3.10 Noise

3.10.1 ENVIRONMENTAL SETTING

General Background on Noise

Noise is generally defined as unwanted or objectionable sound. Airborne sound can be described as a rapid fluctuation of air pressure above and below the atmospheric pressure. Most sounds heard in the environment do not consist of a single frequency, but rather include a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all frequencies of a sound in accordance with a filter that reflects the fact that human hearing is less sensitive at low and extremely high frequencies compared to mid-range frequencies. This is called "A" weighting, and the decibel (dB) level measurement is called the A-weighted sound level (dBA).

Expressed on a logarithmic (power of 10) scale, the units are depicted as dBA using a frequency-weighted pattern that duplicates the sensitivity of the human ear. A noise of 70 dBA is approximately twice as loud as a noise of 60 dBA and four times as loud as a noise of 50 dBA.

Since noise levels from various sources vary over time, they are frequently expressed as an equivalent noise level (L_{ed}), which is a computed steady noise level that represents the same energy transmission over a specified time. L_{ed} values are commonly expressed for one-hour periods, but different averaging times may be specified.

For the evaluation of environmental or community noise effects, it is customary to define a 24-hour-long noise level based on hourly L_{ed} values. An excess or "penalty" noise is applied during the nighttime hours to account for the added nuisance and to adjust for lower average ambient levels during that period. The resulting noise descriptor is either a Community Noise Equivalent Level (CNEL) or a Day-Night Average Noise Level (L_{dn}). If the sound energy does not vary with time, the L_{dn} level would be equal to the L_{eq} level plus 6.4 dB (Caltrans 1998). Table 3.10-1 defines acoustical terms.

Ground-borne Vibration

Vibrating objects in contact with the ground radiate energy through the ground. Large and/or powerful vibrating objects can cause vibration perceptible by humans and animals. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. Ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as operating mechanical equipment, people movement, or slamming doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration from traffic is rarely perceptible. The range of interest is between approximately 50 VdB, which is the typical background vibration velocity level, and 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (NPC 2007).

Table 3.10-1: Definition of Acoustical Terms

Terms	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA L_{eq}.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

SOURCE: Caltrans 1998

Sound Attenuation

Sound levels from a point source decrease 6 decibels as the distance from the source is doubled. Additional factors can alter the attenuation of sound, including natural elements such as vegetation or topography, and unnatural elements such as buildings or screens. The environmental factors may amplify a noise if the sound wave can bounce off the object, or muffle the noise if the sound wave is absorbed by the object (NoisePollution.org 2009).

Existing Noise Conditions

Overview

Noise sources in the Ione area can be grouped into two categories: mobile and stationary. Mobile sources are noise producers that move. In Ione, these sources include vehicle traffic on the roadway network. Primary stationary noise sources in the City include commercial and agricultural land uses. Mining operations south of the City of Ione also produce stationary noise.

Noise sources in the project area are primarily from mobile sources. The City of Ione's commercial area is approximately one mile east of the secondary WWTP. Noises in the project area are typical of an agricultural or suburban environment, except near Unimin Mine, where more industrial noises dominate.

Traffic Noise

Traffic noise from the roadway network and highways are the major contributors today. Caltrans (2007) data shows that the annual average daily traffic (AADT) on State Route (SR) 104 southbound at the intersection of SR 124 south was 10,500 vehicles in 2007. The AADT on SR 104 northbound at SR 124 north was 10,300 vehicles (Caltrans 2007). Caltrans describes highways with an AADT less than 20,000 as low-volume highways. Caltrans estimates that, on

low-volume highways, the 70 dB L_{dn} will be reached 100 feet from the centerline of the roadway, and the 60 dB L_{dn} will be reached at 200 feet (City of Ione 1989).

The tertiary WWTP facility is approximately 0.9 mi south of SR 104, and 1.5 miles west of SR 124. The existing secondary WWTP is approximately 1.1 miles south of SR 104, and 1.4 miles west of SR 124. It is unlikely that traffic from these highways contributes significantly to noise levels at the WWTP locations, due to their distance from the WWTP facilities.

Amador County has performed Average Daily Trip (ADT) counts for the local streets in the vicinity of the existing WWTP. ADT counts are shown in Table 3.10-2. It is unlikely that the low levels of traffic from these streets contribute significantly to noise levels at the WWTP locations.

Table 3.10-2: ADT Counts for the Local Streets in Project Area Vicinity

ADT Counts	Number of Vehicles
Five Mile Road at the City of Ione Boundary (2008)	256
West Marlette Street at 1320 feet east of Five Mile Drive (2008)	320
Old Stockton Road at Five Mile Drive (2005)	260

SOURCE: Amador County 2008

WWTP Noise

Primary sources of noise at the plant are the operation of the brush aerators that maintain oxygen levels in the treatment ponds. The brush aerators produce relatively low noise levels.

Sensitive Receptors

Noise exposure goals for different types of land uses reflect the varying noise sensitivities associated with those uses. Hospitals, schools, guest lodging, and libraries are the most sensitive to noise intrusion, and therefore have more stringent noise exposure targets than manufacturing or agricultural uses. Sensitive receptors in the project area are shown on Figure 3.10-1. There are no hospitals, long-term care facilities, or nursing homes in the project area. The distance from the sensitive receptors to the closest extent of the project area are shown in Table 3.10-3.

Table 3.10-3: Sensitive Receptors Distances from the Project Area

Sensitive Receptor	Distance from Possible Future Pipeline Route (feet)	Distance from Secondary and Tertiary Plant (miles)
Library		
Ione Library	594	1.4
Schools		
Ione Junior High School	500	1.4
Ione Elementary School	100	1.5
Head Start Preschool	50	1.4
Foothill Indian Education	480	1.3

Table 3.10-3 *(Continued)*: Sensitive Receptors Distances from the Project Area

Sensitive Receptor	Distance from Possible Future Pipeline Route (feet)	Distance from Secondary and Tertiary Plant (miles)
James A. Weiden High School	3,000	1.3
Teddy Bear Educational Center	80	1.5
Guest Lodging		
Ione Hotel	489	1.3
Heirloom Inn	1,350	1.2
Churches		
Latter Day Saints	40	1.4
Cornerstone	184	1.5
Calvary	40	1.5
King's View	40	1.4
Sacred Heart	75	1.5
Masonic Temple	450	1.5
Community United Methodist	40	1.4
Cemetery		
Ione Public Cemetery	40	1.4
Recreation		
Charles Howard Park	0	1.8
Castle Oaks Golf Course	300	0.2

3.10.2 REGULATORY SETTING

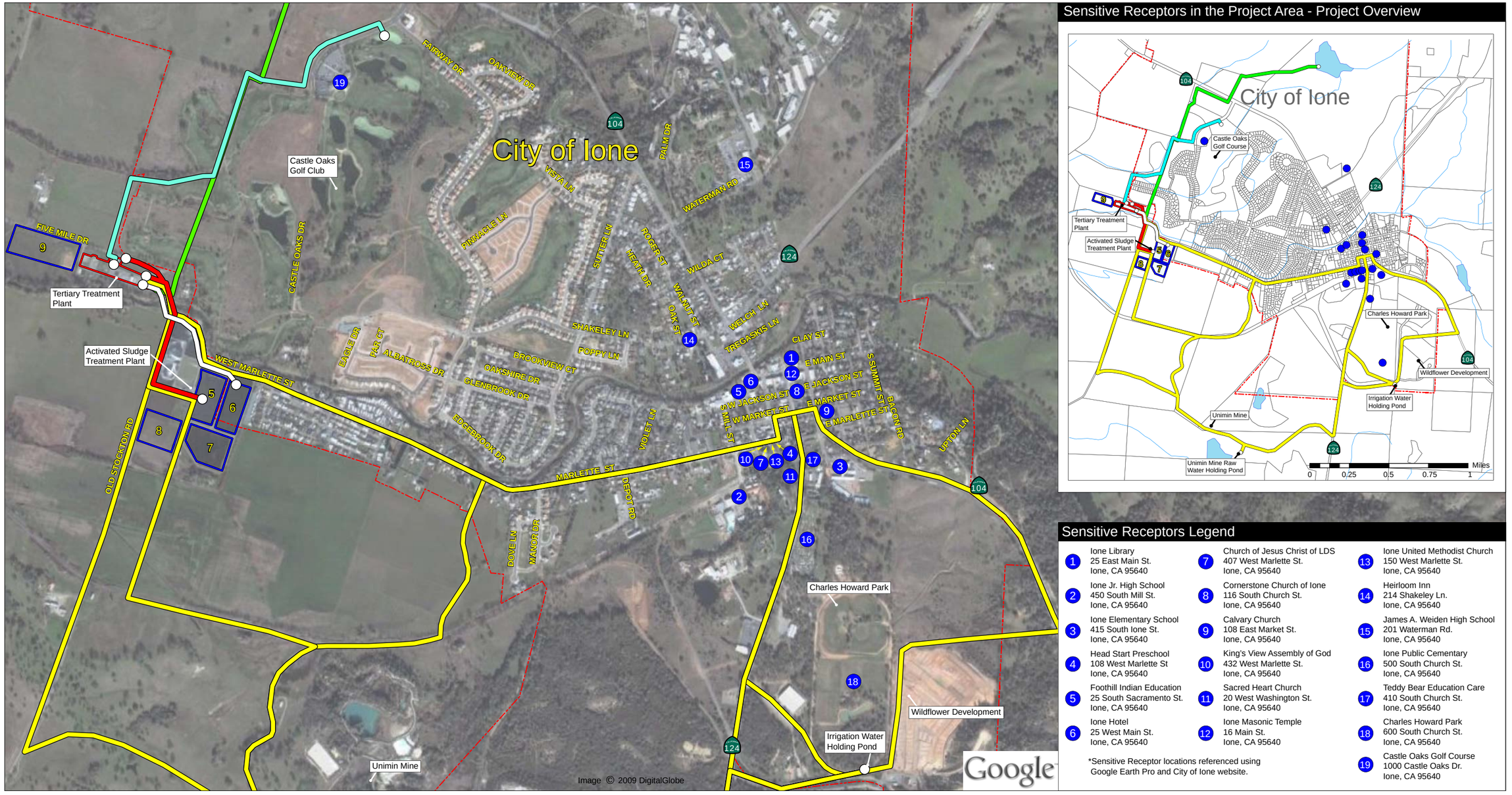
Federal Regulations

U.S. EPA Levels of Environmental Noise Requisite to Protect Public Health and Welfare

In 1974, the United States Environmental Protection Agency (EPA) published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. This document provides information for State and local governments to use in developing their own ambient noise standards. The EPA determined that a day-night sound level of 55 dBA protects the public from indoor and outdoor activity interference.

The EPA, the FHWA, and the US Department of Transportation (USDOT) have developed guidelines for noise. Under the authority of the Noise Control Act of 1972, the EPA established noise emission criteria and testing methods, published at 40 CFR Part 204, which apply to some construction and transportation equipment (portable air compressors, and medium- and heavy-duty trucks). These regulations would apply to trucks that transport equipment and other materials to and from the Ione WWTP facilities.

Figure 3.10-1: Sensitive Receptors in the Project Area Vicinity



Sensitive Receptors in the Project Area - Project Overview

Sensitive Receptors Legend

1. Ione Library, 25 East Main St., Ione, CA 95640
2. Ione Jr. High School, 450 South Mill St., Ione, CA 95640
3. Ione Elementary School, 415 South Ione St., Ione, CA 95640
4. Head Start Preschool, 108 West Marlette St, Ione, CA 95640
5. Foothill Indian Education, 25 South Sacramento St., Ione, CA 95640
6. Ione Hotel, 25 West Main St., Ione, CA 95640
7. Church of Jesus Christ of LDS, 407 West Marlette St., Ione, CA 95640
8. Cornerstone Church of Ione, 116 South Church St., Ione, CA 95640
9. Calvary Church, 108 East Market St., Ione, CA 95640
10. King's View Assembly of God, 432 West Marlette St., Ione, CA 95640
11. Sacred Heart Church, 20 West Washington St., Ione, CA 95640
12. Ione Masonic Temple, 16 Main St., Ione, CA 95640
13. Ione United Methodist Church, 150 West Marlette St., Ione, CA 95640
14. Heirloom Inn, 214 Shakeley Ln., Ione, CA 95640
15. James A. Weiden High School, 201 Waterman Rd., Ione, CA 95640
16. Ione Public Cementary, 500 South Church St., Ione, CA 95640
17. Teddy Bear Education Care, 410 South Church St., Ione, CA 95640
18. Charles Howard Park, 600 South Church St., Ione, CA 95640
19. Castle Oaks Golf Course, 1000 Castle Oaks Dr., Ione, CA 95640

*Sensitive Receptor locations referenced using Google Earth Pro and City of Ione website.

SOURCE: Google Earth Pro 2009 and RMT Inc. 2009

LEGEND

- Ione WWTP Pond Phase II
- Tertiary Treatment Plant Area
- Proposed Pipeline Connection Between Secondary & Tertiary Facilities
- Proposed Pipeline Connection from Tertiary WWTP to Charles Howard Park and Unimin Mine
- Existing Pipeline Connection from Tertiary WWTP to Castle Oaks Golf Course.
- Existing Pipeline Connection from Preston Reservoir to Tertiary WWTP
- Existing Pipeline Connection from Tertiary WWTP to Pond 6
- State Route
- City Area Boundary

Feet: 0, 1,000, 2,000, 3,000
Mile: 0, 0.25, 0.5

RMT ENVIRONMENT • ENERGY • ENGINEERING

This page is intentionally left blank

State Regulations

California Office of Noise Control Land Use Compatibility Matrix for Community Noise Exposure

The California Department of Health Services (DHS) Office of Noise Control has studied the correlation of noise levels and their effects on various land uses. Land use and noise compatibility criteria have not yet been developed by the City of Ione or Amador County. Neither municipality has a noise ordinance.

Local Regulations

Amador County General Plan

The Amador County General Plan Open Space Element's (Amador County 1993) policies relevant to noise are listed below.

- **Open Space**
  - Policy It is the policy of the County to protect existing and potential Industrial plant sites or other ground stationary noise sources from the encroachment of incompatible noise sensitive land uses which could hinder their continued operation, expansion or new construction.
  - Policy It is the policy of the County to not locate new industrial plants or other ground stationary sources near noise sensitive land uses unless appropriate mitigation measures are required which would protect those who would be exposed to the noise.
  - Policy It is the policy of the County to prevent the encroachment of noise sources into areas designated for existing or future noise sensitive land uses.
  - Policy It is the policy of the County to prevent the encroachment of noise sensitive land uses into areas designated for use by existing or future noise generators.
  - Policy It is the policy of the County that the following noise sensitive land uses shall not be exposed to an exterior noise level at their property lines which exceeds an L_{dn} 65 dBA and will have an interior noise level not to exceed an L_{dn} 45 dBA:
    - Residential Classifications in the land Use Element
    - Residential Projects Including Rezones, Use Permits and Residential Divisions of Land
    - Schools, Churches
    - Hospitals, Care Facilities, Libraries, Auditoriums

City of Ione General Plan

The City of Ione General Plan (2009) contains a Noise and Safety Element. There are some goals and policies that are identified in the element, these goals and policies include:

- Goal NS-1: New development will reduce unnecessary noise disturbances.
- Policy NS 1.2: Ensure the outdoor and indoor areas of new projects will be located, constructed and/or shielded from noise sources in compliance with the City's noise standards.
- Policy NS 1.4: Mitigate noise created by proposed non-transportation noise sources to comply with the City's noise standards to the maximum extent feasible.

- Policy NS-1.5: Mitigate noise created by the construction of new transportation noise sources to the maximum extent feasible to comply with the City's standards.

3.10.3 THRESHOLDS OF SIGNIFICANCE

The proposed project would result in a significant impact if it would:

1) Expose persons to or cause generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
2) Expose persons to or cause generation of excessive ground borne vibration or ground borne noise levels.
3) Expose people residing or working in the project area to excessive noise levels 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 a public use airport.
4) Expose people residing or working in the project area to excessive noise levels for a project within the vicinity of a private airstrip.

3.9.4 IMPACTS AND MITIGATION

Potential Impact 3.10-1: The potential to expose persons to or cause generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, or cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project

Overview of Impacts

Construction of each of the project level elements would produce similar noise levels as many of the same construction equipment would be used for each element. Construction noise impacts would be short-term and less than significant with adoption of the proposed mitigation measures. Noise impacts from the operation of the project level elements would be minimal and would not be detectable beyond the immediate project area. Noise levels for the construction of the programmatic level elements would likely be similar to the project level elements. Noise from the operation of the programmatic level elements would likely be negligible.

Existing Infrastructure

Pond 7

Construction. Equipment operation was the primary noise source associated with construction activities for Pond 7. Noise levels are dependent on several factors, including the number of machines operating within an area at a given time and the distance between the sources and receiving properties or receptors. Noise generated from construction activities typically ranges between 80 and 90 dBA at a distance of 50 feet from the active construction area. This construction activity noise is comparable to noise levels of very loud shouting at 4 feet, or shouting at 2 feet, and can begin to contribute to hearing impairment (Siskiyou County 1978). Noise levels generated by various types of construction equipment are listed in Table 3.10-4.

Table 3.10-4: Noise Levels from Construction Equipment

Equipment	Noise Level at 50 feet
Backhoe	78
Dump Truck	76
Rock Saw	90
One-Ton Truck (flatbed)	74
Pickup Truck	75
Water Truck	80
Trench grinder	111

SOURCE: Neitzel 2005, Beacon Solar LLC 2008

This construction noise could have exceeded the allowable level of 60 dBA, as outlined in the City of Ione's General Plan. Construction occurred during the day, and occurred at a distance of approximately 4,500 feet from the nearest sensitive receptors. The distance to the nearest sensitive receptor attenuated the noise such that the 60 dBA limit was not exceeded. Construction noise was variable, temporary and short-term in nature. Noise impacts from the construction of Pond 7 were less than significant, and no mitigation was required.

Operation. Operation of Pond 7 produces noise comparable to noise produced by the adjacent percolation Ponds 5 and 6. Noise is produced by the brush aerators in each of these ponds. This operational noise impact is less than significant because of the minimal amount of noise produced and the pond's distance from sensitive receptors.

Periodic maintenance of Pond 7 may also generate noise, particularly on the rare occasions that Pond 7 would need to be emptied and any accumulated debris removed from the bottom of the pond. Implementation of mitigation measure Noise-1 would reduce maintenance noise impacts to a less than significant level.

> **Noise-1:** Scheduled construction or maintenance activities that generate intrusive noise (>60 dBA) for extended periods (>8 hours) shall be limited to between the hours of 9am and 5pm Monday through Friday, and will be prohibited on weekends and holidays.

Part I – Treatment

Phase One

Line or Partially Fill Ponds 5 and 6

Construction. Construction noise impacts for these activities would be similar to the noise generated by the Pond 7. The distance to the nearest sensitive noise receptor to Ponds 5 and 6 is approximately 3,600 feet. Construction noise impacts would be reduced to a less than significant level through the use of mitigation measures Noise-1 through Noise-4.

> **Noise-2:** All equipment used during construction shall have the appropriate mufflers and noise abatement equipment installed and maintained as necessary.
>
> **Noise-3:** The City of Ione shall prepare a Construction Notification Plan. The plan shall identify the procedures that the City of Ione will follow to inform property and business owners of the location and duration of construction, identify approvals that are needed prior to posting or publication of construction notices, and include template copies of public notices and advertisements. The plan shall include, but is not limited to:

a. **Public Notice Mailer:** A public notice mailer shall be distributed 15 days prior to construction. The notice shall identify construction activities that would generate intrusive noise levels (>60 dBA) at the source of the noise. The notice shall state the type of construction activities that would be conducted, the location and duration of construction, and procedures for reaching the public liaison person officer via telephone or in person. The City of Ione shall mail the notice to all residents or property owners within 300 feet of the construction activity and to any organization with facilities that could be impacted by construction.

b. **Public Liaison Person:** The City of Ione shall identify a public liaison person who will be available at least 15 days prior to construction and during construction to respond to concerns of residents, business owners, and organizations regarding noise generation. Procedures for responding to comments and complaints shall be included in the plan.

Noise-4: The contractor shall consult with public and community facilities and services regarding the construction schedule and duration of construction in order to minimize noise impacts.

Operation. Operation of Ponds 5 and 6 subsequent to the partial filling or lining of the ponds would have no additional impact related to noise because operation would be the same as prior to the lining or filling activities. Routine maintenance could also cause noise impacts; mitigation measure Noise-1 would mitigate such maintenance noise impacts to a less than significant level.

Activated Sludge System

Construction. Noise generated by the construction of the activated sludge system would be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to the activated sludge system would vary slightly depending on the final location selected for this system, but would be approximately 3,600 feet. Mitigation measures Noise-1 through Noise-4 would reduce construction noise impacts to a less than significant level.

Operation. Noise generated by the operation of the activated sludge system would be minimal, and the system's distance from sensitive receptors would further reduce the effects of any noise generated by the system. Operational noise impacts from an above ground activated sludge system would be similar to the noise currently generated by the existing secondary WWTP. Operational noise impacts from an underground and enclosed system would be virtually non-existent. Operational noise impacts would be less than significant, and no mitigation is required.

Routine maintenance of an activated sludge system could result in noise impacts. Mitigation measure Noise-1 would reduce maintenance noise impacts to a less than significant level.

Close and Reclaim Ponds 1-4

Construction. Noise generated by the closure of Ponds 1-4 would be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to Ponds 1-4 is approximately 3,300 feet. Mitigation measures Noise-1 through Noise-4 would reduce impacts to a less than significant level. There would be no noise impacts following the closure and reclamation of Ponds 1-4.

Pipelines between the Secondary and Tertiary WWTP Facilities

Construction. Noise generated by the construction of the pipeline connections between the secondary and tertiary WWTP facilities would be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to the pipeline connections between the secondary and tertiary WWTP facilities is approximately 3,300 feet. Mitigation

measures Noise-1 through Noise-4 would reduce construction noise impacts to a less than significant level.

Operation. No noise would be generated by pipelines during operation. Routine maintenance could result in noise impacts. Mitigation measure Noise-1 would reduce maintenance noise impacts to a less than significant level.

Tertiary WWTP Expansion or New Construction

Construction. Noise generated for tertiary WWTP expansion or new construction would be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to the tertiary WWTP is approximately 3,100 feet. Mitigation measures Noise-1 through Noise-4 would reduce construction noise impacts to a less than significant level.

Operation. Operation of the expanded tertiary WWTP would not produce substantially more noise than that currently produced by the existing tertiary WWTP. Operational noise impacts would be less than significant, and no mitigation would be required.

Routine maintenance could result in noise impacts. Mitigation measure Noise-1 would mitigate maintenance noise impacts to a less than significant level.

Phase Two

Construction and Operation. Noise generated from construction and operation of phase two project elements (expanding the activated sludge system from 0.80 MGD to 1.60 MGD capacity, and possibly also expanding the tertiary WWTP from 0.80 MGD to 1.60 MGD capacity) would be identical to those discussed above for phase one. Construction for phase two project elements would be in the same location and would take the same duration of time, and use of equipment as the phase one elements. Noise generation from the operation of phase two project elements would be consistent with the existing ambient noise levels of the phase one elements. Impacts to sensitive receptors of noise would be less than significant.

Part II – Disposal

Phase One

Pond 8

Construction . Noise generated from the construction of Pond 8 would be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to Ponds 8 is approximately 3,500 feet. Mitigation measures Noise-1 through Noise-4 would reduce construction noise impacts to a less than significant level.

Operation. Operational noise from percolation activities at Pond 8 would be similar to the operational noise from Pond 7. Operational noise impacts would be less than significant, and no mitigation would be required.

Routine maintenance of Pond 8 could result in noise impacts. Mitigation measure Noise-1 would reduce maintenance noise impacts to a less than significant level.

Phase Two

Disposal Option 1 – Disposal to Pond 9

Construction. Noise generated from the construction of Pond 9 would likely be similar to the noise generated by the construction of Pond 7. The distance to the nearest sensitive noise receptor to Pond 9 is approximately 3,500 feet. Mitigation measures Noise-1 through Noise-4 would likely

reduce construction noise impacts to a less than significant level. Further CEQA analysis would need to be performed at the project level to determine the significance of pond construction impacts.

Operation. Operational noise from percolation Pond 9 would be similar to the operational noise from Pond 7. Operational noise impacts would likely be less than significant.

Routine maintenance of Pond 9 could result in noise impacts. Mitigation measure Noise-1 would likely reduce maintenance noise impacts to a less than significant level. Further CEQA analysis would need to be performed at the project level to determine the significance of pond operation noise impacts.

Disposal Option 2 – Disposal to Charles Howard Park and Unimin Mine

Construction. Noise impacts from construction of any of the proposed pipeline routes to Unimin Mine and Charles Howard Park would be similar to the noise generated by the construction of Pond 7. Construction noise impacts for the pipeline would be slightly greater due to the closer proximity to sensitive receptors along some of the proposed pipeline routes. Mitigation measures Noise-1 through Noise-4 would likely reduce pipeline construction noise impacts to a less than significant level. Further CEQA analysis would need to be performed at the project level to determine the significance of pipeline construction noise impacts.

Operation. No noise would be generated by pipelines during operation. Routine maintenance of the pipelines could result in noise impacts. Mitigation measure Noise-1 would likely reduce maintenance noise impacts to a less than significant level. Further CEQA analysis would need to be performed at the project level to determine the significance of pipeline operation noise impacts.

Disposal Option 3 – Other Potential Disposal Options

Construction. Noise impacts from the construction of a pipeline to another end user of tertiary treated wastewater would likely be similar to the noise generated by the construction of Pond 7. The intensity of noise impacts would vary depending on the distance to sensitive receptors. Mitigation measures Noise-1 through Noise-4 would likely be implemented to reduce construction noise impacts. Further CEQA analysis would need to be performed at the project level to determine the significance of pipeline construction noise impacts.

Operation. No noise would be generated by pipelines during operation. Routine maintenance of the pipelines could result in noise impacts. Mitigation measure Noise-1 would likely reduce maintenance noise impacts to a less than significant level. Further CEQA analysis would have to be performed at the project level to determine the significance of pipeline maintenance noise impacts.

Part III – Storage

Construction. Construction noise impacts for a pipeline to an existing reservoir, or for construction of a pipeline and a new reservoir, would likely be similar to construction noise impacts for the construction of Pond 7. Portions of a pipeline route to an existing or proposed storage reservoir, as well as the location of a new reservoir, could be located near residential areas or other sensitive receptors. Construction noise impacts would vary depending on the distance to sensitive receptors. Implementing mitigation measures Noise-1 through Noise-4 would likely reduce construction noise impacts. Further CEQA analysis would need to be performed at the project level to determine the significance of pipeline and reservoir construction noise impacts.

Operation. The operation of a pipeline, and potentially a new reservoir, would likely not generate substantial noise. Operational noise impacts would likely be less than significant, though impacts would vary depending on the distance to sensitive receptors. Routine maintenance of a pipeline or

reservoir could result in noise impacts. Implementation of mitigation measure Noise-1 would likely reduce maintenance noise impacts. Further CEQA analysis would need to be performed at the project level to determine the significance of operational and maintenance noise impacts.

Potential Impact 3.10-2: Potential to expose persons to or cause generation of excessive ground-borne vibration or ground-borne noise levels

Overview of Impacts

Construction and operation of the project level elements would introduce low levels of ground-borne vibrations, but this vibration would be a less than significant impact with the implementation of the identified mitigation measures. Programmatic elements would likely be similar to the construction and operation of the project level elements.

Existing Infrastructure – Pond 7, Part I – Treatment (Phase Ones and Two), and Part II – Disposal (Phase One)

Construction. Project construction would cause some ground-borne vibration, primarily during landform modification activities and asphalt grinding. Ground-borne vibration and ground-borne noise drop off rapidly over very short distances, and would largely dissipate within 50 feet of the source. Ground-borne vibration and noise may be perceptible to people closest to construction activities; however, these impacts would be temporary and would be less than significant with the implementation of mitigation measures Noise-1, Noise-3, and Noise-4.

Operation. The operation of the project elements would introduce extremely low levels of ground-borne vibration. This ground-borne vibration would not be perceptible to the nearest sensitive receptors. Impacts would be less than significant, and no mitigation is required.

Routine maintenance of facilities would require periodic truck trips. Ground-borne vibration would be minimal from such maintenance activities, and would represent a less than significant impact. No mitigation would be required.

Part II – Disposal (Disposal Options 1-3), and Part III - Storage

Construction. Each of these disposal or storage options would likely have similar ground-borne noise and vibration impacts to those impacts described above for the project-level elements of the proposed project. Ground-borne vibration impacts could vary depending on the distance from sensitive receptors. The extent of these ground-borne vibration impacts is unknown until specific site information is known. Mitigation measures Noise-1, Noise-2, and Noise-4 would likely reduce ground-borne vibration impacts. Further CEQA analysis would need to be performed at the project level to determine the significance of ground-borne vibration impacts from construction activities.

Operation. Operation of pipelines to potential end users of treated wastewater or to existing or proposed storage reservoirs would likely not result in substantial ground-borne vibration. Ground-borne vibration impacts would likely be similar to those discussed above for Existing Infrastructure, both phases of Part I, and the first phase of Part II. Operational ground-borne vibration impacts would likely be less than significant. However, further CEQA analysis would have to be performed at the project level to determine the significance of ground-borne vibration impacts from construction activities.

Potential Impact 3.10-3: Potential to expose people residing or working in the project area to excessive noise levels 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 a public use airport

There are no public airports, public use airports, or airport use plans within two miles of the project area. The project would not result in a noise-related impact in regard to airports, and no mitigation is required.

Potential Impact 3.10-4: Potential to expose people residing or working in the project area to excessive noise levels for a project within the vicinity of a private airstrip

The Ranch Airstrip, a private airstrip, is located approximately one mile southwest of the existing secondary WWTP. The Ranch Airstrip is not paved, and is not used frequently. Noise generated from aircraft using the Ranch Airstrip would have a less than significant noise impact on the proposed project.