i.e. whether an Environmental Impact Report [EIR] or Negative Declaration should be prepared);
- identify measures that mitigate project impacts to a less than significant level (Mitigated Negative Declaration);
- define the scope of the EIR, if one is required;
- justify lead agency's decision to adopt a Negative Declaration, if one is prepared; and
- determine whether to rely on a previously prepared EIR.

According to CEQA, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The Initial Study identifies potentially significant effects, but:

(1) revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Upon completion of the Initial Study, Zone 7 identified potentially significant impacts and corresponding mitigation to reduce these impacts to a level that is considered less than significant. Zone 7 prepared this IS/MND to provide the public, and Responsible and Trustee Agencies reviewing this project, with information about the Project and potential effects on the local and regional environment. This IS/MND was prepared in compliance with Section 15070 of the CEQA Guidelines of 1970 (as amended). In accordance with Section 15073 of the CEQA Guidelines, this document is being circulated to applicable local, state and federal agencies, and to interested organizations and individuals who may wish to review and comment on the report.

1.3. Project Approvals

The CEQA review process is intended to provide responsible agencies with an opportunity to provide input into the project in order to assist with their responsibilities. Responsible agencies are those that

have some responsibility or authority for carrying out or approving a project; in many instances these public agencies must make a discretionary decision to issue a permit, provide right-of-way, funding or resources to the project.

The following are the permits and approvals (and approving entity) needed for this Project:

- CEQA (Zone 7 Board of Directors)
- Out of Area Sanitary Sewer Service Agreement (City of Livermore)
- Encroachment Permit (City of Livermore)
- Encroachment Permit (Alameda County Public Works)
- Permit for Septic Tank Removal (Alameda County Environmental Health)

1.4. Public Review Process

This Initial Study and draft Mitigated Negative Declaration will be circulated to local and state agencies, interested organizations and individuals who may wish to review and provide comments on the project description, the proposed mitigation measures or other aspects of the report. The publication will commence a minimum 30-day public review period consistent with CEQA Guidelines §15105(b) beginning on November 4, 2011 and ending on December 5, 2011.

The document will be available for review:

Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

Livermore Public Library
1188 South Livermore Avenue
Livermore, CA 94550

It will also be posted online at www.zone7water.com. Written comments or questions regarding this document are due by **5 p.m on December 5**, and should be submitted to:

Elke Rank
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

Or, via e-mail: erank@zone7water.com

Zone 7 will consider all comments and make any necessary changes to the document prior to adoption of the final Mitigated Negative Declaration by the Board of Directors.

2. PROJECT DESCRIPTION

2.1. Project Purpose and Objectives

The current septic system at the Patterson Pass Water Treatment Plant (PPWTP) is undersized and is nearing the end of its useful life. A replacement septic tank system, or a new connection to the City sewer system, is required to accommodate sewage generated at the facility. Zone 7's Wastewater Management Plan for this part of the County generally encourages rural landowners and facilities to connect to sewer systems rather than use septic systems (policies A1 and B1). Therefore, a new sewer pipeline connection was preferable to replacing the septic system. This pipeline will also serve to dispose of neutralized citric acid washwater, which was previously hauled offsite to a sewage treatment facility.

2.2. Project Location

The Project is located in unincorporated Alameda County, approximately 1 mile east of Livermore, CA. Work will be conducted primarily within Patterson Pass Road, between Greenville Road and the PPWTP facility at 8750 Patterson Pass Road (see Figure 1).

Patterson Pass Road is a paved road that is maintained by Alameda County Public Works. The Patterson Pass Water Treatment Plant is owned by Zone 7 Water Agency.

2.3. Proposed Project Activities and Techniques

The proposed activities include (i) installing a new sewer pipeline, mainly within Patterson Pass Road, to connect PPWTP to the existing City sewer system, and (ii) removing and disposing of the existing septic system at PPWTP.

Sewer Pipeline

For the construction of the pipeline, the project sequencing will occur generally as follows:

1. Equipment and materials will be delivered to the staging area at the southwest corner of PPWTP.
2. An excavator will dig an 18-inch wide trench within Patterson Pass Road. The trench will be approximately 8 feet deep and 4,079 feet long. It will fall approximately along the centerline.
3. Approximately 970 cubic yards of soil will be removed and replaced; excavated soil will be hauled offsite and disposed of at a landfill facility, or at an alternate project site. Also, approximately 20 cubic yards of excess soil will be used to backfill the hole left by removing the septic tank.
4. Install an 8-inch PVC pipeline within trench.

5. A front-end loader will backfill the trench with approximately 790 cubic yards of gravel.
6. A compactor will compact backfill material within trench.
7. A truck will deliver asphalt paving to top of trench.
8. A steam-roller will compact asphalt paving.
9. Install a 6-ft. by 7-ft. by 8-ft. concrete meter vault at western edge of PPWTP property.

These activities will occur over approximately four months.

Septic Tank Removal

Following the pipeline installation and hook-up to the City sewer system, the existing septic system will be removed, generally as follows:

1. A backhoe will excavate and then remove the septic system.
2. The materials will be loaded onto a haul truck and hauled offsite.
3. Approximately 20 cubic yards of excess dirt which is excavated from the sewer line trench will be used to backfill the hole left by removing the septic tank.

These activities will occur over approximately two days.

An area of approximately 4,200 square feet will be disturbed. Following construction, re-vegetation will not be necessary, as the site is currently used to store sludge from the water treatment plant.

Construction Traffic

The main haul route for the project is Patterson Pass Road to Greenville Road to Highway 580 (see Figure 1). The project will require approximately 97 round-trip truck trips to export the excavated soil from trenching activities (assumes 10 cubic yards per truck, which is a conservative estimate). Another 79 round-trip truck trips are required to import the gravel to backfill the trench. Hauling the old septic system offsite will require one truck trip.

A flagger will be used to aid traffic around the construction site. Traffic will be maintained at all times; road closures are not anticipated.

Construction Workers

The duration of construction, including use of all hauling, excavation and backfill equipment, will be approximately four months. There will be approximately eight workers on site during construction, and no workers onsite after the project is complete. Construction workers will park at the PPWTP (private property owned by Zone 7).

Post Construction

Once construction is complete, there will not be any workers at the site, and the road will function as it does prior to construction.

As the construction is mainly in the center of a paved road, there is no need for post-construction re-vegetation or landscaping.

The County encroachment permit for road work is assumed to have language to the effect that the road shall be restored to its original condition; Zone 7 will comply with the terms of the permit.

2.4. Project Schedule

Construction is expected to generally occur weekdays during daylight hours (as specified in County or City permits) between February 2012 and June 2012. Some evening or weekend work may also take place depending on traffic and weather conditions.

3. ENVIRONMENTAL SETTING

3.1. Site Description

The project site is located in a rural area of eastern unincorporated Alameda County, approximately a half mile east of the City of Livermore. Nearby land uses include rangeland/agriculture, gravel mining, rural residences, and the Patterson Pass Water Treatment Plant owned by Zone 7. Lawrence Livermore National Laboratories is located less than a mile to the west of the Water Treatment Plant. Patterson Pass Road is managed by the County of Alameda Public Works Agency.

Figure 1. Project Location: Project shown in green (pipeline) and yellow (septic system to be removed)

4. ENVIRONMENTAL CHECKLIST

4.1. Environmental Impacts and Discussion

Basic Project Information

Project Title:	Patterson Pass Water Treatment Plant Sanitary Sewer Pipeline Project
Lead Agency Name and Address:	Zone 7 Water Agency 100 North Canyons Parkway Livermore, CA 94551
Contact Person and Phone Number:	Elke Rank (925) 454-5005
Project Location:	Unincorporated Alameda County, east of Livermore, on Patterson Pass Road
General Plan Designation:	Water Management
Zoning:	Large Parcel Agricultural
Property Description:	The project is located in a rural area of eastern unincorporated Alameda County, approximately a half mile east of the City of Livermore.
Project Description:	The proposed activities include (1) installing a new sewer pipeline, mainly within Patterson Pass Road, to connect PPWTP to the existing City sewer system, and (2) removing and disposing of the existing septic system at PPWTP.
Surrounding Land Uses:	The project site is located in a rural area of eastern unincorporated Alameda County, approximately a half mile east of the City of Livermore. Surrounding land uses include range and agricultural land, rural residences, and the Patterson Pass Water Treatment Plant owned by Zone 7. Lawrence Livermore National Laboratories is located about one mile to the west of the Treatment Plant. Patterson Pass Road is managed by the County of Alameda Public Works Agency.
Other Agencies Whose Approval is Required:	Encroachment permits from both City of Livermore and Alameda County. City of Livermore Out of Area Sanitary Sewer Service Agreement. Septic tank removal permit from Alameda County Environmental Health.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation that follows:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.

Elke Rank — 11-3-2011

Signature — Date

Elke Rank

Printed Name

Evaluation of Environmental Impacts

I. AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion (Aesthetics):

a, b, c, d. - No impact. The proposed project would not have an adverse impact on a scenic vista or any scenic resources. The existing visual character of the site would continue after construction. The proposed project would be compatible with the visual character of the site. The proposed project would not create a new source of substantial light or glare. Following construction, the site will look similar as it does prior to construction.

II. AGRICULTURE AND FORESTRY RESOURCES:

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion (Agriculture and Forestry Resources):

a, b, c, d, e. - No impact. The proposed project would not result in significant impacts to agricultural resources. No agricultural resources are within the project site.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion (Air Quality):

a. No Impact. The most recently adopted air quality plan for the San Francisco Bay Area is the Bay Area 2010 Clean Air Plan (2010 CAP). The 2010 CAP is an update to the Bay Area Air Quality Management District (BAAQMD)'s 2005 Ozone Strategy to comply with State air quality planning requirements. The 2010 CAP also serves as a multi-pollutant air quality plan to protect public health and the climate. The 2010 CAP control strategy includes revised, updated, and new measures in the three traditional control measure categories, including stationary sources measures, mobile source measures, and transportation control measures. In addition, the 2010 CAP identifies two new categories of control measures, including land use and local impact measures and energy and climate measures (BAAQMD, 2010a).

BAAQMD recommends that the agency approving a project where an air quality plan consistency determination is required, analyze the project with respect to the following questions: 1) does the project support the primary goals of the air quality plan; 2) does the project include applicable control measures from the air quality plan; and 3) does the project disrupt or hinder implementation of any 2010 CAP control measures? If all the questions are concluded in the affirmative, BAAQMD considers the project consistent with air quality plans prepared for the Bay Area (BAAQMD, 2010b).

Any project that would not support the 2010 CAP goals would not be considered consistent with the 2010 CAP. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance. As presented in the subsequent impact discussions, the proposed project would result in virtually no new long-term operations-related emissions and proposed project-related construction emissions would not exceed the BAAQMD significance thresholds; therefore, the proposed project would support the primary goals of the 2010 CAP. As mentioned above, projects that incorporate all feasible air quality plan control measures are considered consistent with the 2010 CAP. There appear to be no 2010 CAP control measures that would be directly applicable to the proposed project; however, implementation of **Mitigation Measure AIR-1** (see discussion b) below) would ensure that BAAQMD basic construction control measures would be implemented.

The proposed project would support the primary goals of the 2010 CAP and it would not disrupt or hinder implementation of any 2010 CAP control measures. Therefore, there would be no impact associated with conflicting or obstructing implementation of the applicable air quality plan.

b. Less than Significant with Mitigation Incorporated. Based on the following analysis, construction and operation of the proposed project would not result in a violation of an air quality standard or contribute significantly to an existing or projected air quality violation.

Construction: Construction activities that would be associated with the proposed project would include installation of a 4,079-foot long and 8-inch diameter sewer pipeline primarily within Patterson Pass Road, and excavation and removal of an old septic system at the Patterson Pass Water Treatment Facility. It is assumed that construction activities associated with the installation of the sewer pipeline would overlap in schedule over an approximately four-month period and that the old septic system would be removed over a period of two days following completion of the pipeline installation.

The majority of proposed project-related exhaust emissions would be generated on-site due to the use of heavy-duty off-road equipment that would include one excavator, one crane, one front end loader, one compactor, one backhoe, one paver, and one steam roller. The equipment operation hours per day and number of required work-days would vary depending on the specific type of equipment and on the construction activity. Exhaust emissions would also be generated by construction worker daily commutes and by approximately 185 heavy-duty diesel tractor trailer truck roundtrips that would be required to haul excavated soil, imported gravel, pipe, and septic tank debris to/from the proposed project site.

Criteria pollutant exhaust emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM10), and fine particulate matter (PM2.5) from construction equipment and vehicles would incrementally add to the regional atmospheric loading of these pollutants during construction of the proposed project. Pursuant to the BAAQMD *CEQA Air Quality Guidelines* (BAAQMD, 2010b), a project would have a significant short-term construction air quality impact if it would result in average construction-related emissions of ROG, NO_x, or PM2.5 (non-inclusive of fugitive dust) of more than 54 pounds per day or emissions of PM10 (non-inclusive of fugitive dust) of more than 82 pounds per day. Proposed project construction equipment exhaust emissions were estimated using the URBEMIS 2007 Version 9.2.4 emissions model. **Table 1** shows the estimated total average daily exhaust emissions that would be associated with construction of the proposed project. For all assumptions and calculations used to estimate proposed project-related construction emissions, refer to **Appendix 1**. As indicated in **Table 1**, the total average daily construction exhaust emissions would not exceed the BAAQMD's significance thresholds. Therefore, impacts that would be associated with contraction-related exhaust emissions would be less than significant.

TABLE 1 CONSTRUCTION CRITERIA POLLUTANT EXHAUST EMISSIONS

Emissions Source	Average Daily Construction Emissions (pounds/day)				
	ROG	**NO_x**	**CO**	**PM10**	**PM2.5**
Sewer Pipeline	2.07	14.50	10.54	1.04	0.95
Septic Tank Removal	0.52	3.57	2.65	0.29	0.27
Maximum Daily (pounds/day)	**2.07**	**14.50**	**10.54**	**1.04**	**0.95**
BAAQMD Significance Threshold	54	54	NA	82	54
Significant Impact?	No	No	No	No	No

Notes: Emissions were estimated using the URBEMIS 2007 Version 9.2.4 model. Refer to Appendix 1 for details on the emissions estimates. Note that emissions associated with sewer pipeline construction and septic tank removal would not overlap in schedule.

In addition to exhaust emissions, emissions of fugitive dust would also be generated by proposed project construction activities associated with earth disturbance, travel on paved and unpaved roads, etc. With regard to fugitive dust emissions, the BAAQMD *CEQA Air Quality Guidelines* recommend that lead agencies focus on implementation of dust control measures to insure that impacts would be less than significant rather than comparing estimated levels of fugitive dust to quantitative significance thresholds. Therefore, BAAQMD-recommended basic control measures (BAAQMD, 2010b), which are recommended for every construction project and contained in **Mitigation Measure AIR-1** (see below), would be implemented to ensure that impacts associated with fugitive dust emissions would be reduced to a less-than-significant level.

Mitigation Measure AIR-1: Implement BAAQMD Basic Mitigation Measures. Zone 7 Water Agency and its construction contractors shall control fugitive dust emissions by implementing, as applicable, the following basic control measures based on BAAQMD recommendations:

All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day.

All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

All visible mud or dirt track-out onto adjacent public roads shall be removed at least once per day.

All vehicle speeds on unpaved roads shall be limited to 15 mph.

All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.

Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Tile 13, Section 2485 of California of Regulations). Clear signage shall be provided for construction workers at all access points.

All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Post a publicly visible sign with the telephone number and person to contact at Zone 7 Water Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Operations: Once construction is complete, the proposed project would result in virtually no sources of air pollutants. Therefore, there would be no net change in long-term proposed project emissions compared to the baseline conditions and there would be no long-term operational impact.

c. Less than Significant Impact. Based on BAAQMD guidance, if a project would result in an increase in ROG, NO_x, PM10, or PM2.5 of more than its respective average daily mass significance thresholds, then it would also be considered to contribute considerably to a significant cumulative impact. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project would exceed the identified significance thresholds, its emissions would be cumulatively considerable, and if a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable. As presented under discussion b) above, short-term construction emissions would not exceed the applicable significance thresholds and there would be virtually no increase in long-term

operational emissions. Therefore, the proposed project would not be cumulatively considerable and cumulative impacts would be less than significant.

d. Less than Significant Impact. The BAAQMD recommends that lead agencies quantitatively assess the incremental toxic air contaminant (TAC) exposure risk to all sensitive receptors within a 1,000-foot radius of a project's fence line. Long-term operations that would be associated with the proposed project would result in no new TAC emissions. However, proposed project construction activities would generate diesel particulate matter (DPM), which is considered to be a TAC. The majority of PM10 and PM2.5 exhaust emissions that would be generated along the pipeline route and septic system extraction site during construction would be DPM due to the use of diesel off-road equipment.

The closest sensitive receptor to the proposed project would be a residence south of Patterson Pass Road that is at a distance of approximately 470 feet from the proposed pipeline alignment. There are no other sensitive receptors within 1,000 feet of any of the proposed project components. It is anticipated that pipeline installation activities that would generate DPM within 1,000 feet of the one residence would last for between one and two months. Given the distance to the nearest sensitive receptors and the anticipated relatively short period of potential exposure, TAC emissions associated with proposed project construction equipment would be sufficiently diluted and would not be substantial at the nearest residential locations. Impacts would be less than significant.

e. Less than Significant Impact. Diesel equipment used to construct the proposed project may emit objectionable odors associated with combustion of diesel fuel. However, these emissions would be temporary and intermittent in nature, thus odor impacts associated with diesel combustion during construction activities would be less than significant. Regarding long-term operational odors, the sewer pipeline would be located underground in an air tight closed system; therefore, there would be no expected operational odors associated with the proposed project and no long-term impact would occur.

IV. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian aquatic, or wetland habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local applicable policies protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	☐	☐	☐	☒

Discussion (Biological Resources):

a. Less than Significant with Mitigation Incorporated. The project site is located less than a mile east of the City of Livermore in unincorporated Alameda County, directly west of the Diablo Range and less than one mile south of the Altamont Pass. Land uses surrounding the project corridor are generally rural in character, with annual grasslands and scattered landscape trees that are, for the most part, regularly disturbed by human activities. A reconnaissance-level field survey was conducted by an ESA biologist on September 28, 2011, to verify existing biological conditions, assess vegetation and wildlife habitats, and identify potential for special-status[1] species to occur onsite.

Open fields adjacent to Patterson Pass Road near the intersection with Greenville Road are dry farmed for livestock feed. The fields were recently disced at the time of the field survey and supported very little vegetated habitat. Other grassland areas in the vicinity of Patterson Pass Road are dominated by wild oats (*Avena barbata*), black mustard (*Brassica nigra*), and yellow star thistle (*Centaurea solstitialis*). Vegetation in grassland parcels surrounding the project area was between one and two feet tall, and was not recently mowed or grazed.

A channelized drainage crosses Patterson Pass Road directly west of the Patterson Pass Water Treatment Plant (PPWTP). This drainage contains dense wetland vegetation dominated by cattails (*Typha* spp.) north of Patterson Pass Road, and low growing wetland vegetation in an unconstrained channel south of Patterson Pass Road. Sections of this drainage channel still contained water at the time of the site visit, and habitat in the channel supports California red-legged frogs (*Rana draytonii*; see below). The Project is purposely designed to avoid the drainage.

The California Natural Diversity Database (CNDDB) documents 39 special-status species in the Altamont USGS 7.5-minute quadrangle that includes the project site (CDFG, 2011). In addition, a USFWS Endangered Species List for the Altamont quadrangle (USFWS, 2011) documents 11 federal listed species in the regional vicinity of the project site. Project construction will not occur on any undisturbed habitat capable of supporting special-status plant species; the majority of construction will be down the centerline of Patterson Pass Road, and the pipeline connection to the PPWTP will be located on bare ground currently used as a staging area for the PPWTP. Based on a review of the

[1] The term “special-status” species includes those species that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as threatened or endangered, but designated as “Rare” or “Sensitive” on the basis of adopted policies and expertise of state resource agencies or organizations, or policies adopted by local agencies such as counties, cities, and special districts to meet local conservation objectives. A principle source for this designation is the California “Special Animals List” (http://www.dfg.ca.gov/whdab/pdfs/spanimals.pdf).

above sources, special-status species that are known to occur in the vicinity of the project site and have the potential to be directly or indirectly impacted by project activities include California red-legged frog, California tiger salamander (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), and nesting birds.

California Red-Legged Frog

The California red-legged frog is a federal threatened and California species of concern, typically associated with deep pools or lakes with overhanging woody vegetation such as willows and cattails (*Typha latifolia*) (Jennings, 1988; USFWS, 2002). California red-legged frogs frequently breed in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. During summer and fall months this species may disperse upstream and downstream of breeding sites to forage and seek sheltering habitat. Such shelter may include all aquatic, riparian, and upland areas within the range of the species and any landscape features that provide cover, such as small mammal burrows, rocks piles, organic debris (e.g., downed trees or logs), leaf litter, or industrial debris. Incised stream channels with portions narrower than 18 inches and depths greater than 18 inches also may provide important summer sheltering habitat. During winter rain events, juvenile and adult California red-legged frogs are known to disperse up to one to two kilometers (Rathbun and Scott, 2009), and could potentially cross roads to reach suitable upland habitats. California red-legged frogs generally breed from November to April, attaching eggs to vegetation, fencing, or any available attachment sites in shallow water (USFWS, 2002).

Numerous California red-legged frog occurrences have been reported in stock ponds and streams in the vicinity of the project site. The drainage channel west of the PPWTP has supported frog breeding and sheltering habitat as recently as 2005 (CNDDB, 2011). Another drainage channel west of Greenville Road and within 600 feet of the project site also supports California red-legged frog population.

California Tiger Salamander

The California tiger salamander is a federal and state threatened amphibian species that most commonly breed in vernal pools, but can also breed in the quiet waters of ponds, reservoirs, lakes, and drainages. Adult California tiger salamanders spend most of the year in terrestrial habitats including subterranean refugia such as burrows of California ground squirrels (*Spermophilus beecheyi*) and pocket gophers (*Thomomys* spp.), debris piles, and man-made structures. California tiger salamanders appear to be restricted to the grasslands and low foothill regions of Central and Northern California, which is where the longest-lasting rain pools tend to form (Jennings and Hayes, 1994). California tiger salamanders breed following relatively warm rains in winter months, generally December through March. This species participates in nocturnal breeding migrations that may cover distances of 0.63 miles or more during late winter or early spring rains between November and February (Jennings and Hayes, 1994). Major roads are often present between breeding and upland habitats, and can fragment tiger salamander habitats by creating significant roadkill risks (CDFG, 2010); in areas like Lake

Lagunita on the Stanford University campus, significant roadkill events on rainy nights have been documented (Barry and Shaffer, 1994).

Rolling grassland hills, stock ponds, and seasonal wetlands of the Altamont Pass east of the project site contain breeding and dispersal habitat for California tiger salamander in a number of locations. Adult salamanders were documented on Patterson Pass Road within the proposed project site, as well as along nearby South Flynn Road, during a survey in 1989 (CNDDB, 2011). California tiger salamanders have also been documented along Altamont Pass Road, less than two miles north of the project site (CNDDB, 2011). While no breeding habitats have been confirmed in the direct vicinity of the project site, wetland areas capable of supporting salamander breeding are present both north and south of Patterson Pass Road.

Western Spadefoot

Western spadefoot is a largely terrestrial amphibian, spending most of its adult life in upland areas or in dormancy underground. Much like California red-legged frog and California tiger salamander, spadefoot emerge from burrows during relatively warm rain events in fall, late winter, or spring (Jennings and Hayes, 1994). Breeding western spadefoot require temporary pools and puddles, often classified as vernal pools, which persist for at least three weeks (Jennings and Hayes, 1994). Aquatic habitats that contain exotic fish, crayfish, or bullfrogs are typically unsuitable for western spadefoot breeding. This species is also susceptible to road mortality during movements between upland and breeding habitats.

While somewhat uncommon in the San Francisco Bay and Delta Region, western spadefoots have been recorded in containment pools on the Sandia National Laboratory property, approximately 1.6 miles south of the project site. Wetlands north and south of Patterson Pass Road and the drainage channel adjacent to the project site may not provide suitable habitat during most normal rainfall years, and are not considered high-quality breeding habitat for western spadefoot. However, western spadefoot could be present in upland burrows surrounding the area, disturbed upland areas, or artificial aquatic habitats. Because this species has an extensive terrestrial life stage, there is a low to moderate potential for individuals to cross Patterson Pass Road during upland movements.

While project construction is limited to either asphalt or disturbed bare ground areas without small mammal burrows, the project site is located within known and potential upland movement habitat for the three amphibian species described above. Recent CNDDB records have recorded California tiger salamanders on Patterson Pass Road, and California red-legged frogs as well as western spadefoots have been known to cross roads, especially on rainy nights. While these amphibians are more active at night, individuals can make upland movements during daytime hours when project construction would occur. The road is already considered a hazard to the species' upland movement, but project construction has a remote potential to further impede seasonal movement of these species by posing a barrier to amphibian movement or entrapping individuals in open excavations. However, construction is estimated to slow traffic in the immediate area, thereby having the potential to improve road hazard conditions should these species attempt to cross the road.

Additionally, California red-legged frogs could move from the drainage channel west of the PPWTP into the project site, and be directly or indirectly impacted by project activities. **Mitigation Measure BIO-1** will reduce this impact to less-than significant levels.

> **Mitigation Measure BIO-1:** Zone 7 shall install silt exclusion fence directly west of the pipeline alignment heading north-south on the PPWTP property, to prevent special-status amphibians from moving from the adjacent drainage channel into the project site. Exclusion fence shall be "keyed in", with the bottom edge buried at least six inches to prevent animals from moving underneath the fence.

Nesting Birds

Most native, breeding birds are protected under Section 3503 of the CDFG Code (Code), and raptors are protected under Section 3503.5 of the Code. In addition, both Section 3513 of the Code and the Federal Migratory Bird Treaty Act (16 U.S. Code, Sec. 703 Supp. I, 1989) prohibit the killing, possession, or trading of migratory birds. Finally, Section 3800 of the Code prohibits the taking of non-game birds, which are defined as birds occurring naturally in California that are neither game birds nor fully protected species. While very little nesting habitat is present at the project site, a group of large trees less than 300 feet south of Patterson Pass Road as well as dense cattail vegetation in the drainage channel west of the WTP could support nesting birds. Large trees could support nesting raptors, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and white-tailed kite (*Elanus lecurus*). Golden eagles (*Aquila chrysaetos*) are known to nest in the vicinity of the project site, but the only large trees near the project site are subject to constant disturbance from nearby roads and construction, and are not considered suitable nesting habitat for eagles. Species such as marsh wren (*Cistothorus palustris*), red-winged blackbird (*Agelaius phoeniceus*), and tricolored blackbird (*Agelaius tricolor*) could nest in dense cattails in the drainage channel east of the WTP. The tricolored blackbird, a California species of concern, is described in further detail below.

The tricolored blackbird is almost always present in large breeding colonies or flocks, with a range including the Central Valley and much of the Coast Ranges. Breeding habitats include freshwater wetlands with dense cattails or other wetland vegetation, and breeding colonies are larger than any other North American landbird (Shuford and Garaldi, 2008). Basic requirements for the species' selection of breeding sites includes open accessible water, a protected nesting substrate with either flooded or thorny vegetation, and a suitable foraging space with adequate insect prey within one to two miles of the colony. Nesting season for the tricolored blackbird typically extends from March through August (Baicich and Harrison, 1997). Large flocks of wintering and foraging blackbirds, often mixed with other species, can be found in grasslands or agricultural fields with short vegetation and insect prey (Shuford and Garaldi, 2008).

Tricolored blackbirds were recorded near the Lawrence Livermore and Sandia Laboratories in 2009, after a pond supporting a previous colony was dried by the property owner in 2004 (CNDDB, 2011). The recorded individuals were documented as "nesting or looking to nest". Cattail habitat in the

drainage channel west of the PPWTP could support a small nesting colony of tricolored blackbirds, as grasslands nearby would support foraging habitat for the species as well.

Any nesting raptors in trees within 500 feet of project activities could be disturbed by construction noise, potentially leading to disturbance behavior or nest abandonment. Additionally, any birds nesting in cattails in the drainage channel west of the PPWTP would be within 50 feet of the proposed project site, and nesting activities could be also be disrupted by project activities. Disruption of any nesting native birds would violate the Migratory Bird Treaty Act and CDFG code, and would constitute a significant impact. **Mitigation Measure BIO-2~~3~~** will reduce impacts on nesting birds to a less-than significant level.

The Project alignment on Patterson Pass Road is bordered by managed agricultural lands and unmanaged annual grasslands that provide minimal habitat values for burrowing owl (*Athene cunicularia*). Agricultural lands near the westernmost 0.5 mile of the road alignment are disked and mowed in support of dryland farming. The easternmost 0.13 mile of the road alignment is bordered by tall, unmanaged grasslands that are generally too tall to support burrowing owl populations. The road alignment was surveyed for burrowing owls in 2000 for the City of Livermore (Livermore Tank project) and again in 2005 for the Zone 7 Patterson Pass Treatment Plant Ammonia Facility Replacement Project, with negative survey findings due to the lack of suitable habitat (Zone 7 Water Agency, 2006). Ongoing land disturbances and vegetation management practices point result in a low likelihood of encountering burrow owls during project construction. **Mitigation Measure BIO-2** will help ensure that impacts on burrowing are at a level considered less-than significant.

> **Mitigation Measure BIO-2~~3~~:** If construction must be performed during the nesting period (February 1 through August 31), Zone 7 shall retain a qualified biologist to survey trees and dense wetland vegetation within 500 feet of the project site to verify the presence or absence of nests~~for any nesting birds to verify the presence or absence of nests no more than 14 days prior to construction activities~~. Patterson Pass Road and it's roadway shoulders in the vicinity of the project shall also be surveyed for burrowing owl nests. Surveys shall be completed no more than 14 days prior to construction activities. If active nests are observed, buffer zones will be established around trees/shrubs with nests, with a buffer size established by the qualified biologist through consultation with the appropriate regulatory agency (e.g., CDFG). Buffered zones will be avoided during construction activities until young have fledged or the nest is otherwise abandoned.

b. No Impact. No project construction is proposed in any sensitive natural communities. Freshwater emergent wetland is present in the drainage channel west of the PPWTP, and is considered a sensitive natural community by CDFG; however, the project activities would be confined within the developed public roadway and the wetland would not be impacted by the project.

c. No Impact. No project construction is proposed in any wetlands under state or federal jurisdiction, and no direct impacts on such wetland areas are expected.

d. Less than Significant with Mitigation. As described in a), while Patterson Pass Road is currently a hazard to wildlife, amphibians could move across the road when dispersing between upland habitats both north and south of the road. Patterson Pass Road is not currently considered a "wildlife corridor" as they are typically defined, but rather a barrier to wildlife dispersal that is passable when traffic is not present. However, implementation of the proposed project in Patterson Pass Road could create a temporary barrier to wildlife movement, especially if exclusion fence were installed along the entire project site at the beginning of the project activities. Implementation of **Mitigation Measure BIO-1** would prevent special-status amphibians from moving from the adjacent drainage channel into the project site and still keep the road available to move across, and also enable other common wildlife species to continue to move across the road. Therefore, interference with wildlife movements would be avoided and the impact would be less than significant.

e. No Impact. The project does not conflict with any ordinances included in the Alameda County Code. No tree trimming or removal would be required during project implementation.

f. No Impact. The project area is included in the East Alameda County Conservation Strategy (EACCS), which is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County. The project is consistent with the goals of EACCS.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion (Cultural Resources):

a, b, c, d. No impact. There are no historical, archaeological, or paleontological resources in the project area. Further, construction will occur exclusively within previously disturbed areas, and mainly in a previously graded and paved road right of way.

VI. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion (Geology and Soils):

The Project is located at the eastern margin of the Livermore Valley, which lies within the Coast Ranges Geomorphic Province of Northern California. The project site is located in an area traditionally characterized by moderate to high seismic activity. According to mapping done by Dibblee (see ESA, 2006), along the eastern margin of the Livermore Valley and within the various drainages descending from the hills to the east, semi-consolidated sediments of the Livermore Gravels formation and unconsolidated deposits of predominantly Pleistocene age alluvium conceal the bedrock. Bedrock in the hills on the east side of Livermore Valley consists of Miocene (6-23 million years old) marine sandstone of the Neroly and Cierbo formation.

The Project is located just south of the designated Alquist-Priolo Earthquake Fault Zone (ESA, 2006) for the Greenville-Marsh Creek fault. Detailed California Geological Survey (CGS) maps of the Greenville Fault Zone emphasize Holocene (i.e., about the last 11,000 years) activity and, thereby, define the Greenville Fault Zone as active. Recent local investigations by DWR (i.e., concerning Patterson Pass Reservoir) did not find an active fault trace within the treatment plant site or immediate vicinity. Rupture of the Marsh Creek segment, located north of I-580, occurred during the 1980 earthquake on this fault. According to the Association of Bay Area Governments (ABAG), the Greenville Fault could produce very violent shaking in the project vicinity. In fact, the project site could be subject to significant groundshaking intensities in the event of an earthquake centered on any of the potentially active faults in the region (i.e., Greenville-Marsh Creek fault, Hayward fault, and the San Andreas fault to the west).

Liquefaction, a secondary earthquake-induced hazard, occurs when water-saturated soils lose their strength and liquefy during intense and prolonged groundshaking. According to ABAG's Liquefaction Susceptibility in the Bay Area Map, liquefaction susceptibility in the vicinity of the Patterson Pass WTP is low; therefore, potential impacts associated with liquefaction triggered by an earthquake event are considered to be less than significant.

Landslides occur when the soil of a slope becomes saturated. The topography of the project site is flat and landslide susceptibility is considered low. Therefore, no impacts would occur.

a. Less Than Significant Impact. Earthquakes and related ground shaking or failure will continue to have the potential to occur naturally in this area, as they do now. There will be no new structures as a result of the project, and there will be no increased risk of injury to humans and structures as a result of the project.

b. Less than Significant Impact. Construction activities would expose small amounts soils and gravels to wind and water erosion forces as areas are being trenched. However, the excavated materials would continually be hauled away, and little barren soil at the surface of the landscape will be exposed as a result of the project.

c, d. Less than Significant Impact. The United States Department of Agriculture (USDA) Soil Survey identifies native soil in the Project area as Rincon clay loam (ESA, 2006). This soil type is characterized as well drained, exhibiting slow to medium runoff, having slight to moderate erosion hazard, and occurring on nearly level to very gently sloping valley floors and alluvial fans. Rincon clay loam is considered to have a moderate to high shrink-swell potential and has a relatively slow permeability. Thus, there is a likelihood that expansive soils exist in the proposed area. However, the nature of this project is to trench and excavate soil within a paved roadway and then backfill with gravel and re-pave to County road standards. There will be no increased risk of injury to life or property as a result of the project.

e. No Impact. The proposed project is removing a septic system.

VII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion (Greenhouse Gas Emissions)

a. Less than Significant Impact. Based on the following analysis, construction and operation of the proposed project would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that would have a significant impact on the environment.

Construction

Construction activities that would be associated with the proposed project would include installation of a 4,079-foot long and 8-inch diameter sewer pipeline primarily within Patterson Pass Road, and excavation and removal of an old septic system at the Patterson Pass Water Treatment Facility. It is assumed that construction activities would occur over an approximately four-month period. The majority of the project-related GHG emissions would be generated on-site due to the use of heavy-duty off-road equipment that would include one excavator, one crane, one front end loader, one compactor, one backhoe, one paver, and one steam roller. The equipment operation hours per day and number of required work-days would vary depending on the specific type of equipment and on the construction activity. GHG emissions would also be generated by construction worker daily commutes and by approximately 185 heavy-duty diesel tractor trailer truck roundtrips that would be required to haul excavated soil, imported gravel, pipe, and septic tank debris to/from the proposed project site.

The BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2010) identify qualitative and quantitative operations-related thresholds of significance for GHG emissions. For projects other than stationary sources, the qualitative threshold is noncompliance with a qualified climate action plan or qualified general plan. The quantitative threshold is annual operational emissions of more than 1,100 metric tons carbon dioxide equivalent (CO_2e). For stationary source projects, there is only a quantitative threshold of 10,000 metric tons CO_2e per year. There is no threshold established for emissions of GHG during project construction. However, for a conservative study, this analysis applies the BAAQMD's threshold of

1,100 metric tons CO_2e per year for non-stationary source projects. It should be noted that no single project emits sufficient amounts of GHGs to alter the global climate; impacts of GHG emissions are inherently cumulative in nature.

Proposed project construction equipment GHG emissions were estimated using the URBEMIS 2007 emissions model to estimate carbon dioxide (CO_2) and California Climate Action Registry (CCAR) global warming potential factors to estimate methane (CH_4) and nitrous oxide (N_2O) emissions (CCAR, 2009). Estimated construction GHG emissions that would be associated with the proposed project are presented in **Table 2**. Refer to **Appendix 1** for the assumptions used to estimate GHG construction emissions that would be associated with the proposed project.

TABLE 2 CONSTRUCTION GHG EXHAUST EMISSIONS

	Estimated Total Emissions (metric tons/year)			
Construction Activity	**CO2**	**CH4**	**N2O**	**CO2e**
Total Emissions (metric tons)	72.49	0.00	0.00	73.15
Significance Threshold (metric tons)				1,100
Significant Impact?				**No**

As indicated in **Table 2**, short-term total proposed project construction-related GHG emissions would be approximately 73 metric tons CO_2e, which is considerably lower than BAAQMD's quantitative threshold of 1,100 metric tons CO_2e per year for non-stationary sources. Therefore, GHG emissions that would be associated with construction of the proposed project would represent a less than significant impact.

Operations

Once construction is complete, the proposed project would result in virtually no sources of GHG emissions. Therefore, there would be no net change in long-term proposed project GHG emissions compared to the baseline conditions and there would be no long-term operational impact.

b. No Impact. There are no adopted GHG-related plans, policies, or regulations that would be applicable to the proposed project. No impact would occur

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VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion (Hazards and Hazardous Materials):

a, b. Less Than Significant Impact. Construction activities will involve equipment (haul trucks, etc.) that use fuels and oils, which can be hazardous if spilled. This sort of spill would be very small and easily contained. The project does not specifically include the transport, storage, or disposal of hazardous materials.

c. No Impact. The proposed project is not located within one quarter mile of a school. Therefore, no impacts to schools from operations or construction activities would be anticipated.

d. No Impact. The proposed project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, therefore, there is no impact.

e,f. No Impact. The proposed project would not interfere with airport operations and is not located within two miles of a public or private airport. The USGS quadrangle map (2002) shows a landing strip on the property immediately to the west of the PPWTP; this airstrip was used as a glider landing area in the past but has not been used for 10 years and has not been maintained (ESA, 2006). No impacts would occur.

g. No Impact. During construction, traffic access will be maintained at all times. After construction, the site will look and function as it does today. Therefore, no impacts would occur.

h. No Impact. Construction or operation of the proposed project would not expose people to wildfire risks; nor would it increase the facility's susceptibility to wildfires. No impacts would occur.

IX. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?				☒

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion (Hydrology and Water Quality):

Few surface water features exist within and near the project site other than Patterson Pass Reservoir. The project site is generally flat, sloping slightly to the southwest toward Patterson Pass Road. One drainage ditch exists just inside the western PPWTP property boundary that is capable of supporting wetland habitats of poor-to-moderate quality. An ephemeral creek flows southwestward toward the property from the Diablo Range hills and to a drainage ditch along Patterson Pass Road; the ditch acts as a flood control swale, collecting runoff from the hills and draining into Livermore Valley. Another creek, Arroyo Las Positas, enters the Livermore Valley from the east just south of Patterson Pass Road, traversing undeveloped pasture land south of the project site. The slope of the pasture land and the raised Patterson Road separate this water course from the treatment plant site and protect the site from flooding.

a. Less than Significant with Mitigation Incorporated. The contractor will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) or Stormwater Quality Protection Plan (SQPP). However, construction activities could result in water quality impacts to the drainage ditch along the western fence line of the treatment plant property. Water quality impacts could include entrainment of loose or disturbed soil by means of surface runoff and delivery to the drainage ditch. Implementation of appropriate standard erosion control techniques and Best Management Practices (BMPs), as specified in **Mitigation Measure WQ-1,** would reduce potential water quality impacts to a less than significant level.

> **Measure WQ-1**: Zone 7 shall require contractors to implement appropriate BMPs for construction activities. The BMPs include measures guiding the management and operation of construction sites to control and minimize the potential contribution of pollutants to storm runoff from these areas. Erosion and sedimentation control practices include installation of silt fencing,

straw wattle, soils stabilization, revegetation, and runoff control (e.g., detention basins, straw bales, silt fences, check dams, geofabrics, drainage swales, and sand bag dikes) to limit increases in sediment entrained in stormwater runoff. The proposed measures will be included in a SWPPP or SQPP that will be reviewed by Zone 7 prior to construction.

b. No Impact. The proposed project would not increase demand for groundwater or interfere substantially with groundwater dynamics or recharge.

c, d, e, f. No Impact. The project area is generally flat and the proposed project would not involve any changes to on-site drainage patterns because the site is already graded. The proposed project will not result in new or added impervious surface or increased runoff.

g, h, i. No Impact. The project does not include housing or structures in a flood channel, nor would it expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

j. No Impact. The project area is not subject to seiches, tsunamis, or mudflows and no impacts related to these phenomena are anticipated.

X. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion (Land Use and Planning):

a, b. No Impact. The proposed project would not physically divide a community or conflict with local land use plans or policies. Following construction, the project site will be returned to its current condition and use.

c. No Impact. The proposed project would not conflict with any habitat conservation plan (HCP) or natural communities conservation plan (NCCP), including EACCS (see IVf). Following construction, the project site will be returned to its current condition and use.

XI. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?	☐	☐	☐	☒
b) 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?	☐	☐	☐	☒

Discussion (Mineral Resources):

a, b. No Impact. The proposed project is mainly within an existing paved roadway and is limited to areas that have previously been disturbed. It would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. Following construction, the project site will be returned to its current condition and use.

XII. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion (Noise):

a, d. Less than Significant With Mitigation Incorporated. The project site is located in a relatively unpopulated, rural area where noise sources are primarily from traffic on Patterson Pass Road and existing treatment plant operations. Some land uses are more sensitive to ambient noise levels than others due to the amount of noise exposure and types of activities typically involved. Noise sensitive land uses include residential, mobile home parks, motels and hotels, schools, libraries, churches, hospitals, nursing and convalescent homes, and some parks and cultural facilities. None of these sensitive land uses are nearby.

Construction of the proposed facilities, which is expected to last four months, would temporarily increase noise levels in the project vicinity. Typical construction equipment (i.e., backhoe, dozer, and jackhammer) noise levels range from 79 to 88 dBA, Ldn at 50 feet from the noise source (ESA, 2006). Noise from construction activities generally attenuates at a rate of six to nine dBA for every doubling of distance and would fluctuate depending on construction phase, equipment type and duration of use, the distance between noise source and receptor, and the presence of barriers between the noise source and receptor.

Mitigation Measure NOI-1 would ensure that equipment noise is controlled to the degree feasible.

> **Measure NOI-1:** Construction work shall be conducted only as prescribed by City and/or County permits. All onsite construction equipment with internal combustion engines shall be equipped with adequate mufflers.

Given the limited proximity to residential or other sensitive land uses, the limited extent and duration of proposed construction, and the natural attenuation of noise with distance, implementation of **Mitigation Measures NOI-1** would reduce potential noise impacts to less-than-significant levels.

b. Less Than Significant Impact. Construction activities do not include blasting or drilling or other activities typically associated with groundborne vibration or groundborne noise. Given the background traffic noise, the limited proximity to residential uses, the limited extent and duration of proposed construction, and the natural attenuation of noise with distance, this is considered a less than significant impact.

c. No Impact. Following construction, the project will result in no permanent increase in noise.

e, f. No Impact. The project site is not located within two miles of an active airport; therefore, the project would not expose people residing or working in the project area to excessive noise levels associated with airport operations.

XIII. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion (Population and Housing):

a, b, c. No Impact. This project is limited to improvements at the PPWTP. It will not have any impact on population or housing.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion (Public Services):

a. No Impact. The proposed project would not necessitate the need for alteration of public services or facilities. Therefore, no physical or environmental impacts associated with the provision of new or altered governmental facilities would result.

XV. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion (Recreation):

a, b. No Impact. The proposed project does not propose recreational elements and it would not increase the use of existing parks or recreational facilities. Therefore, no impacts would occur.

XVI. TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion (Transportation and Traffic):

The Project is located in unincorporated Alameda County, approximately one mile east of the City of Livermore. Construction work would primarily be conducted within Patterson Pass Road, between Greenville Road and the Patterson Pass Water Treatment Plant.

Regional access for the proposed project would be provided by Interstate 580 (I-580) and local access would be provided via Patterson Pass Road and Greenville Road to I-580.

I-580 is a freeway (four lanes in each direction near the project area) that connects to Oakland/Richmond to the northwest, and to I-5 (near Tracy) to the east. The most recent data published by the California Department of Transportation (Caltrans) indicates that the average daily traffic volume on I-580 in the project area is about 137,500 vehicles (Caltrans, 2011). The project site is accessed from I-580 at the North Greenville Road interchange.

Greenville Road connects the project area with I-580. From I-580 to Patterson Pass Road, the travel lanes on Greenville Road vary from one to three lanes in each direction; south of Patterson Pass Road, the road has one lane in each direction. The intersection of Greenville Road / Patterson Pass Road is unsignalized (stop signs on the Patterson Pass Road approaches), with left-turn lanes on the Greenville Road approaches. Within the project area, portions of Greenville Road have sidewalks and bike lanes.

Patterson Pass Road is a two-lane roadway east of Greenville Road, and a four-lane divided roadway west of Greenville Road. As described above, traffic is controlled by stop signs on Patterson Pass Road at Greenville Road. Traffic counts conducted in 2009 indicated that Patterson Pass Road carries about 1,120 vehicles per day, with approximately 170 vehicles during both the AM and PM peak hours, and about 27 to 80 vehicles per hour between 8:00 a.m. and 4:00 p.m. (ESA, 2009). There are no sidewalks or bike lanes on Patterson Pass Road east of Greenville Road.

a. Less than Significant Impact. Construction duration for both the sewer pipeline and the septic tank removal is anticipated to last approximately four months, with work expected to occur mainly on weekdays during daytime hours (as City and County permits allow). Construction of the proposed project would require exporting approximately 950 cubic yards of excavated soil, and importing approximately 790 cubic yards of gravel for backfilling the trench. Assuming that the volume of the hauling trucks would be 10 cubic yards, exporting the excavated soil would require 190 one-way construction truck trips, and importing the gravel would require 158 one-way construction truck trips.[2] Transporting the old septic system away from the PPWTP would require two one-way construction truck trips, and transporting pipe material would require 20 one-way construction truck trips. Therefore, construction activities and equipment for the proposed project would require a total of 370 one-way construction truck trips (or 185 round trips) spread throughout the four-month construction duration.

[2] One-way truck trips were calculated as follows (using excavated soil as an example): 950 cubic yards divided by 10 cubic yards truck equals 95 truck loads, and each truck load would entail a return (empty) trip to the work site. Thus, one-way truck trips equal truck loads times two (i.e., 95 x 2 = 190 one-way truck trips).

Assuming the truck trips would be spread evenly over the four months, there would an average of about four or six one-way construction truck trips per day. This analysis acknowledges that on any given day, the project could generate more than, or fewer than, the average number of one-way construction truck trips, accounting for variation in construction activities. However, given that the daily truck trips would occur over the course of the work day, the temporary project-generated construction truck traffic would not result substantial adverse impacts to traffic flow.

In addition to construction truck trips, construction activities would require eight construction employees, who would generate 16 one-way commute trips per day (eight inbound in the morning, and eight outbound in the afternoon). As stated above, Patterson Pass Road is not a heavily-used road, and the temporary addition of construction employee trips would not adversely affect traffic flow conditions. Therefore, vehicle trips associated with construction employees are considered a less than significant impact.

In addition to increased traffic volumes on area roadways, pipeline installation would require closure of one of the two lanes on Patterson Pass Road during the construction work hours. Traffic flow would be maintained by using flagger-managed alternate one-way traffic flow past the construction zone (see BMP –3: “Use flagger to allow traffic around the construction site at all times – do not anticipate road closure” in the Project Description). The above-cited traffic volume on Patterson Pass Road (about 27 to 80 vehicles per hour between 8:00 a.m. and 4:00 p.m.) is sufficiently low to be accommodated with a less-than-significant impact.

b. No Impact. The LOS standards for roadways that are part of the Alameda County Congestion Management Program network are intended to regulate long-term traffic impacts due to on-going traffic-generating land uses and new development and do not apply to temporary construction projects. Operation and maintenance of the proposed project would not create additional or permanent employee-related vehicle trips, and the proposed project would not change the existing land use in a manner that indirectly generates vehicle trips. Long-term conditions would be the same as existing traffic and circulation conditions within the project area. As such, the proposed project would not exceed LOS standards established by the Alameda County Transportation Commission (ACTC) for designated Congestion Management Program roadways.

c. No Impact. Due to its nature and scope, the project would not change air traffic patterns at any airport and would not install structures that could interfere with air space. There would be no impact.

d. Less than Significant Impact. The proposed project would not include any permanent design features (e.g., new facilities or obstructions) within public roadways or alterations of existing roadway features (e.g., road realignment) that would create a permanent and substantial design hazard. However, as discussed above, construction activities (pipeline installation) would result in temporary lane closure on Patterson Pass Road. Within the proposed project area, Patterson Pass Road is an undivided two-lane road, and traffic flow would be maintained by using flagger-managed alternating

one-way traffic flow past the construction zone. Trucks associated with construction on project area roadways would interact with other vehicles.

As stated in the Project Description, the applicant would implement BMP –3: "Use flagger to allow traffic around the construction site at all times – do not anticipate road closure". Therefore, the proposed project would not result in full road closure, or create any design hazards. In addition, contract specifications for the project would specify that all contractors working on the project would comply with standard roadside safety protocols (e.g., specifications in Caltrans' *Construction Manual)* to reduce the risk of accidents. Construction personnel would be trained to apply appropriate safety measures. Compliance with standard roadside safety protocols would ensure that the impact would be less than significant.

e. Less than Significant Impact. As discussed above, the proposed project would involve construction within Patterson Pass Road. Therefore, emergency vehicles could be partially obstructed during the four-month construction duration. However, Patterson Pass in not a heavily-used road, and BMP -3 would facilitate access for emergency vehicles past the construction zone.

Interstate 580 and Greenville Road would have sufficient capacity to accommodate the minimal amounts of project-generated construction traffic. As stated in item a), above, the addition of construction equipment and construction vehicles would not substantially exacerbate existing traffic congestion levels, and would be temporary. The effects on traffic flow would be experienced by emergency service providers to the degree they use the affected roads when project-generated traffic occurs. However, as also stated above, the estimated number of project-generated trips would not be substantial, and therefore, the short-term increase in vehicle trips would have a less-than-significant effect on emergency access along I-580 and Greenville Road.

f. No Impact. The proposed project would not directly or indirectly eliminate alternative transportation corridors or facilities (e.g., bike paths or lanes, bus turnouts, etc.) both because of facility locations (no such facilities exist on the affected road [i.e., Patterson Pass Road]), and because of the short-term nature of construction activities where potential effects could occur. In addition, the proposed project would not include changes in policies or programs that support alternative transportation. Therefore, the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

XVI. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion (Utilities and Service Systems):

a. No impact. The Project will not alter the wastewater treatment requirements of the existing system.

b. Less Than Significant Impact. We have approval from the City of Livermore to connect to their existing sewer system. The additional waste from the PPWTP is negligible as compared to the overall wastewater capacity of the City of Livermore. Furthermore, the project does not change the amount of waste being generated – it merely shifts from on-site treatment to offsite managements as part of a regulated waste water treatment plant.

c. No Impact. The proposed project is limited to construction of the sewer pipeline. The project does not include new or expanded storm water drainage facilities.

d. Less Than Significant Impact. The project does not require additional water supply.

e. No Impact. Zone 7 has approval from the City of Livermore to connect to their existing sewer system. The additional waste from the PPWTP is negligible as compared to the overall wastewater capacity of the City of Livermore.

f. Less Than Significant Impact. Solid waste generation will be limited to construction activities and would not affect available solid waste disposal capacity in the region. The waste (excavated material) generated by this project may be re-used at another construction site rather than hauled to a landfill, at the contractor's discretion.

g. Less Than Significant Impact. The contractor will be required to comply with all pertinent regulations regarding the disposal of solid waste generated by construction activities. No long-term solid waste generation would be associated with the proposed project. Furthermore, the project does not change the amount of waste being generated – it merely shifts from on-site treatment to offsite managements as part of a regulated waste water treatment plant. Therefore, impacts are considered less than significant.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a. Less Than Significant Impact. Without mitigation, the proposed project does have the potential to degrade the quality of the environment during construction activities. However, with the mitigation measures included as part of this Initial Study, all potentially significant impacts would be reduced to a less-than significant level.

b. Less Than Significant Impact. Potential impacts associated with the proposed project are only related to construction activities. Due to the limited extent and duration of the proposed activities, the proposed project would not contribute to cumulatively considerable impacts. Therefore, potential impacts are considered to be less than significant.

c. Less Than Significant Impact. Without mitigation, the proposed project does have the potential to adversely affect human beings, primarily through activities relate to project construction. However, these impacts would be temporary (lasting only for the duration of construction) and the mitigation measures included as part of this Initial Study would reduce these potential impacts to a less-than-significant level.

5. References

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California Department of Fish and Game (CDFG), California Natural Diversity Database for the Altamont 7.5 minute USGS topographic quadrangle, Commercial Version, accessed October 2011.

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Zone 7 Water Agency, 2006. Patterson Pass Water Treatment Plant Ammonia Facility Replacement Project. Initial Study/Mitigated Negative Declaration. SCH# 2006102121.

6. Public Comments

The Draft Initial Study/ Mitigated Negative Declaration document was mailed to agencies and interested parties, including landowners within an approximately 1000-foot radius of the proposed Project site, on November 4, 2011. It was also made available at the public library in Livermore. A 30-day public review period was held from November 4, 2011 through December 5, 2011, which was noticed in the Valley Times newspaper.

Several inquiries were made on the project, but no formal public comments were received. The Final IS/MND does reflect two inquires – one from Californian Department of Fish and game regarding burrowing owls, and the other from the Alameda County Planning Department regarding uses for the pipeline other than for sewage. Changes to the IS/MND based on these inquiries are reflected in this IS/MND and are shown in track changes. Mitigation Measure BIO-2 was improved to specifically include burrowing owl surveys; this revised mitigation is considered more effective than as originally proposed, and therefore recirculation of this document is not required.

7. Mitigation Monitoring and Reporting Plan

The Mitigation Monitoring and Reporting Plan (MMRP) is included as Appendix 2; it identifies the implementation procedure, monitoring and reporting actions, monitoring responsibility, and monitoring schedule for all mitigations measures in the Final IS/MND.

APPENDIX 1

Criteria Pollutants and Greenhouse Gas Emissions Estimates

CONSTRUCTION EMISSIONS SUMMARY

Criteria Pollutant Emissions

	Estimated Average Daily Construction Emissions (pounds/day)				
Emissions Source (from URBEMIS)	**ROG**	**NOx**	**CO**	**PM10**	**PM2.5**
Sewer Pipeline	2.07	14.50	10.54	1.04	0.95
Septic Tank Removal	0.52	3.57	2.65	0.29	0.27
Total Maximum (pounds/day)	2.07	14.50	10.54	1.04	0.95
BAAQMD Significance Threshold	54	54	NA	82	54

Greenhouse Gas Emissions

Emissions	**CO2**	**CH4**	**N20**	**CO2e**
Total Emissions (tons)	79.91	0.00	0.00	80.63
Total Emissions (metric tons)	72.49	0.00	0.00	73.15

Notes: Tons CO2 are obtained from the URBEMIS model (see URBEMIS output sheets).
0.907194 metric tons = 1 ton; 2000 pounds = 1 ton.
Global Warming Potential for CH4 = 25; GWP for N2O = 296.

Diesel exhaust emission factors for GHG (CCAR, 2009)

10150	g CO2/gal	
0.58	g CH4/gal	
0.26	g N2O/gal	
CH4 emissions =	0.000057	ratio of CH4 emissions to CO2 emissions
N2O emissions =	0.000026	ratio of N20 emissions to CO2 emissions

References:

California Climate Action Registry, General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009. Tables C.3 and C.6.

10/7/2011 6:33:40 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Patterson Pass Water Treatment Plant Sanitary Sewer Pipeline Project

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	2.07	14.50	10.54	0.00	2.00	1.04	2.45	0.42	0.95	1.25	1,768.70

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 2/6/2012-2/6/2012 Active Days: 1	1.71	12.40	8.81	0.00	1.42	0.85	2.27	0.30	0.78	1.08	1,544.83
Fine Grading 02/06/2012-06/08/2012	1.71	12.40	8.81	0.00	1.42	0.85	2.27	0.30	0.78	1.08	1,544.83
Fine Grading Dust	0.00	0.00	0.00	0.00	1.40	0.00	1.40	0.29	0.00	0.29	0.00
Fine Grading Off Road Diesel	1.56	10.50	7.22	0.00	0.00	0.78	0.78	0.00	0.72	0.72	1,111.77
Fine Grading On Road Diesel	0.12	1.85	0.61	0.00	0.01	0.07	0.08	0.00	0.06	0.06	331.03
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04

Time Slice 2/7/2012-6/8/2012 Active Days: 89	**2.07**	**14.50**	**10.54**	**0.00**	1.42	**1.04**	**2.45**	0.30	**0.95**	**1.25**	**1,768.70**
Asphalt 02/07/2012-06/08/2012	0.36	2.10	1.73	0.00	0.00	0.18	0.19	0.00	0.17	0.17	223.87
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.34	2.06	1.23	0.00	0.00	0.18	0.18	0.00	0.17	0.17	170.97
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88
Paving Worker Trips	0.02	0.03	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.02
Fine Grading 02/06/2012-06/08/2012	1.71	12.40	8.81	0.00	1.42	0.85	2.27	0.30	0.78	1.08	1,544.83
Fine Grading Dust	0.00	0.00	0.00	0.00	1.40	0.00	1.40	0.29	0.00	0.29	0.00
Fine Grading Off Road Diesel	1.56	10.50	7.22	0.00	0.00	0.78	0.78	0.00	0.72	0.72	1,111.77
Fine Grading On Road Diesel	0.12	1.85	0.61	0.00	0.01	0.07	0.08	0.00	0.06	0.06	331.03
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 6/11/2012-6/12/2012 Active Days: 2	0.52	3.57	2.65	0.00	**2.00**	0.29	2.29	**0.42**	0.27	0.68	433.49
Fine Grading 06/11/2012-06/12/2012	0.52	3.57	2.65	0.00	2.00	0.29	2.29	0.42	0.27	0.68	433.49
Fine Grading Dust	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.42	0.00	0.42	0.00
Fine Grading Off Road Diesel	0.48	3.11	2.25	0.00	0.00	0.27	0.27	0.00	0.25	0.25	327.46
Fine Grading On Road Diesel	0.03	0.45	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.02	80.52
Fine Grading Worker Trips	0.01	0.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.51

Phase Assumptions

Phase: Fine Grading 2/6/2012 - 6/8/2012 - Sewer Pipeline Construction

Total Acres Disturbed: 0.28

Maximum Daily Acreage Disturbed: 0.07

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

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On Road Truck Travel (VMT): 82.22

Off-Road Equipment:

1 Cranes (120 hp) operating at a 0.43 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 6/11/2012 - 6/12/2012 - Septic Tank Removal

Total Acres Disturbed: 0.1

Maximum Daily Acreage Disturbed: 0.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 20

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 2/7/2012 - 6/8/2012 - Road Paving

Acres to be Paved: 0.14

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 2 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 2 hours per day

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Patterson Pass Water Treatment Plant Sanitary Sewer Pipeline Project

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.09	0.66	0.48	0.00	0.07	0.05	0.11	0.01	0.04	0.06	79.91

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2012	0.09	0.66	0.48	0.00	0.07	0.05	0.11	0.01	0.04	0.06	79.91
Fine Grading 02/06/2012-06/08/2012	0.08	0.56	0.40	0.00	0.06	0.04	0.10	0.01	0.04	0.05	69.52
Fine Grading Dust	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.07	0.47	0.32	0.00	0.00	0.04	0.04	0.00	0.03	0.03	50.03
Fine Grading On Road Diesel	0.01	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.90
Fine Grading Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59
Asphalt 02/07/2012-06/08/2012	0.02	0.09	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	9.96
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.09	0.05	0.00	0.00	0.01	0.01	0.00	0.01	0.01	7.61
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.27
Fine Grading 06/11/2012-06/12/2012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Phase Assumptions

Phase: Fine Grading 2/6/2012 - 6/8/2012 - Sewer Pipeline Construction

Total Acres Disturbed: 0.28

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Phase: Fine Grading 6/11/2012 - 6/12/2012 - Septic Tank Removal

Total Acres Disturbed: 0.1

Maximum Daily Acreage Disturbed: 0.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 20

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 2/7/2012 - 6/8/2012 - Road Paving

Acres to be Paved: 0.14

Off-Road Equipment:

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APPENDIX 2

Mitigation Monitoring and Reporting Plan

APPENDIX 2: MITIGATION MONITORING AND REPORTING PLAN

Mitigation Measure	Implementation Responsibility	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Mitigation Measure AIR-1: Implement BAAQMD Basic Mitigation Measures. Zone 7 Water Agency and its construction contractors shall control fugitive dust emissions by implementing, as applicable, the following basic control measures based on BAAQMD recommendations: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed at least once per day. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Tile 13, Section 2485 of California of Regulations). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at Zone 7 Water Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	Construction contractor implements dust abatement program.	Daily inspections and bi-weekly documentation to Zone 7 that measures are being implemented, and identifying any lapses or issues.	Implementation and ongoing monitoring supervised by construction contractor. Program oversight by Zone 7 Project Manager.	During construction.

APPENDIX 2: MITIGATION MONITORING AND REPORTING PLAN

Mitigation Measure	Implementation Responsibility	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Mitigation Measure BIO-1: Zone 7 shall install silt exclusion fence directly west of the pipeline alignment heading north-south on the PPWTP property, to prevent special-status amphibians from moving from the adjacent drainage channel into the project site. Exclusion fence shall be "keyed in", with the bottom edge buried at least six inches to prevent animals from moving underneath the fence.	Zone 7 implements and monitors silt exclusion fencing.	Regular inspections and documentation that measures are being implemented, and identifying any lapses or issues. Frequency to be established by qualified biologist.	Zone 7 implements and monitors silt exclusion fencing.	During construction.
Mitigation Measure BIO-2: If construction must be performed during the nesting period (February 1 through August 31), Zone 7 shall retain a qualified biologist to survey trees and dense wetland vegetation within 500 feet of the project site to verify the presence or absence of nests. Patterson Pass Road and it's roadway shoulders in the vicinity of the project shall also be surveyed for burrowing owl nests. Surveys shall be completed no more than 14 days prior to construction activities. If active nests are observed, buffer zones will be established around trees/shrubs with nests, with a buffer size established by the qualified biologist through consultation with the appropriate regulatory agency (e.g., CDFG). Buffered zones will be avoided during construction activities until young have fledged or the nest is otherwise abandoned.	Zone 7 implements pre-construction survey and implements buffer zones, as needed.	Preparation of pre-construction survey results report. Regular inspections and documentation that measures are being implemented, and identifying any lapses or issues. Frequency to be established by qualified biologist.	Zone 7 monitors buffer zones, as needed.	Pre-construction survey applies only February 1 through August 31.
Measure NOI-1: Construction work shall be conducted only as prescribed by City and/or County permits. All onsite construction equipment with internal combustion engines shall be equipped with adequate mufflers.	Construction contractor to notify all workers and suppliers.	Construction contractor to provide weekly communication to Zone 7 that measure is being implemented and is effective.	Implementation and ongoing monitoring supervised by construction contractor. Program oversight by Zone 7 Project Manager.	During construction

APPENDIX 2: MITIGATION MONITORING AND REPORTING PLAN

Mitigation Measure	Implementation Responsibility	Monitoring and Reporting Actions	Monitoring Responsibility	Monitoring Schedule
Measure WQ-1: Zone 7 shall require contractors to implement appropriate BMPs for construction activities. The BMPs include measures guiding the management and operation of construction sites to control and minimize the potential contribution of pollutants to storm runoff from these areas. Erosion and sedimentation control practices include installation of silt fencing, straw wattle, soils stabilization, revegetation, and runoff control (e.g., detention basins, straw bales, silt fences, check dams, geofabrics, drainage swales, and sand bag dikes) to limit increases in sediment entrained in stormwater runoff. The proposed measures will be included in a SWPPP or SQPP that will be reviewed by Zone 7 prior to construction.	Construction contractor prepares and implements SWPPP or SQPP.	Construction contractor to provide weekly communication to Zone 7 that measures are being implemented and are effective, and identifying any lapses or key issues. Construction contractor to conduct sampling as required by permit.	Implementation and ongoing monitoring supervised by construction contractor. Program oversight by Zone 7 Project Manager.	During construction.