

## 4.14 NOISE AND VIBRATION

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### 4.14.1 Introduction

This section evaluates the potential noise and vibration impacts that could result from implementation of the Proposed Project due to temporary construction impacts and long-term operational impacts. The section describes the existing noise environment, identifies sensitive receptors to noise and vibration that could be affected by the Proposed Project, presents relevant noise and vibration regulations and standards, evaluates the potential

effects of construction and operation on these receptors, and identifies mitigation measures as appropriate. A discussion of cumulative impacts is provided at the end of the section. This section is based on a noise study prepared for this EIR by Illingworth & Rodkin (March 2015), which is included in **Appendix W**.

Public and agency comments received during the public scoping period in response to the Notice of Preparation are summarized in **Appendix A, Scoping Report**. No comments were received with regards to noise and vibration, except for potential noise and vibration impacts on fish and birds, which is evaluated in **Section 4.5, Biological Resources: Terrestrial** of this EIR.

## 4.14.2 Environmental Setting

### 4.14.2.1 Fundamentals of Environmental Noise and Vibration

#### Noise

Noise may be defined as unwanted sound that is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

There are several noise measurement scales. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, and 30 decibels is 1,000 times more intense. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in **Table 4.14-1, Definitions of Acoustical Terms**.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA)*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in **Table 4.14-2, Typical Noise Levels in the Environment**. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called  $L_{eq}$ . The most common averaging period is hourly, but  $L_{eq}$  can describe any series of noise events of specified duration.

**Table 4.14-1**  
**Definitions of Acoustical Terms**

<b>Term</b>	<b>Definition</b>
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 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hertz (Hz) and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
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.
$L_{max}$ , $L_{min}$	The maximum and minimum A-weighted noise level during the measurement period.
$L_{01}$ , $L_{10}$ , $L_{50}$ , $L_{90}$	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, $L_{dn}$ or DNL	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
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 to 10:00 PM and after addition of 10 decibels to sound levels measured in the night between 10:00 PM and 7:00 AM
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
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998	

**Table 4.14-2**  
**Typical Noise Levels in the Environment**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet fly-over at 1,000 feet	110 dBA	Rock band
Gas lawn mower at 3 feet	100 dBA	
Diesel truck at 50 feet at 50 mph	90 dBA	Food blender at 3 feet
Noisy urban area, daytime	80 dBA	Garbage disposal at 3 feet
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
Quiet rural nighttime	30 dBA	Library
	20 dBA	Bedroom at night, concert hall (background)
	10 dBA	Broadcast/recording studio
	0 dBA	
Source: Technical Noise Supplement (TeNS), Caltrans, September 2013		

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep), 24-hour descriptors have been developed that incorporate noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 - 10:00 PM) and a 10 dB addition to nocturnal (10:00 PM - 7:00 AM) noise levels. The *Day/Night Average Sound Level ( $L_{dn}$ )* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

## Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the *Peak Particle Velocity (PPV)* and another is the *Root Mean Square (RMS)* velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. In this analysis, a PPV descriptor, with units of millimeters per second (mm/sec) or inches per second (in/sec), is used to evaluate construction generated vibration for building damage and human complaints. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

### 4.14.2.2 Existing Noise Levels and Conditions at Proposed Project Sites

Project components will be located at several sites within northern Monterey County, California. A noise monitoring survey was performed between December 20, 2013 and December 27, 2013 to establish existing noise levels at representative noise sensitive receptors located near project components. A summary of results is provided below.

Some land uses are considered more sensitive to ambient noise levels than others and are referred to as “sensitive receptors”. In general, residences, schools, hotels, hospitals, and nursing homes are sensitive receptors as these uses are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses and agricultural lands are considered the least noise-sensitive. **Figure 4.14-1** identifies sensitive receptors in proximity to Proposed Project sites.

## Noise Survey

Noise measurements were taken as part of the noise study at representative project site locations. The noise survey consisted of four unattended long-term noise measurements (LT-1 through LT-4) and two attended short-term noise measurements (ST-1 and ST-2). Long-term (LT) reference noise measurements were made to quantify the daily trend in noise levels and to establish the existing day-night average noise level. Long-term noise measurement locations were selected to generally represent reference noise levels from a primary noise source or human activity areas along the project corridor. Care was taken to avoid those sites where extraneous noise sources such as barking dogs, pool pumps, or air conditioning units could contaminate the noise data. Short-term (ST) noise measurements were also made along the project corridor in concurrent time intervals with the data collected at the long-term reference measurement sites. This method facilitates a direct comparison between both the short-term and long-term noise measurements and allows for the identification of the day-night average noise level at land uses in the project vicinity where long-term noise measurements were not made. At all short-term locations, noise levels were measured five feet above the ground surface and at least 10 feet from structures or barriers. Site locations of the noise measurements are shown on **Figure 4.14-2, Location of Noise Measurements**, and equipment, methods and long-term measurement data are shown in

**Appendix W** to this EIR, the Noise Study Report. The results are summarized below and in **Tables 4.14-3, and 4.14-4.**

Long-term noise measurement LT-1, adjacent to the Injection Well Facilities site, was 65 feet west of the centerline of General Jim Moore Boulevard and approximately 380 feet south of Coe Avenue in Seaside. The measurement was located near residential property lines (backyards) along General Jim Moore Boulevard at a height of twelve feet above the ground. Hourly average noise levels typically ranged from 57 to 66 dBA  $L_{eq}$  during the day, and from 47 to 56 dBA  $L_{eq}$  at night. Calculated day-night average noise levels at this location ranged from 61 to 63 dBA  $L_{dn}$  over six 24-hour periods.

Long-term noise measurement LT-2, across the street from the Lake El Estero Source Water Diversion and Storage Site, was 200 feet north of the centerline of Del Monte Avenue along the Monterey Peninsula Recreational Trail in Monterey. The measurement was located within the City of Monterey Waterfront Park/Window on the Bay just south of Municipal Beach at a height of twelve feet above the ground. Hourly average noise levels typically ranged from 56 to 66 dBA  $L_{eq}$  during the day, and from 53 to 61 dBA  $L_{eq}$  at night. Calculated day-night average noise levels at this location ranged from 63 to 66 dBA  $L_{dn}$  over eight 24-hour periods.

Noise measurement LT-3, near the Product Water Conveyance System, Coastal Alignment, was 20 feet west of the centerline of Vaughan Avenue, north of Reindollar Avenue in Marina. The measurement was located in a neighborhood of single-family residential houses at a height of twelve feet above the ground. Hourly average noise levels typically ranged from 54 to 66 dBA  $L_{eq}$  during the day, and from 43 to 56 dBA  $L_{eq}$  at night. Calculated day-night average noise levels at this location ranged from 56 to 61 dBA  $L_{dn}$  over seven 24-hour periods. The lower day-night average levels (56 dBA  $L_{dn}$  and 58 dBA  $L_{dn}$ ) were measured and calculated on December 25<sup>th</sup>, 2013.

Noise measurement LT-4 was located at the dead-end of Las Cruces Way, at the border of an agricultural land use and a neighborhood of single-family residences in Salinas, near the Salinas Pump Station Source Water Diversion and Storage Site. The measurement was at a height of twelve feet above the ground. Hourly average noise levels typically ranged from 45 to 74 dBA  $L_{eq}$  during the day, and from 38 to 50 dBA  $L_{eq}$  at night. Calculated day-night average noise levels at this location ranged from 55 to 65 dBA  $L_{dn}$  over six 24-hour periods. Again, the lowest day-night average level was measured on December 25<sup>th</sup>, 2013.

**Table 4.14-3**

**Summary of Long-Team Noise Measurements (dBA)**

Noise Measurement Location-Project Facility	Average Daytime $L_{eq}$	Average Nighttime $L_{eq}$	$L_{dn}$
LT-1-Injection Well Facilities: 65 feet west of General Jim Moore Blvd., 380 feet south of Coe Avenue in City of Seaside	57-66 dBA	47-56 dBA	61-63 dBA
LT-2- Lake El Estero Source Water Diversion and Storage Site: 200 feet north of Del Monte Avenue along Monterey Peninsula Recreational Trail in City of Monterey	56-66 dBA	53-61 dBA	63-66 dBA
LT-3-Product Water Conveyance System Coastal Alignment: 20 feet west of Vaughan Avenue, north of Reindollar Avenue in City of Marina	54-66 dBA	43-56 dBA	56-61 dBA*
LT-4- Salinas Pump Station Source Water Diversion and Storage Site: La Cruces Way at border of an agricultural and residential area in City of Salinas	45-74 dBA	38-50 dBA	55-65 dBA*

\* Lower  $L_{dn}$  levels at LT-3 and LT-4 were measured and calculated on December 25<sup>th</sup>, 2013.

Two attended short-term noise measurements were completed as part of the noise monitoring survey; the results are described below and summarized on **Table 4.14-4, Summary of Short-Term Noise Measurements (dBA)**. These measurements were made after 9:30AM after morning peak traffic hours and were made in concurrent time intervals with the data collected at the long-term measurement sites. This method facilitates a direct comparison between both the short-term and long-term noise measurements and allows for the identification of the day-night average noise level at land uses in the project vicinity where long-term noise measurements were not made.

Noise measurement ST-1 was taken to represent Proposed Project construction noise during drilling activity for MRWPCA's new GWR monitoring well and was located approximately 50 feet from a running truck engine and 75 feet from the operating drill rig. The drill rig and truck engine were dominant noise sources during the measurement and resulted in average noise levels of 83 dBA  $L_{eq}$  during drilling and 81 dBA  $L_{eq}$  while the drill was being removed. ST-1 was located more than 1,000 feet east of General Jim Moore Boulevard, along Eucalyptus Road, which is closed to through traffic. Noise measurement ST-2 was located along Juarez Street, 315 feet west of the centerline of General Jim Moore Boulevard. This location is representative of residences in the area at the nearest setback from General Jim Moore Boulevard, which was the dominant noise during the measurement, resulting in average noise levels of 47 and 48 dBA  $L_{eq}$ .

Short-term noise measurements were taken at three locations along the proposed alignment for the CalAm Distribution Pipelines as part of the CalAm Monterey Peninsula Water Supply Project EIR prepared by ESA. The measurement locations are shown on **Figure 4.14-1** and include one location near the eastern portion of the Transfer Pipeline and two representative locations along the Monterey Pipeline. The results, which are summarized on **Table 4.14-4**, indicate that the daytime noise levels in all three locations are approximately 60 dBA  $L_{eq}$ .

**Table 4.14-4  
Summary of Short-Term Noise Measurements (dBA)**

Noise Measurement Location-Project Facility	Date Time	Leq	Lmax	L(10)	L(50)	L(90)	Ldn*
ST-1-Injection Well Facilities: GWR monitoring well drilling site in Seaside. 75 feet from drill rig, 50 feet from truck engine. [1]	12/19/2013 9:40-10:00 AM	83	89	84	83	82	89
	10:00-10:10 AM	81	84	83	82	67	
ST-2-Injection Well Facilities: Along Juarez Street, 315 feet from the centerline of General Jim Moore Blvd. [1]	12/27/2013 11:00-11:10 AM	48	60	49	46	44	49
	11:10-11:20 AM	47	55	48	46	45	48
ST-3-CalAm Distribution Transfer Pipeline: Mescal Street, Residential area in Seaside. [2]	3/20/13 12:22 - 12:32 PM	59.1	70.9	NA	NA	NA	NA
ST-4-CalAm Distribution Monterey Pipeline: Franklin Street, Private residence near Franklin Street/Van Buren Street intersection in Monterey, adjacent to Monterey Pipeline.	3/20/13 1:36 - 1:46 PM	60.2	69.3	NA	NA	NA	NA
	4/13/14 12:28 - 12:38 AM	45.8	61.3	NA	NA	NA	NA
ST-5-CalAm Distribution Monterey Pipeline: Franklin Street, Private residence near Franklin Street/Van Buren Street intersection in Monterey, adjacent to Monterey Pipeline.	3/20/13 2:03 - 2:13 PM.	61.0	68.5	NA	NA	NA	NA
	4/13/14 12:48 - 12:34 AM	45.8	63.4	NA	NA	NA	NA
* $L_{dn}$ levels at ST-1 assume continuous 24-hour operations of the drilling operation. $L_{dn}$ levels at ST-2 were estimated based on noise levels measured at LT-1 during corresponding interval. NA = Not Available [1] SOURCE: Illingworth & Rodkin (2014)							

## **Sensitive Receptors**

The following paragraphs provide summary descriptions of the sensitive receptor locations in the vicinity of the project sites.

### ***Source Water Diversion and Storage Sites***

#### **Salinas Pump Station Diversion**

New facilities at the Salinas Pump Station would include diversion structures and short pipelines to re-direct urban runoff and storm water, and agricultural wash water to the Regional Treatment Plant for treatment. The nearest sensitive receptors are several farmhouses located in an unincorporated area of Monterey County, one about 1,400 feet north of the pump station along Blanco Road, one about 1,500 feet west of the pump station along S. Davis Road, and several residences located about 1,700 to 2,000 feet south of the pump station along Hitchcock Road. Residences within the City of Salinas boundary are located about 2,200 feet east of the pump station along Las Cruces Court and Las Cruces Way. See **Figure 4.14-1A, Sensitive Noise Receptors Near Project Facilities-Diversion Facilities** for receptor locations.

#### **Salinas Treatment Facility Storage and Recovery**

The site is located along the Salinas River south of Blanco Road and west of Davis Road. Improvements are proposed that would enable the agricultural wash water to be conveyed from the ponds at the Salinas Industrial Wastewater Treatment Facility to the Regional Treatment Plant for recycling, and include a wet well/diversion structure, flow meter, onsite surge tank, and a new pipeline connection to the Salinas Pump Station. The nearest sensitive receptors are residences located more than 2,500 feet southeast of the project site, across Davis Road.

#### **Reclamation Ditch Diversion**

Improvements at this site near Davis Road would include diversion of surface water to a nearby manhole. Proposed facilities include a pump, electrical cabinet, flow meter, and short connecting pipelines. The nearest sensitive receptors are residences located about 1,000 feet west of the new equipment. There are also residences located about 1,000 feet south; however, they are separated from the site by topography and multiple roadways, including a bridge.

#### **Tembladero Slough Diversion**

Proposed improvements to divert water to the Regional Treatment Plant at the Tembladero Slough site would include the diversion of surface waters to an existing wet well. Proposed facilities include an electrical pump/cabinet, flow meter and valves, and short connecting pipelines. The nearest sensitive receptors are residences located about 750 feet north of the new equipment. Another residence is located across Highway 1, approximately 850 feet east of the new equipment.

#### **Blanco Drain Diversion (Pump Station and Pipeline)**

Proposed improvements at this site include the diversion of surface waters from a ditch that collects agricultural tile drain water with a new pump station at the site. Proposed facilities include a diversion structure, flow meter and valves, an on-site surge tank, electrical cabinet, concrete lining, and approximately 8,500 linear feet of force main gravity pipeline from the site to the Regional Treatment Plant. The nearest sensitive receptor is a residence located more than 2,400 feet northeast of the proposed new pump station. Additionally, a residence

is located about 3,000 feet southeast of the proposed pipeline alignment and a residential neighborhood is located more than a mile to the southwest of the proposed pipeline.

### **Lake El Estero Diversion**

New GWR facilities at Lake El Estero would include either an electrical pump or electrically operated motorized valve, and short connecting pipelines. The improvements would be within an existing structure or underground. The nearest sensitive receptors are the Monterey Bay Lodge located about 350 feet east-southeast of the facility, and residential land use about 500 feet southeast of the facility in the City of Monterey. The site lies within the Lake El Estero recreation area; recreational users of this area are also considered sensitive receptors. **Figure 4.14-1A** shows nearby sensitive receptor locations.

### **Treatment Facilities at Regional Treatment Plant**

New facilities at the Regional Treatment Plant (RTP) would include the Advanced Water Treatment (AWT) Facility (including pre-treatment, a product water pump station, and concentrate disposal facilities) and improvements to the Salinas Valley Reclamation Plant (SVRP). The nearest sensitive receptors are a farm house off Monte Road in Monterey County located about one mile to the northwest of the RTP site, and residences along Cosky Drive in Marina located at a distance of about 5,400 feet to the southwest of the AWT Facility site. See **Figure 4.14-1B, Sensitive Noise Receptors Near Project Facilities-Regional Treatment Plant** for sensitive receptor locations.

### **Product Water Conveyance**

The Proposed Project would include construction of a pipeline to convey the advanced treated product water from the proposed AWT Facility to the Seaside Groundwater Basin for injection, along one of two potential pipeline alignments. One option would generally follow the Regional Urban Water Augmentation Project (RUWAP) recycled water pipeline route through the City of Marina, CSUMB, and the City of Seaside. The other option, the Coastal Alignment, would follow in parallel with a portion of the proposed new CalAm Water Supply Project desalination product water pipeline along the eastern side of the Transportation Agency of Monterey County (TAMC) railroad tracks. The southern portion of the Coastal Alignment would also be located in the former Fort Ord within CSUMB and the City of Seaside.

Each of the product water conveyance pipeline options includes a new Booster Pump Station. The Booster Pump Station would receive flow from the Product Water Conveyance Pipeline and pump the product water into one of the proposed alignments; these alignments then merge to a single proposed alignment along General Jim Moore Boulevard. Because of noise considerations, the pump motors and discharge piping would be housed within a split-faced block, or similar building. There are two options for the site of the booster pump station depending upon the selected product water pipeline route as further described below.

### **RUWAP Alignment Option**

The RUWAP Alignment would pass through open land and then follow Crescent Avenue and several local streets in the City of Marina, including California Avenue and 5<sup>th</sup> Avenue until intersecting General Jim Moore Boulevard in the City of Seaside. The pipeline route follows the eastern side of the right of way of General Jim Moore Boulevard approximately 2 miles, passes the developed military housing area (called Fitch Park), goes through the open land around a water reservoir used by the nearby golf courses, connects to Eucalyptus

Road, then turns southerly to the Injection Well Facilities area (this portion, south of Lightfighter Drive, of the conveyance system applies to both the Coastal and RUWAP Alignments). The Crescent Avenue to California Drive segment is in a residential area within the City of Marina until the intersection with Patton Parkway. South of Patton Parkway and the Booster Pump Station site, the alignment enters the City of Seaside and passes by CSUMB residential, classroom, student center, and dining facilities before continuing south down General Jim Moore Boulevard where sensitive receptors include residences, a church, recreation facilities, and mixed commercial/residential areas. **Figure 4.14-1B** shows the alignment route.

### Coastal Alignment Option

The Coastal Alignment would be located between 50 to 100 feet east of residences along Del Monte Boulevard and Marina Drive from Marina Green Drive where it enters developed area in Marina to Palm Avenue. South of Palm Avenue, the pipeline would be approximately 100 feet east of play fields associated with the Marina Del Mar Elementary School and would be approximately 350 feet east of the nearest building associated with this elementary school. The Coastal Alignment would continue south, under the Highway 1 overpass, past MRWPCA's Fort Ord Pump Station and would be located in the TAMC rail line right of way from this point to the Divarty Street (1<sup>st</sup> Street) intersection. The GWR Coastal Alignment would cross under Highway 1 at the Divarty Street underpass. The pipeline would follow Divarty Street to 2<sup>nd</sup> Avenue, where the Booster Pump Station would be located. Land uses along 2nd Avenue include unoccupied buildings and open land. From the proposed Booster Pump Station site, the pipeline would turn south and follow on the west side of 2<sup>nd</sup> Avenue to Lightfighter Drive. At the intersection of 2<sup>nd</sup> Avenue and Lightfighter Drive the pipeline would be constructed under Lightfighter Drive by either directional drilling or bore and jack techniques to avoid disruption to this main thoroughfare. From this intersection the alignment would turn eastward and would be constructed on the south side of the Lightfighter Drive roadway, but off the pavement, up to the intersection with General Jim Moore Boulevard. The pipeline would follow the southbound ramp from Lightfighter Drive onto General Jim Moore Boulevard where it would merge to the same alignment as the RUWAP Alignment (shown in white on **Figure 4.14-1B**). There are no sensitive receptors in the vicinity of the Coastal Alignment south of the Booster Pump Station site until it joins the RUWAP Alignment.

### RUWAP Booster Pump Station Option

The RUWAP Booster Pump Station option would be located in the City of Marina Corp Yard parking lot off 5th Avenue in Marina about 90 feet south of the existing Corp Yard building. The nearest sensitive receptors to this site are residents of the California State University Monterey Bay (CSUMB) campus housing located about 650 feet to the west of the booster pump station site and the CSUMB classroom building located about 450 feet southwest of the site. See **Figure 4.14-1C, Sensitive Noise Receptors Near Project Facilities-Product Water Pipeline and Injection Well Site** that shows the locations of these facilities. The Coastal Booster Pump Station option would be located on CSUMB property at the southwest corner of the intersection of 2nd Avenue and Divarty Street. There are no residential or other sensitive receptors in the vicinity of the site. Abandoned buildings are located to the north across Divarty Street from the site that is designated for office/research and commercial uses in the Marina General Plan. Vacant land is located to the west and south of the site. CSUMB recreation facilities are located to the east across 2nd Avenue. The nearest recreation facilities include a swimming pool located about 750 feet east of the

booster pump station site and a child development center located about 875 feet northeast of the site. See **Figure 4.14-1B** for the location of these facilities.

### **Injection Well Facilities**

The proposed new Injection Well Facilities would be located east of General Jim Moore Boulevard, south of Eucalyptus Road in the City of Seaside, and include a total of eight wells (four deep injection wells, four vadose zone wells), monitoring wells, and back-flush facilities. Each injection well would be equipped with a well pump to back-flush the well. Injection wells would require a permanent power supply to the site, including electrical equipment, two electrical control buildings for backflush pumps, external electrical control cabinets at the well clusters, wiring and connections of electrical power, and instrumentation and control facilities. Other than the wellheads, small electric control cabinets would be the only above ground electrical components at the injection wells. The nearest sensitive receptors to this site are residences located west of General Jim Moore Boulevard at distances of 500 to 700 feet from the nearest proposed well sites and about 1,200 feet from the proposed back-flush facility. The Seaside Middle School is located approximately 700 feet northwest of the Injection Well Facilities site. See **Figure 4.14-1C** for the location of these facilities.

### *CalAm Distribution Pipelines*

The proposed CalAm Distribution Pipelines (Transfer and Monterey Pipelines) are located in residential and commercial areas. The primary noise sources are vehicle traffic. The Transfer Pipeline would be installed within the La Salle Avenue, Yosemite Street, and Hilby Avenue rights-of-way within the city of Seaside. The sensitive receptors along the Transfer Pipeline alignment are residences, schools, and a mobile home park.

The proposed Monterey Pipeline would convey water between the cities of Seaside and Pacific Grove. The pipeline alignment begins at the intersection of Del Monte Boulevard and Auto Center Parkway, where the Monterey Pipeline would connect to the Transfer Pipeline. The northern portion of the Monterey Pipeline alignment, between La Salle Avenue and Roberts Avenue, is bordered by Seaside to the east and Sand City to the west. This portion of the alignment is dominated by commercial uses catering to coastal visitors, other commercial land uses, and parks and open spaces.

The Monterey Pipeline alignment extends south along the west side of Del Monte Boulevard, generally parallel to the Monterey Peninsula Recreational Trail. The sensitive noise receptors along Del Monte Boulevard are residences, hotels, and educational institutions.

The Monterey Pipeline alignment continues south along the Monterey Peninsula Recreational Trail on the west side of Del Monte Boulevard through the city of Monterey. At the east end of El Estero Park the pipeline would turn south on Figueroa Street, continue west along Franklin Street, and then bear north at High Street. At High Street, the alignment would extend north and traverse the Presidio of Monterey (land owned by the U.S. Army that is not publicly accessible). At the western boundary of the Presidio of Monterey, the pipeline would continue to Spencer Street, extend southwest on Eardley Street, and terminate near the existing Eardley Pump Station in Pacific Grove. With the exception of institutional land uses in the Presidio of Monterey, the land uses that border the pipeline alignment in Monterey and Pacific Grove are primarily residential and commercial surrounded by public and open space areas.

### 4.14.3 Regulatory Framework

There are no federal or state regulations regarding noise and vibration that are applicable to the Proposed Project.

#### 4.14.3.1 Local Plans and Policies

Land use-noise compatibility standards used by most jurisdictions are presented in **Table 4.14-5, Land Use and Noise Compatibility for Standards**. In addition to the general requirements of CEQA and California laws and regulations, noise and vibration issues are addressed in General Plans and municipal codes of local jurisdictions within the Proposed Project area. **Table 4.14-6, Salinas Maximum Noise Standards (Municipal Code Table 37-50.50)** summarizes state, regional, and/or local policies and regulations pertaining to noise and vibration that are relevant to the Proposed Project and that were adopted for the purpose of avoiding or mitigating an environmental effect. **Table 4.14-6** provides a review project consistency and/or conflicts with such plans, policies, and regulations. Where the analysis concludes the project would not conflict with the applicable plan, policy, or regulation, the finding is noted and no further discussion is provided. In some cases, a potential inconsistency or conflict will be avoided with implementation of mitigation measures included in this EIR, which is explained.

#### Monterey County

Monterey County, like many local jurisdictions, includes land use-noise compatibility standards in its General Plan for exterior noise exposure standards, which are based on parameters established by the California Department of Health, Office of Noise Control and provided by the Governor's Office of Planning and Research (see **Table 4.14-5**). Based on these standards, noise levels of 60 dBA  $L_{dn}$  or less at various noise-sensitive receptor locations, including single- and multi-family residences, schools, hospitals, churches, and nursing homes are considered "normally acceptable" and noise levels of 60 to 70 dBA  $L_{dn}$  are considered "conditionally acceptable".

The Monterey County General Plan (2010) contains the policies related to noise in the Safety Element, Chapter 4. Policies pertinent to the Proposed Project are summarized in **Table 4.14-6**. Policy S-7.9 states that construction noise activities that exceed acceptable levels listed in **Table 4.14-5** are prohibited within 500 feet of a sensitive use during the evening hours of Monday through Saturday, or anytime on Sundays or holidays prior to completion of a noise mitigation study. Noise protection measures, in the event of an impact, may include constructing temporary barriers or using quieter equipment than normal. Policy S-7.10 provides that construction projects shall include the following standard noise projection measures:

- Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
- All equipment shall have properly operating mufflers; and
- Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

The Monterey County Code section 10.60.030 prohibits the operation of “any machine, mechanism, device, or contrivance which produces a noise level exceeding eighty-five (85) dBA measured fifty (50) feet therefrom” within the unincorporated limits of the County. However, the regulations do not apply to machines or devices that are operated in excess of 2,500 feet of any occupied dwelling.

**Table 4.14-5**  
**Land Use and Noise Compatibility Standards**

Land Use Category	Community Noise Exposure ( $L_{dn}$ or CNEL, dB)					
	55	60	65	70	75	80
Residential – Low Density Single Family, Duplex, Mobile Homes	■		■			■
Residential - Multi. Family	■			■		■
Transient lodging - Motels, Hotels	■			■		■
Schools, Libraries, Churches, Hospitals, Nursing Homes	■			■		■
Auditoriums, Concert Halls, Amphitheaters	■			■		
Sports Arenas, Outdoor Spectator Sports	■				■	
Playgrounds, Neighborhood Parks	■			■		■
Golf Courses, Riding Stables, Water Recreation, Cemeteries	■				■	
Office Buildings, Business Commercial and Professional	■			■		■
Industrial, Manufacturing, Utilities, Agriculture	■			■		■

Source: California Governor's Office of Planning and Research, October 2003.

#### *INTERPRETATION*



**NORMALLY ACCEPTABLE:** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



**CONDITIONALLY ACCEPTABLE:** New construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and

fresh air supply systems or air conditioning will normally suffice.



**NORMALLY UNACCEPTABLE:** New construction or development should generally be discouraged. If new development or construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



**CLEARLY UNACCEPTABLE:** New construction or development should generally not be undertaken.

Section 10.60.040 of the County Code applies to nighttime noise, in which it is prohibited to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 p.m. to 7:00 a.m. the following morning within the unincorporated area of the County of Monterey. The ordinance adopted by the County that added this section to the County Code indicates that the ordinance is intended to “strengthen protection of the environment from loud and unreasonable nighttime sound” and “protect the public health, safety and welfare by increasing protections from loud and unreasonable sounds during the nighttime hours.” During this time period, a loud and unreasonable sound includes any sound that exceeds the exterior noise level standards set forth below.

Nighttime hourly equivalent sound level ( $L_{eq}$ dBA)	45
Maximum level, dBA	65

Noise levels shall be measured at or outside the property line of the property from which noise is emanating. Commercial agricultural operations, emergency vehicles, bells and chimes used for religious purposes or services, and specified outdoor gatherings are exempt from these requirements.

### City of Salinas

The Noise Element of the Salinas General Plan sets forth goals and policies to protect citizens from the harmful and annoying effects of excessive noise and also uses the Noise and Land Use Compatibility Standards (Table N-3) shown on **Table 4.14-5**. Relevant policies are shown on **Table 4.14-9, Applicable State, Regional, and Local Land Use Plans and Policies Relevant to Noise**. Policy N-3.1 requires all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations. Chapter 21A of the Salinas Municipal prohibits unnecessary, excessive and annoying noise from specified noise sources, but does not specifically address construction noise.

Pursuant to section 37.50-180 of the Salinas Municipal Code, the following performance standard regarding noise shall apply to all use classifications in all zoning districts.

Noise: No use shall create ambient noise levels which exceed the following standards in Table 37-50.50 (herein referred to as **Table 4.14-6**), as measured at the property boundary:

- 1) Duration and Timing. The noise standards in Table 37-50.50 (see **Table 4.14-6**) shall be modified as follows to account for the effects of time and duration on the impact of noise levels:
  - a. In residential zones, the noise standard shall be 5.0 dBA lower between 9:00 PM and 7:00 AM.
  - b. Noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the standards above by 5.0 dBA.
  - c. Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by 10.0 dBA.

Note: The interior noise level in any residential dwelling unit located in a mixed use building or development shall not exceed a maximum of forty-five dBA from exterior ambient noise.

The city planner may require an acoustic study for any proposed project or use that has the potential to create a noise exposure greater than that deemed acceptable by the above standard, and require appropriate mitigation measures.

<b>Table 4.14-6 Salinas Maximum Noise Standards (Municipal Code Table 37-50.50)</b>	
<b>Table 37-50.50 Maximum Noise Standards</b>	
<b>Zone of Property Receiving Noise</b>	<b>Maximum Noise Level (CNEL, dBA)</b>
Agricultural District	70 dBA
Residential Districts	60 dBA
Commercial Districts	65 dBA
Industrial Districts	70 dBA
Mixed Use Districts	65 dBA(A)
Parks/Open Space Districts	70 dBA
Public/Semipublic District	60 dBA

## City of Marina

The *City of Marina General Plan* (City of Marina, 2005) addresses noise in the “Community Design and Development” chapter 4; relevant policies are shown on **Table 4.14-9**. The General Plan (Table 4.1; herein referred to as **Table 4.14-7, City of Marina Allowable Noise Standards Measured in Ldn (dBA)**) establishes the maximum allowable exterior and interior noise levels for different land use categories as shown below. The noise standards apply to the siting of new noise-sensitive receptors (in particular residences, schools, and parks), and the siting of new or improved arterials and collectors near noise-sensitive receptors.

The General Plan of the City of Marina (Table 4.2) indicates that new or modified stationary noise sources that adjoin or are in close proximity to residential or other noise-sensitive uses must adhere to the following noise standards:

<b>City of Marina Noise Standards for Stationary Noise Sources</b>		
<b>Duration</b>	<b>Maximum Allowable Noise</b>	
	<b>Day (7:00 a.m. to 10:00 p.m.)</b>	<b>Night (10:00 p.m. to 7:00 a.m.)</b>
Hourly Leq in dB <sup>1,2</sup>	50	45
Maximum Level in dB <sup>1,2</sup>	70	65
Maximum Impulsive Noise in dB <sup>1,3</sup>	65	60

<sup>1</sup>As determined at the property line of the receptor. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property-line noise mitigation measures.

<sup>2</sup>Sound level measurements shall be made with slow meter response.

<sup>3</sup>Sound level measurements shall be made with fast meter response.

Chapter 9.24 of the City of Marina Municipal Code establishes noise regulations within Marina. Pursuant to section 9.24.040.D, operation or use of a range of tools and power equipment is limited to between the hours of 7 AM and 7 PM on Monday through Saturday and between the hours of 10 AM and 7 PM on Sundays and holidays, and until 8:00 PM when daylight savings time is in effect. However, section 9.24.050 exempts activities on or in publicly owned property and facilities, or by public employees or city franchisees, while in the authorized discharge of their responsibilities, provided that such activities have been authorized by the owner of such property or facilities or its agent. Section 15.04.055 identifies the same time limits when

construction is adjacent to residential uses, including transient lodging. This section of the Municipal code further indicates that no construction, tools or equipment are allowed to produce a noise level of more than 60 decibels for 25% of an hour during construction at any receiving property line.

### City of Seaside

The City of Seaside provides goals and policies and plans regarding noise in the Noise Element of the General Plan, and also uses the Noise and Land Use Compatibility Standards (Table N-2) shown on **Table 4.14-5**. Relevant policies are shown on **Table 4.14-9**. Implementation Plan N-3.1.3 requires all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations.

Chapter 9.12 of the City of Seaside Municipal Code establishes noise regulations within Seaside. Pursuant to section 9.12.030.D, operation or use of a range of tools and power equipment and any construction, demolition, excavation, erection, alteration, or repair activity is declared to be unlawful and a nuisance if it occurs before 7:00 AM or after 7:00 PM daily (except Saturday, Sunday, and holidays when the prohibited time shall be before 9:00 AM and after 7:00PM) unless authorized in writing by a building official. Written authorization may be issued in the case of an emergency, or where the building official determines that the peace, comfort and tranquility of the occupants of residential property will not be impaired because of the location or nature of the construction activity. Section 9.12.040.D exempts activity on or in publicly owned property and facilities, or by public employees or their franchisees, while in the authorized discharge of their responsibilities, provided such activities have been authorized by the owner of such property or facilities or its agency or by the employing authority.

**Table 4.14-7**

#### City of Marina Allowable Noise Standards Measured in Ldn (dBA)

Land Use Category	Maximum Exterior		Maximum Interior*
	Acceptable	Conditionally Acceptable	
Residential	50	70	45
Live/Work	65	75	50
Hotel/Motel	65	75	50
Office	67	77	55
Other Commercial	70	80	60
Industrial/Agriculture	70	80	60
Schools, Libraries, Theaters, Churches, Nursing Homes	60	70	45
Parks and Playfields	65	70	NA
Golf Courses, Riding Stables, Cemeteries	70	75	NA

\*It is preferred that the interior noise standard be attained with open windows. However, where the interior noise standard is attainable only with closed windows and doors, mechanical ventilation shall be required.

Seaside's Municipal Code Section 17.30.060 of Title 17 (Zoning Ordinance) establishes noise standards to implement policies of the Noise Element of the General Plan and to protect the community health, safety and general welfare by limiting exposure to the unhealthful effects of noise. No "use, activity, or process shall exceed the maximum allowable noise levels" established in this section, except for "construction, maintenance, and/or repair operations by public agencies and/or utility companies or their contractors that are serving public interest and/or protecting the public health, safety, and general welfare" (section 17.30.060B.3). The maximum noise standards are included in this section (Table 3-3; herein referred to as **Table 4.14-8, City of Seaside Maximum Exterior and Interior Noise Standards**). The section also indicates that Chapter 9.12 regulates the noise generated from all uses, activities and processes conducted within the City.

**Table 4.14-8**  
**City of Seaside Maximum Exterior and Interior Noise Standards**

Land Use	Noise Standard in Community Noise Equivalent Level (CNEL)	
	Exterior (dBA)	Interior (dBA)
Residential	65	45
Mixed-Use Residential	70	45
Commercial	70	---
Office	70	50
Industrial	75	55
Public Facilities	70	50
Schools	80	50

### City of Monterey

The *City of Monterey General Plan* (City of Monterey, 2005) addresses noise in the Noise Element and also includes the Noise and Land Use Compatibility Standards shown on **Table 4.14-5**. Relevant policies are shown on **Table 4.14-9**. Policy d.2 specifies that hours of noise generating construction activities should be limited as a condition of project approval.

The City of Monterey Municipal Code Section 38-111 (A) identifies performance standards to be applied to all use classifications in all zoning districts:

- A. Noise. All uses and activities shall comply with the provisions of the Monterey Noise Regulations (Sections 22 17 and 22 18). Decibel levels shall be compatible with neighboring uses, and no use shall create ambient noise levels which exceed the following standards:

#### MAXIMUM NOISE STANDARDS BY ZONING DISTRICT

	Zone of Property Receiving Noise	Maximum Decibel Noise Level (dB)
OS	Open Space District	60
R	Residential Districts	60
PS	Public and Semi Public District	60
C	Commercial District	65
I	Industrial Districts	70
PD	Planned Development	Study Required

1. Duration and Timing. The noise standards above shall be modified as follows to account for the effects of time and duration on the impact of noise levels:
  - a. In R districts, the noise standard shall be 5 dB lower between 10:00 PM and 7:00 AM.
  - b. Noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the standards above by 5 dB. Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by 10 dB.
  - c. Noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by 10 dB.

Section 38-112.2 of the City's Municipal Code limits construction to the following: Monday through Friday between the hours of 7:00 AM and 7:00 PM, on Saturday between 8:00 AM and 6:00 PM, and on Sunday between 10:00 AM and 5:00 PM. Pursuant to this section, the City a permit may be issued by the Zoning Administrator for requests to conduct construction activity outside listed hours for unique circumstances.

**Table 4.14-9**  
**Applicable State, Regional, and Local Land Use Plans and Policies Relevant to Noise and Vibration**

Project Planning Region	Applicable Plan	Plan Element/Section	Project Component	Specific Policy or Program	Project Consistency with Policies and Programs
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.2:</b> Proposed development shall incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to acceptable levels.	<b>Consistent:</b> Proposed Project operational noise would be less-than significant as discussed in this section.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.3:</b> Development may occur in areas identified as “normally unacceptable” provided effective measures to reduce both the indoor and outdoor noise levels to acceptable levels are taken.	<b>Consistent:</b> The Proposed Project facilities would not be located in areas identified as “normally unacceptable”.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.4:</b> New noise generators may be allowed in areas where projected noise levels are “conditionally acceptable” ( <i>Figure 10</i> ) only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.	<b>Consistent:</b> The Proposed Project components’ operational noise would not be a new noise generator and would not be located in areas identified as “conditionally acceptable”. A noise study was conducted, and the Proposed Project’s operational noise would be less-than significant.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.5:</b> New noise generators shall be discouraged in areas identified as “normally unacceptable.” Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels are required.	<b>Consistent:</b> The Proposed Project components’ operational noise would not be a new noise generator and would not be located in areas identified as “normally unacceptable”.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.6:</b> Acoustical analysis shall be part of the environmental review process for projects when: a. Noise sensitive receptors are proposed in areas exposed to existing or projected noise levels that are “normally unacceptable” or higher according to the Land Use Compatibility for Community Noise Table. b. Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.	<b>Consistent:</b> An acoustic and vibration analysis was conducted for the Proposed Project and is provided in <b>Appendix W</b> (Illingworth and Rodkin, 2015). The Proposed Project does not include new noise sensitive receptors, and the Proposed Project components’ operational noise would not be a new noise generator.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.8:</b> All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.	<b>Consistent:</b> The Proposed Project construction sites within the county would not result in vibration to structures within 100 feet.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.9:</b> No construction activities pursuant to a County permit that exceed “acceptable” levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to: Constructing temporary barriers; or Using quieter equipment than normal.	<b>Consistent:</b> No construction would occur within 500 feet of a sensitive land use within the unincorporated County.
Monterey County	General Plan	Safety	Salinas Treatment Facility Storage and Recovery Reclamation Ditch Diversion Site Tembladero Slough Diversion Site Blanco Drain Pump and Pipeline Diversion Site Treatment Facilities at Regional Treatment Plant RUWAP Alignment Option Coastal Alignment Option	<b>Policy S-7.10:</b> Construction projects shall include the following standard noise protection measures: Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience; All equipment shall have properly operating mufflers; and Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.	<b>Consistent, with Mitigation:</b> Implementation of Mitigation Measure NV-2b will ensure these standard construction measures are included in construction projects at components sites within the unincorporated County.
City of Salinas	City of Salinas General Plan		Salinas Pump Station Diversion Site	<b>Policy N-3.1:</b> Enforce the City of Salinas Noise Ordinance to ensure stationary noise sources and noise emanating from construction activities, private developments/residences, and special events are minimized.	<b>Consistent:</b> The Proposed Project would not result in a new stationary noise source, and construction impacts would be less than significant in the City of Salinas.
City of Seaside	Seaside General Plan	Noise Element	RUWAP Alignment Option Coastal Alignment Option Coastal Booster Pump Station Option		

Table 4.14-9

## Applicable State, Regional, and Local Land Use Plans and Policies Relevant to Noise and Vibration

Project Planning Region	Applicable Plan	Plan Element/Section	Project Component	Specific Policy or Program	Project Consistency with Policies and Programs
			Injection Well Facilities Site Transfer Pipeline Monterey Pipeline		
City of Seaside	Seaside General Plan	Noise Element	RUWAP Alignment Option Coastal Alignment Option Coastal Booster Pump Station Option Injection Well Facilities Site Transfer Pipeline Monterey Pipeline	<b>N-1.1:</b> Ensure that new development and reuse/revitalization projects can be made compatible with the noise environment and existing development.	<b>Consistent:</b> The Proposed Project would be compatible with surrounding land noise environments and would not result in substantial increases in ambient noise levels due to project operations.
City of Seaside	Seaside General Plan	Noise Element	RUWAP Alignment Option Coastal Alignment Option Coastal Booster Pump Station Option Injection Well Facilities Site Transfer Pipeline Monterey Pipeline	<b>N-3.1:</b> Reduce the impacts of noise producing land uses, activities, and businesses on noise-sensitive land uses.  <i>Implementation Plan N-3.1.1: Enforcement of non-transportation noise standards.</i> Enforce the noise limits and construction and operation regulations contained in this Noise Element and in the City's Municipal Code.  <i>Implementation Plan N-3.1.3: Construction noise limits.</i> Require all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Zoning Ordinance and Chapter 17A of the Municipal Code).	<b>Consistent:</b> The Proposed Project consists of construction of a public water supply infrastructure project by public agencies. Noise standards established in the City's Zoning Ordinance (section 17.30.060) do not apply to "construction, maintenance, and/or repair operations by public agencies and/or utility companies or their contractors that are serving public interest and/or protecting the public health, safety, and general welfare". Similarly, section 9.12.040 of the City of Seaside Municipal Code exempts activities on publicly owned property and facilities, or by public employees or their franchisees, while in the authorized discharge of their responsibilities, provided that such activities have been authorized by the owner of such property or facilities or tis agency or by the employing authority.
City of Monterey	City of Monterey General Plan		Monterey Pipeline Lake El Estero Diversion Site	<b>Policy d.2:</b> Limit hours of noise generating construction activities. Include this requirement as a condition of project approval.	<b>Consistent, with Mitigation:</b> Construction of the CalAm Distribution Monterey Pipeline would include nighttime construction activities that would generate noise as discussed in Impact NV-1, but the Proposed Project would not conflict with this policy with implementation of Mitigation Measure NV-1b and NV-1c.
Former Fort Ord	FORA Base Reuse Plan	Noise	RUWAP Alignment Option RUWAP Booster Pump Station Option Coastal Alignment Option Coastal Booster Pump Station Injection Well Facilities Transfer Pipeline	<b>Noise Policy B-3:</b> The City shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete.	<b>Consistent:</b> A noise study was prepared by qualified acoustical engineers for the Proposed Project and mitigation measures were identified in that study that is included in <b>Appendix W</b> (Illingworth and Rodkin, 2015).

## 4.14.4 Impacts and Mitigation Measures

### 4.14.4.1 Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the project would result in significant impacts related to noise and vibration if it would:

- a. Expose people to or generate noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;
- b. Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- c. Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- d. Cause 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 area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels; or
- f. For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

No additional significance criteria are needed to comply with the CEQA-Plus<sup>1</sup> considerations required by the State Revolving Fund Loan Program administered by the State Water Resources Control Board.

### 4.14.4.2 Impact Analysis Overview

#### Approach to Analysis

The noise and vibration impact assessment evaluates short-term impacts associated with construction of the Proposed Project. It also assesses long-term operational impacts (i.e., those resulting from operation of the Treatment Facilities at the Regional Treatment Plant, booster pump, and injection well/back-flush facilities). The impact discussion analyzes substantial increases in ambient noise levels in the vicinity of the Proposed Project component sites. In addition, the assessment uses local noise standards and applicable daytime exceptions as the basis for significance thresholds. The assessment of potential noise impacts was conducted using information on existing ambient noise levels and the anticipated noise that would be produced during construction and operation of the Proposed Project. The assessment of vibration impacts was conducted using information on anticipated vibration during construction and operation of the Proposed Project based on anticipated equipment and activities to occur at each site.

For the purposes of this analysis, only construction noise is considered under the criterion that addresses temporary or periodic increase in ambient noise. Periodic noise increases are

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<sup>1</sup> To comply with applicable federal statutes and authorities, EPA established specific “CEQA-Plus” requirements in the Operating Agreement with SWRCB for administering the State Revolving Fund (SRF) Loan Program.

defined herein as intermittent or short-term and, for this project, only construction activities are consistent with this definition.

Further consideration in determining noise and vibration thresholds and/or impact significance is provided below.

### *Noise*

The project's short term construction impacts and long term operational impacts on the ambient noise environment would be considered substantial if it would expose sensitive receptors to noise levels in excess of regulatory standards or codes or result in a substantial permanent or temporary increase in ambient noise levels. In addition to concerns regarding the absolute noise level that might occur when a new source is introduced into an area, it is also important to consider the existing ambient noise environment. If the ambient noise environment is quiet and the new noise source greatly increases the noise exposure, even though a criterion level might not be exceeded, an impact may occur.

For both construction and operational noise, a "substantial" noise increase can be defined as an increase in noise levels that causes sustained interference with activities normally associated with established nearby land uses during the day and/or night. One indicator that noise could interfere with daytime activities normally associated with residential and school land uses (for example) would be speech interference; whereas, an indicator that noise could interfere with nighttime activities normally associated with residential uses would be sleep interference. This analysis, therefore, uses the following criteria to define whether a temporary or periodic increase in ambient noise levels in the Proposed Project vicinity above levels existing without the project would be substantial:

*Speech Interference. Speech interference is an indicator of an impact on daytime and evening activities typically associated with residential and school land uses, but which is also applicable to other similar land uses that are sensitive to excessive noise levels. Therefore, a speech interference criterion, in the context of impact duration and time of day, is used to identify substantial increases in ambient noise levels.*

Noise generated by construction equipment could result in speech interference in adjacent buildings if the noise level in the interior of the building were to exceed 45 to 60 dBA<sup>2</sup>. A typical building can reduce interior noise levels by 25 dBA if the windows are closed (Illingworth & Rodkin, 2015). This noise reduction could be maintained only on a temporary basis in some cases, since it assumes windows must remain closed while the loudest activity is occurring. Assuming a 25 dBA reduction with the windows closed, an exterior noise level of 70 dBA (Leq) adjacent to a building would maintain an acceptable interior noise environment of 45 dBA. In addition to the decibel level of noise, the duration of exposure at any given noise-sensitive receptor is an important factor in determining an impact's significance. Generally, temporary construction noise that occurs during the day for a relatively short period of time would not be significant because most people of average sensitivity who live in suburban or rural agricultural environments are accustomed to a certain amount of construction activity or heavy equipment noise from time to time. The loudest construction-related noise levels would be sporadic rather than continuous because different types of construction equipment

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<sup>2</sup> For indoor noise environments, the highest noise level that permits relaxed conversation with 100% intelligibility throughout the room is 45 dBA. Speech interference is considered to become intolerable when normal conversation is precluded at three feet, which occurs when background noise levels exceed 60 dBA.

would be used throughout the construction process. Therefore, an exterior noise level that exceeds 70 dBA  $L_{eq}$  during the daytime is used as the threshold for substantial construction noise where the duration of construction noise exceeds two weeks

*Sleep Interference.* An interior nighttime level of 35 dBA is considered acceptable for residential uses (EPA 1974). Assuming a 25 dBA reduction for a residential structure with the windows closed, an exterior noise level of 60 dBA adjacent to the building would maintain an acceptable interior noise environment of 35 dBA. Thus, an exterior threshold of 60 dBA  $L_{eq}$  during the nighttime is a reasonable threshold for short term impacts resulting from construction activities.

### ***Vibration***

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction-related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the Peak Particle Velocity (PPV) descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration are the potential to damage a structure and the potential to interfere with the enjoyment of life, both of which are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at an existing high state of disrepair and the construction activity occurs immediately adjacent to the structure.

A numerical threshold to identify the point at which a vibration impact occurs has not been identified by local jurisdictions in the applicable standards or municipal codes. In the absence of local regulatory significance thresholds for vibration from construction equipment, this analysis uses the California Department of Transportation (Caltrans) Peak Particle Velocity (PPV) threshold for risk of architectural damage to older buildings, which is 0.30 in/sec, except for historic buildings that have a lower threshold for damage risk as discussed in **Section 4.6, Cultural and Paleontological Resources. Table 4.14-10A, Guideline Vibration Damage Potential Threshold Criteria**, displays the vibration damage potential on buildings of varying structure and condition that transient or continuous vibration levels produce. **Table 4.14-10B, Guideline Vibration Annoyance Potential Criteria**, displays the general reactions of people to transient or continuous vibration levels. The annoyance levels shown in **Table 4.14-10B** should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

**Table 4.14-10A**  
**Vibration Damage Potential Threshold Criteria**

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1*
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.		
* For damage to historic buildings, 0.12 PPV is used from Wilson, Ihrig & Associates et al., 2012 as discussed in Section 4.6. Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.		

**Table 4.14-10B**  
**Vibration Annoyance Potential Criteria**

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.035	0.01
Distinctly perceptible	0.24	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.		
Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.		

## Areas of No Impact

The Proposed Project would not result in impacts related to the some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed below under **subsections 4.14.4.4** (construction impacts), **4.14.4.5** (operational impacts), and **4.14.4.6** (cumulative impacts).

(b) *Excessive Groundborne Noise During Construction.* Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with the movement of trains through tunnels and activities such as blasting, neither of which is proposed as part of the project. As a result, construction-related groundborne noise levels are not considered in the impact analysis below. However, the Proposed Project would result in groundborne vibration impacts during construction (see Impact NV-3, below).

(b) *Vibration During Operations.* The proposed underground pipeline components of the Proposed Project (Product Water Conveyance System and CalAm Distribution System Improvements) would not have any mechanical equipment that would result in vibration. None of the other permanent facilities have equipment that would result in generation of vibration. The permanent facilities (Treatment Facilities at the Regional Treatment Plant, Source Water Diversion and Storage Sites, Injection Well Facilities) would have equipment and/or pumps that would be enclosed or underground and would not result in excessive groundbourne vibration. However, the Proposed Project would result in groundborne vibration impacts during construction (see Impact NV-3, below).

(e-f) *Exposure to Aircraft Noise.* The Proposed Project would not involve the habitable development of noise-sensitive land uses that would be exposed to excessive aircraft noise. Therefore, there would be no impacts associated with exposure to airport or aircraft noise.

### 4.14.4.3 Summary of Impacts

**Table 4.14-11, Summary of Impacts – Noise and Vibration** provides a summary of potential impacts related to noise and vibration and significance determinations at each GWR component site.

**Table 4.14-11**  
**Summary of Impacts – Noise and Vibration**

Impact Title	Source Water Diversion and Storage Sites						Treatment Facilities at Regional Treatment Plant	Product Water Conveyance		Injection Well Facilities	CalAm Distribution System		Project Overall
	Salinas Pump Station	Salinas Treatment Facility	Reclamation Ditch	Tembladero Slough	Bianco Drain Diversion (Pump Station and Pipeline)	Lake El Estero		RUWAP Alignment Option	Coastal Pipeline Option		Transfer Pipeline	Monterey Pipeline	
NV-1: Construction Noise	LS	LS	LS	LS	LS	LS	LS	LS	LS	LSM	LS	SU	SU
NV-2: Construction Noise Exceeds Local Standards	NI	NI	LSM	SU	LSM	NI	NI	LSM	LSM	NI	NI	NI	SU
NV-3: Construction Vibration	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS
NV-4: Operational Noise	NI	LS	LS	LS	LS	LS	LS	LS	LS	LS	NI	NI	LS
Cumulative Impacts	LS: There would be no significant construction or operational cumulative noise and vibration impacts.												
<i>NI – No Impact</i> <i>LS – Less than Significant</i> <i>LSM – Less than Significant with Mitigation</i> <i>SU – Significant Unavoidable</i> <i>BI – Beneficial Impact</i>													

#### 4.14.4.4 Construction Impacts and Mitigation Measures

**Impact NV-1: Construction Noise.** Construction activity would result in a temporary increase in ambient noise levels in the vicinity of all Proposed Project sites during construction that would not be substantial at most construction sites, except at the Injection Well Facilities and CalAm Distribution Monterey Pipeline sites. (Criteria d) (Significant and Unavoidable)

Construction activities for the Proposed Project would occur intermittently at several locations throughout northern Monterey County within a period of approximately 22 months. Such activities would result in the generation of noise associated with site preparation and building of each component of the project. The noise levels generated during construction of the project would vary during the construction period, depending upon the construction phase and the types of construction equipment used.

Noise would be generated by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, cranes, pavers, and other heavy-duty construction equipment. Operating cycles for these types of construction equipment would involve fluctuations in power cycles that result in variations in noise levels, whereas other equipment such as directional drill rigs typically operate at a continuous level.

Construction noise levels were calculated using the Federal Highway Administration's Roadway Construction Noise Model (RCNM). The maximum ( $L_{max}$ ) and hourly average ( $L_{eq}$ ) noise levels for each phase of construction at the project construction component sites are presented in

**Table 4.14-12, Construction Equipment Noise Levels Modeled at 50 feet.** A discussion of construction noise impacts at each project component site follows the table. In some instances, maximum instantaneous noise levels are calculated to be slightly lower than hourly average noise levels. This occurs because the model calculates the maximum instantaneous noise level resulting from the single loudest piece of construction equipment operating during each construction phase. Hourly average noise levels add together multiple pieces of construction equipment, which results in hourly average noise levels that can be slightly higher than maximum instantaneous noise levels during construction phases involving several pieces of equipment.

Construction equipment noise levels were modeled at a distance of 50 feet from the center of the construction site, typical of the distance that the vast majority of receptors would be located from project construction activities conducted along the project corridor. From these source data, calculations were made to estimate construction noise levels at receptors within 50 feet of the construction site or at more distant receptors assuming that the noise attenuation rate was 6 dBA for each doubling of distance from the source where the distance is over roadways and 7.5 dBA for each doubling of distance from the source where the distance is over fields.

Truck trips generated by project construction would be dispersed throughout the day and over the local road network, and commute trips by construction workers would primarily occur before and after project truck trips occur. Daily transportation of materials and construction workers would not be a substantial source of traffic noise levels along local roadways serving the project area.

### *Source Water Diversion and Storage Sites*

#### **Salinas Pump Station Diversion**

New facilities at the Salinas Pump Station are proposed for construction at a southwest portion of the City of Salinas and would include diversion structures and short pipelines to re-direct urban runoff, storm water, and agricultural wash water to the RTP for advanced water treatment. Construction activities at this site would include minor grading, demolition, and installation of a wet well/diversion structure and short pipeline segments over five months. General work hours would be between 7:00 AM and 8:00 PM, Monday through Saturday. Construction may occur up to 24 hours per day, 7 days per week due to the necessity of managing wastewater flows; however, major construction of new facilities would be limited to daytime hours. The site is surrounded by unincorporated agricultural lands in Monterey County. Three distant residences to the north, west, and south are in Monterey County and distant residences to the east are in the City of Salinas. Maximum noise levels generated by construction activities at the Salinas Pump Station are calculated to reach 90 dBA  $L_{max}$  and 86 dBA  $L_{eq}$  at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels ranging from 49 dBA  $L_{max}$  and 45 dBA  $L_{eq}$  at a distance of 2,200 feet to up to 54 dBA  $L_{max}$  and 50 dBA  $L_{eq}$  at 1,400-feet, which is the distance to the closest sensitive receptor (i.e., residence), as indicated in **Table 4.14-13, Maximum Construction Noise Levels – Source Water Diversion and Storage Sites.**

**Table 4.14-12**  
**Construction Equipment Noise Levels Modeled at 50 feet**

Project Component	Duration	Construction Activities	L <sub>max</sub> (dBA)	L <sub>eq</sub> (dBA)
Treatment Facilities at Regional Treatment Plant	18 Months*	Site preparation	82	79
		Grading/Excavation	85	87
		Building Exterior	84	86
		Paving	85	87
Salinas Pump Station Source Water Diversion	5 Months	Site Preparation	84	80
		Grading/Excavation	84	83
		Trenching, Grading, Install Valves/Piping	90	86
Salinas Industrial Wastewater Treatment Facility—Storage and Recovery Additions, Return Facilities	13 Months	Construction of Facilities and Slip-lining	91	89
Reclamation Ditch Diversion Site	5 Months	Construction of Facilities and Pipelines (Trenching)	90	86
Blanco Drain Diversion Site	9 Months	Construction of Facilities and Pipelines (Trenching)	90	87
Tembladero Slough Diversion Site	5 Months	Construction of Facilities and Pipelines (Trenching), including vibratory driving	101	94
Lake El Estero Source Water Diversion and Storage Site	3 Months	Demolition	90	83
		Site Preparation	78	74
		Grading/Excavation	84	81
		Trenching	90	86
		Paving	83	78
Product Water Conveyance—Pipeline	15 Months*	Pipeline Installation (250 feet/day for roadways, 400 feet/day open areas)	85	87
Product Water Conveyance— Booster Pump Station Sites	12 Months	Structural work requiring heavy equipment will be completed in 2-3 months.	85	87
Injection Well Facilities Site	17 Months*	Site Preparation	82	81
		Grading/Excavating	85	85
		Deep Injection Wells	85	87
		Vadose Zone Wells	85	85
		Monitoring Well	85	86
		Backflush Pipes and Basin	85	85
CalAm Distribution Facilities	18 Months*	Pipeline Installation (150 feet/day for roadways)	85	87

\*An additional three months of testing and start-up to follow construction at these sites.

As shown on **Table 4.14-13**, construction noise levels at the nearest residences would be below the significance threshold for speech interference during the day (70 dBA  $L_{eq}$ ), and would not exceed the sleep disturbance threshold. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

**Table 4.14-13****Maximum Construction Noise Levels – Source Water Diversion and Storage Sites**

Construction Activity Source	Receptors	Distance to Receptor (In Feet)	Lmax (dBA)	Leq (dBA)
<b>Salinas Pump Station Diversion</b>				
Construction of Diversion Structures and Pipelines (Trenching/Piping)	Farmhouse Residences (Monterey County)	1,400 (north)	54	50
		1,500 (west )	53	49
		1,700 – 2,000 (south)	50 – 52	46 – 48
	Salinas Residences	2,200 (east)	49	45
<b>Salinas Treatment Facility Storage and Recovery</b>				
Construction of Facilities and slip-lining	Monterey County residences	2,500 feet (southeast)	57	55
<b>Reclamation Ditch Diversion</b>				
Construction of Facilities and Pipelines (Trenching)	Monterey County residences	1,000 feet (west)	64	60
<b>Tembladero Slough Diversion</b>				
Construction of Facilities and Pipelines (Trenching)	Monterey County residences	750 feet (north)	77	70
		850 feet (east, across Hwy 1)	76	69
<b>Blanco Drain Diversion</b>				
Construction of Facilities and Pipelines (Trenching)	Monterey County residences	2,400 feet (northeast)	56	53
		3,000 feet (southeast)	54	51
<b>Lake El Estero Diversion</b>				
Construction of Facilities and Pipelines (Trenching)	Monterey Bay Lodge	350 (east-southeast)	73	69
	Residence (near First Street and Camino Aguajito)	500 (southeast)	70	66
<i>Note: The noise attenuation (noise level reduction) rate is assumed to be approximately 7.5 dBA for each doubling of distance from the source where the distance is over fields.</i>				

### Salinas Treatment Facility Storage and Recovery

The site is located within the unincorporated area of Monterey County. Improvements are proposed that would enable the agricultural wash water to be conveyed from the ponds at the Salinas Industrial Wastewater Treatment Facility to the Regional Treatment Plant for recycling, and include a wet well/diversion structure, flow meter, onsite surge tank, and a new pipeline connection to the Salinas Pump Station. Construction phases include site preparation, grading, trenching, building of facilities, and paving that will take place over a six-month construction period. General work hours would be between 7:00 AM and 8:00 PM, Monday through Saturday. The site is surrounded by agricultural lands in Monterey County. One distant residence to the southeast is in unincorporated Monterey County. Maximum noise levels generated by construction activities at this site are calculated to reach 91 dBA L<sub>max</sub> and 89 dBA L<sub>eq</sub> at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 57 dBA L<sub>max</sub> and 55 dBA L<sub>eq</sub> at 2,500 feet, which is the distance to the closest sensitive receptor (residence) as shown on **Table 4.14-13**.

The nearest residence is about 2,500 feet away from the site. Given the noise attenuation that would result due to the relatively long distance from the construction site to the nearest residence, short-term construction noise impacts at this residence would be less than significant because construction noise levels would be below the significance threshold for speech interference during the day (70 dBA L<sub>eq</sub>). Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

### Reclamation Ditch Diversion

New facilities at the Reclamation Ditch Diversion are proposed for construction and would include a wet well/diversion structure, connecting pipelines, flow meter and valves, electrical cabinet, and concrete lining. Construction phases include site preparation, grading, trenching, building of facilities, and paving, occurring over five months. General work hours would be between 7:00 AM and 6:00 PM, Monday through Saturday. During the period the channel is blocked with temporary coffer dams, bypass pumps will need to operate at night and may proceed 7 days a week. The site is surrounded by agricultural lands to the west in Monterey County and industrial land uses to the east in Salinas. One distant residence, located approximately 1,000 feet to the west, is in unincorporated Monterey County. Maximum noise levels generated by construction activities at the Reclamation Ditch Diversion site are calculated to reach 90 dBA L<sub>max</sub> and 86 dBA L<sub>eq</sub> at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 64 dBA L<sub>max</sub> and 60 dBA L<sub>eq</sub> at 1,000-feet, which is the distance to the closest sensitive receptor (i.e., residence) as indicated on **Table 4.14-13**.

Given the noise attenuation that would result due to the relatively long distance from the construction site to the residence locations about 1,000 feet away, short-term construction noise impacts at these residences would be less than significant because construction noise would be below the significance threshold for speech interference during the day (70 dBA L<sub>eq</sub>). Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

### Tembladero Slough Diversion

New facilities at the Tembladero Slough Diversion site are proposed for construction and would include a wet well/diversion structure, connecting pipelines, flow meter and valves, electrical cabinet, and concrete lining. Construction phases include site preparation, grading, trenching, building of facilities, and paving, taking place over a five-month period. General work hours

would be between 7:00 AM and 6:00 PM, Monday through Saturday. During the period the channel is blocked with temporary coffer dams, construction may proceed 7 days a week. The site is surrounded by agricultural lands in Monterey County with one residential land use to the north and a subdivision beyond Hwy 1 to the east. Maximum noise levels generated by construction activities (particularly vibratory driving) at the Tembladero Slough Diversion site are calculated to reach 101 dBA L<sub>max</sub> and 94 dBA L<sub>eq</sub> at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 77 dBA L<sub>max</sub> and 70 dBA L<sub>eq</sub> at 750 feet, which is the distance to the closest sensitive receptor (i.e., residence as shown on **Figure 4.14-1a**).

Short-term construction noise levels at the nearest residences would be below the significance threshold for speech interference during the day (70 dBA L<sub>eq</sub>) for one nearby sensitive receptor, and at, but not exceeding, 70 dBA L<sub>eq</sub> for the other nearest sensitive receptor. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

#### **Blanco Drain Diversion (Pump Station and Pipeline)**

New facilities at the Blanco Drain Diversion site would include a diversion structure, flow meter and valves, an on-site surge tank, electrical cabinet, concrete lining, and pipeline. Construction phases include grading, trenching, building of facilities, and paving, taking place over a nine-month period. General work hours would be between 7:00 AM and 6:00 PM Monday through Saturday. During the period the channel is blocked with temporary coffer dams, construction may proceed 7 days a week. A portion of the new pipeline must be installed using trenchless methods. That work may require 24-hour operations during the drilling phase. A portion of the pipeline would be installed within the existing Regional treatment Plant site that may be performed at night to minimize disruption to plant operations.

The site is surrounded by agricultural lands in Monterey County with an industrial land use to the west. Two distant residences, one to the northeast and another to the southeast, are in unincorporated Monterey County. Maximum noise levels generated by construction activities at the Blanco Drain Diversion site are calculated to reach 90 dBA L<sub>max</sub> and 87 dBA L<sub>eq</sub> at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 56 dBA L<sub>max</sub> and 53 dBA L<sub>eq</sub> at 2,400-feet, which is the distance to the closest sensitive receptor (i.e., residence) as shown on **Table 4.14-13**.

Given the noise attenuation that would result due to the relatively long distance from the construction site to the nearest residences, short-term construction noise impacts at these residences would be less than significant because construction noise levels would be below the significance threshold for speech interference during the day (70 dBA L<sub>eq</sub>) and below the significance threshold for sleep interference (60 dBA L<sub>eq</sub>) should come construction occur at night. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

#### **Lake El Estero Diversion**

New facilities at Lake El Estero Diversion site would include either an electrical pump or electrically operated motorized valve, and short connecting pipelines. The improvements would be constructed within the existing lake management pump station structure or underground. Pavement demolition, trenching and installation of new pumps/pump motors, electrical facilities, and flow meters would all occur below grade using only equipment delivery trucks, loaders, and backhoes. Construction activities at these sites would occur 7 AM to 8 PM Monday through Saturday, and would take up to three months to complete.

The Lake El Estero Source Water Diversion and Storage Site and the nearest sensitive receptors southeast of the facility are in the City of Monterey. The site lies within the El Estero recreation area. Maximum noise levels generated by construction activities at the Lake El Estero site are calculated to reach 90 dBA  $L_{max}$  and 86 dBA  $L_{eq}$  during the loudest construction phase at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 70 dBA  $L_{max}$  and 66 dBA  $L_{eq}$  at a distance of 500 feet and 73 dBA  $L_{max}$  and 69 dBA  $L_{eq}$  at 350 feet, which is the distance to the closest sensitive receptor, as indicated in **Table 4.14-13**.

Construction noise levels identified in **Table 4.14-13** would be below the daytime significance threshold for speech interference (70 dBA  $L_{eq}$ ) at the nearby sensitive receptors, and there would be no nighttime construction at this site. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

### *Treatment Facilities at Regional Treatment Plant*

New Advanced Water Treatment facilities are proposed for construction at the Regional Treatment Plant site in a northern portion of Monterey County, north of the city limits of Marina. Construction activities would include cutting, laying, and welding pipelines and pipe connections; pouring concrete footings for foundations, tanks, and other support equipment; constructing walls and roofs; assembling and installing major advanced treatment process components; installing piping, pumps, storage tanks, and electrical equipment; testing and commissioning facilities; and finish work such as paving, landscaping, and fencing the perimeter of the site. Construction may occur up to 24 hours per day, 7 days per week due to the necessity of managing wastewater flows and due to the desire to reduce the construction duration.

In addition, modifications to the existing Salinas Valley Reclamation Plant are proposed in order to enable increased use of tertiary treated wastewater for crop irrigation during winter months. The proposed modifications include new sluice gates, a new pipeline between the existing inlet and outlet structures within the storage pond, chlorination basin upgrades, and a new storage pond platform. All of the modifications would occur within the existing Salinas Valley Reclamation Plant footprint. (See **Section 2.8.2** for further details.) Construction activities would include cutting, laying, and welding pipelines and pipe connections; pouring concrete footings for foundations, and other support equipment; installing piping, sluice gates and electrical equipment; testing and commissioning facilities; and finish work such as repairing the existing storage pond lining. Construction activities related to the Salinas Valley Reclamation Plant Modifications are expected to occur over three months during normal daytime hours, 7:00 AM to 6:00 PM.

A residence to the northwest is in Monterey County, and residences to the southwest are in the City of Marina. Maximum noise levels generated by construction activities at the RTP would reach 85 dBA  $L_{max}$  and 87 dBA  $L_{eq}$  at a distance of 50 feet. As shown in **Table 4.14-14, Maximum Construction Noise Levels – Regional Treatment Plant**, the source noise level would be attenuated due to distance, resulting in noise levels up to 39 dBA  $L_{eq}$  at a distance of one mile and up to 38 dBA  $L_{eq}$  at 5,400 feet, which are the distances to the closest sensitive receptors.

Construction noise levels would not exceed the daytime speech interference or nighttime sleep disturbance thresholds at the nearest residences. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

**Table 4.14-14****Maximum Construction Noise Levels – Advanced Water Treatment Facility**

Construction Activity Source	Receptors	Distance to Receptor (In Feet)	L <sub>max</sub> (dBA)	L <sub>eq</sub> (dBA)
Construction of AWT Facility (Grading/Excavating)	Monte Road Residence (Monterey County)	5,260 (northwest)	35	39
	Cosky Drive Residences (City of Marina)	5,400 (southwest)	34	38

Note: The noise attenuation rate is assumed to be approximately 6 dBA for each doubling of distance from the source where the distance is over roadways and would be approximately 7.5 dBA for each doubling of distance from the source where the distance is over fields.

***Product Water Conveyance***

The Proposed Project would include construction of a pipeline to convey the product water from the proposed AWT Facility to the Seaside Groundwater Basin for injection, along one of two potential pipeline alignments. One option would generally follow the RUWAP recycled water pipeline route through the City of Marina, CSUMB, and the City of Seaside. The other option, referred to as the Coastal Alignment, would follow the MRWPCA's interceptor then along the eastern side of the Transportation Agency of Monterey County railroad right of way. The southern portion of the Coastal Alignment would also be located in the former Fort Ord within CSUMB and the City of Seaside. A pump station would be constructed with either alignment.

For the purpose of modeling construction noise, the location of the construction noise source (acoustic center) is assumed to be the center of the Area of Potential Effect as displayed in the Area of Potential Effect Maps, that are included in **Appendix J** to this EIR. Construction would occur during two daytime shifts between 7:00AM and 8:00 PM, Monday through Saturday, over a 12 to 13-month construction period for the RUWAP and Coastal Alignments, respectively.

**RUWAP Alignment**

The RUWAP Alignment and adjacent sensitive receptors are described in **Section 4.14.2.2** above. Following the pipeline alignment from north to south, the first sensitive receptors are residences along Quebrada Del Mar Road and Crescent Avenue in the City of Marina. The alignment continues along Carmel Avenue, Vaughan Avenue, Reindollar Avenue, and California Avenue to Patton Parkway within existing residential neighborhoods. These sensitive receptors would be located approximately 25 to 50 feet from the construction activities as discussed below.

The RUWAP Alignment enters the former Fort Ord within CSUMB and continues south of Patton Parkway along California Avenue to 5th Avenue, and continues south along 5th Avenue to the Booster Pump Station located adjacent to the City of Marina Corp Yard. No sensitive receptors border the alignment between Patton Parkway and the Booster Pump Station. CSUMB's Strawberry Apartments housing is located within 500 feet of the RUWAP Alignment where it approaches the Booster Pump Station.

From the Booster Pump Station, the RUWAP Alignment continues south along 5th Avenue and then, entering the City of Seaside, heads east along Inter-Garrison Road passing the CSUMB student dining halls and student center. The alignment heads south at 5th Avenue passing classroom buildings and the campus library. After passing the library, the alignment heads south and then west through open space connecting to General Jim Moore Boulevard south of the Veterans Administration Monterey Clinic. The alignment continues southward along General Jim Moore Boulevard and passes CSUMB outdoor recreation areas, crossing Lightfighter Drive, where the Coastal Alignment would join the RUWAP Alignment.

The two alignment options would both continue southward on General Jim Moore Boulevard passing within approximately 210 to 250 feet of the nearest residences along 4<sup>th</sup> Army Road and 6<sup>th</sup> Division Road, respectively, the Post Chapel, Stillwell Elementary School, and the Porter Youth Center at Normandy Road. South of Normandy Road, the alignment passes within 90 to 110 feet of residences, golf courses, and Seaside Middle School on its way to the Injection Well Facilities Site.

The installation of the product water pipeline would generally occur at a rate of 250 feet per day (400 feet per day in undeveloped areas). Pipeline trenching activities would proceed along the project alignment at a rate of 1,250 to 2,000 feet per five working days; approaching and departing any one receptor location over a fairly short duration, e.g. four days. Construction phases include site preparation, grading, trenching, building of facilities, and paving that will take place over a 15-month construction period. General work hours would be between 7:00 AM and 8:00 PM, Monday through Saturday.

**Table 4.14-15, Maximum Construction Noise Levels – RUWAP Alignment**, summarizes potential noise levels along the alignment. Short-term construction noise levels at the nearest residences would exceed the significance threshold for speech interference during the day (70 dBA  $L_{eq}$ ) at residences and other sensitive receptors that are located 25 to 280 feet from the construction site. Assuming a source noise level of up to 87 dBA  $L_{eq}$  at a distance of 50 feet, and an attenuation rate of 6 dBA per doubling of distance between the noise source and receptor, pipeline construction activities occurring within 350 feet (in either direction) of a sensitive receptor would yield noise levels greater than 70 dBA  $L_{eq}$ . Construction noise levels exceeding 70 dBA  $L_{eq}$  for more than two weeks would represent a substantial temporary noise increase to nearby residences or other sensitive receptors. The proposed pipeline trenching activities at any one location along the alignment would be limited to approximately four days or less. Although, construction noise would exceed the speech interference significance criteria at most locations along the alignment, the duration would be less than two weeks at any one location, and construction would be limited to daytime hours. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

### Coastal Alignment

The Coastal Alignment and adjacent sensitive receptors are described in **Section 4.14.2.2**. The Coastal Alignment enters the City of Marina along the west side of Del Monte Boulevard. Between Marina Green Drive and Legion Way, the alignment would be located about 150 feet west of residences along Del Monte Boulevard. South of Legion Way to Beach Road, residences are located both west (as close as 115 feet) and east (150 feet) of the alignment. South of Beach Road, residential land uses are located about 200 feet east of the alignment and the Marina Library is located about 220 feet to the west. The Superior Court of California, Marina Division, located north of Reservation Road, is approximately 150 east of the alignment.

**Table 4.14-15**  
**Maximum Construction Noise Levels – RUWAP Alignment**

Alignment Segment (Jurisdiction)	Receptors	Distance to Receptor (In Feet)	L <sub>max</sub> (dBA)	L <sub>eq</sub> (dBA)
Quebrada Del Mar Road to Patton Parkway (Marina)	Residences	25	91	93
		50	85	87
Patton Parkway to Booster Pump Station (Marina)	CSUMB Housing	500	65	57
5 <sup>th</sup> Avenue to Lightfighter Drive (Seaside)	CSUMB Dining, Student Center, Classrooms	125	77	79
	CSUMB Library	65	83	85
	Veterans Administration Monterey Clinic	240	71	73
Lightfighter Drive to Injection Well Facilities Site (Seaside)	6 <sup>th</sup> Division Road Residences	250	71	73
	4 <sup>th</sup> Army Road Residences	210	73	75
	Post Chapel Porter Youth Center	85	80	82
	Stillwell Elementary School	225	73	75
	Residences between Normandy Road and Coe Avenue (west)	110	78	80
	Residences between Normandy Road and Coe Avenue (west)	90	80	82
	Seaside Middle School	280	70	72
Note: The noise attenuation rate is assumed to be approximately 6 dBA for each doubling of distance for pipeline construction.				

South of Reservation Road, residences are located as near as approximately 80 feet of the Coastal Alignment to Palm Avenue. South of Palm Avenue, the pipeline would be approximately 100 feet east of play fields associated with the Marina Del Mar Elementary School and would be approximately 350 feet east of the nearest building associated with this elementary school. Residences along Marina Drive are located as near as approximately 135 feet west of the Coastal Alignment.

The Coastal Alignment would continue south on Del Monte Boulevard, under the Highway 1 southbound onramp, past MRWPCA's Fort Ord Pump Station. The Coastal Alignment would follow the Transportation Agency of Monterey County rail-line corridor from the Fort Ord Pump Station to Divarty Street. There are no sensitive receptors along this segment. The GWR

Coastal Alignment would cross under Highway 1 at the Divarty Street underpass. The pipeline would follow Divarty Street to 2<sup>nd</sup> Avenue, where the Booster Pump Station would be located. Land uses along 2<sup>nd</sup> Avenue include unoccupied buildings and open land. From the proposed Booster Pump Station site, the pipeline would turn south and follow on the west side of 2<sup>nd</sup> Avenue to Lightfighter Drive. At the intersection of 2<sup>nd</sup> Avenue and Lightfighter Drive the pipeline would be constructed under Lightfighter Drive by either directional drilling or bore and jack techniques to avoid disruption to this main thoroughfare. From this intersection the alignment would turn eastward and would be constructed on the south side of the Lightfighter Drive roadway, but off the pavement, up to the intersection with General Jim Moore Boulevard. The pipeline would follow the southbound ramp from Lightfighter Drive onto General Jim Moore Boulevard where it would merge to the same alignment as the RUWAP Alignment. There are no sensitive receptors in the vicinity of the Coastal Alignment south of the Booster Pump Station site until it joins the RUWAP Alignment.

The alignment continues southward on General Jim Moore Boulevard passing residences, the Post Chapel, Stillwell Elementary School, and the Porter Youth Center at Normandy Road. South of Normandy Road, the alignment passes residences, golf courses, and Seaside Middle School on its way to the Injection Well Facilities Site.

The installation of the product water pipeline would generally occur at a rate of 250 feet per day (400 feet per day in undeveloped areas). Pipeline trenching activities would proceed along the project alignment at a rate of 1,250 to 2,000 feet per five working days; approaching and departing any one receptor location over a fairly short duration, e.g. four days. Construction phases include site preparation, grading, trenching, building of facilities, and paving that will take place over a 15-month construction period. General work hours would be between 7:00 AM and 8:00 PM, Monday through Saturday.

**Table 4.14-16, Maximum Construction Noise Levels – Coastal Alignment** summarizes potential noise levels along the alignment. As shown, noise levels resulting from the construction of the Coastal Alignment exceeding 70 dBA  $L_{eq}$  would result in speech interference at nearby residences and other sensitive receptors. Assuming a source noise level of up to 87 dBA  $L_{eq}$  at a distance of 50 feet from pipeline construction activities, and an attenuation rate of 6 dBA per doubling of distance between the noise source and receptor, pipeline construction activities occurring within 350 feet (in either direction) of a sensitive receptor would yield noise levels greater than 70 dBA  $L_{eq}$ . The proposed pipeline trenching activities at any one location along the alignment would be limited to approximately four days or less. Although, construction noise would exceed the speech interference significance criteria at most locations along the alignment, the duration would be less than two weeks. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

**Table 4.14-16**  
**Maximum Construction Noise Levels – Coastal Alignment**

Alignment Segment (Jurisdiction)	Receptors	Distance to Receptor (In Feet)	L <sub>max</sub> (dBA)	L <sub>eq</sub> (dBA)
Marina Green to Legion Way (Marina)	Residences	150	75	77
Legion Way to Beach Road (Marina)	Residences	115	78	80
	Residences	150	75	77
Beach Road to Reservation Road (Marina)	Residences	200	73	75
	Marina Library	220	72	74
	Superior Court	150	75	77
Reservation Road to Highway 1 (Marina)	Residences	80	81	83
	Marina Del Mar Elementary School Playfields	100	79	81
	Marina Del Mar Elementary School	350	68	70
	Marina Drive Residences	135	76	78
Highway 1 to Lightfighter Drive (Marina to Seaside)	No Sensitive Receptors	--	--	--
Lightfighter Drive to Injection Well Facilities Site (Seaside)	6 <sup>th</sup> Division Road Residences	250	71	73
	4 <sup>th</sup> Army Road Residences	210	73	75
	Post Chapel Porter Youth Center	85	80	82
	Stillwell Elementary School	225	73	75
	Residences between Normandy Road and Coe Avenue (west)	110	78	80
	Residences between Normandy Road and Coe Avenue (west)	90	80	82
	Seaside Middle School	280	70	72

Note: The noise attenuation rate is assumed to be approximately 6 dBA for each doubling of distance for pipeline construction.

### Booster Pump Station

Both of the proposed new Booster Pump Station options would receive flow from the Product Water Conveyance Pipeline and pump the product water into one of the two proposed alternative alignments that merge to a single alignment along General Jim Moore Boulevard. Construction crews would prepare the pump station site by removing vegetation and grading the sites to create a level work area. Construction activities would include excavations for wet wells, installing shoring and forms, pouring concrete footing for foundations; assembling and installing piping, pumps, and electrical equipment; constructing concrete enclosures and roofs; and finish work such as paving, landscaping, and fencing the perimeter of the pump station sites. Construction would occur over 10-12 months, generally between 7:00 AM and 8:00 PM, Monday through Saturday.

One Booster Pump Station option would be located along the RUWAP Alignment in the City of Marina. The nearest sensitive receptors are residents of the CSUMB campus housing located west of the pump station site and a classroom building southeast of the site. Maximum noise levels generated by structural work at the RUWAP Booster Pump Station option are calculated to reach 85 dBA L<sub>max</sub> and 87 dBA L<sub>eq</sub> during the loudest construction phase at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels of up to 66 dBA L<sub>max</sub> and 68 dBA L<sub>eq</sub> at a distance of 450 feet and up to 63 dBA L<sub>max</sub> and 65 dBA L<sub>eq</sub> at 650 feet, as indicated in **Table 4.14-17, Maximum Construction Noise Levels – RUWAP & Coastal Booster Pump Station Options**. This attenuation calculation is conservative because it does not take into account any additional attenuation that may occur due to topography,

vegetation, nor buildings or fences between source and receptor. The RUWAP Booster Pump Station is located at a lower topographic area than nearby sensitive receptors and is surrounded by trees.

**Table 4.14-17**

**Maximum Construction Noise Levels – RUWAP and Coastal Booster Pump Station**

**Option**

Construction Activity Source	Receptors	Distance to Receptor (In Feet)	L <sub>max</sub> (dBA)	Leq (dBA)
<b><i>RUWAP Option</i></b>				
Booster Pump Structural Work (Heavy Equipment)	Classroom Building	450 (southeast)	66	68
	Campus Housing (Strawberry Apartments)	650 (west)	63	65
<b><i>Coastal Option</i></b>				
Booster Pump Structural Work (Heavy Equipment)	Recreation Center	750 (east)	61	63
	Child Development Center	875 (northeast)	60	62

The Coastal Booster Pump Station option would be located on CSUMB property along the Coastal Alignment. There are no residential receptors in the vicinity of the site. A recreation area is located east of the Booster Pump Station site and a child development center is located about 875 feet northeast of the site. The recreation area is on CSUMB property within the City of Seaside while the project and child development center are within the City of Marina. Construction noise source generation would be the same as would occur under the RUWAP Booster Pump Station option. The source noise level would be attenuated due to distance, resulting in noise levels of up to 61 dBA L<sub>max</sub> and 63 dBA L<sub>eq</sub> at a distance of 750 feet and up to 60 dBA L<sub>max</sub> 62 dBA L<sub>eq</sub> at 875 feet, as indicated in **Table 4.14-17**. As with the RUWAP Booster Pump Station option, these attenuation estimates are conservatively low given the topographic change and structures between source and receptor.

Construction noise levels identified in **Table 4.14-17** at sensitive receptors for booster pump station options would be below the speech interference threshold of 70 dBA L<sub>eq</sub>, and construction would be limited to daytime or early evening hours (8PM).. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

***Injection Well Facilities Site***

The proposed new Injection Well Facilities would be located east of General Jim Moore Boulevard, south of Eucalyptus Road in the City of Seaside, and would include a total of eight injection wells (four deep injection wells, four vadose zone wells), monitoring wells, and backflush facilities. Construction would occur over a 21-month construction period, and 24 hours/7 days a week construction activities are anticipated to be required at times during construction. For example, drill rigs typically run non-stop during drilling of the well. The deep injection wells would be drilled with rotary drilling methods as is likely for the monitoring wells. To construct the back-flush pipeline, the contractor would excavate pipe trenches, haul off (or spread on site) spoilage, import and install bedding material, and lay pipe, backfill and compact trench. A main electrical power supply/transformer and motor control building would be built for PG&E power supply. The following activities would be required to construct the pump motor control and electrical conveyance facilities:

- Excavation, haul spoilage, import and install bedding material, building foundation, trench, place concrete, backfill and compact trench, and finish concrete floor of electrical building;
- Install exterior electrical control cabinets on the paved area at the four clusters of vadose and deep injection wells; and
- For electrical building, construct block walls, install building windows, doors and louvers, then roof and appurtenances, then interior finishes, lighting and HVAC, and electrical equipment and wiring.

The project component site is within the boundary of former Fort Ord, and the nearest sensitive receptors are within the City of Seaside, which are residences located west of General Jim Moore Boulevard and the proposed well sites, back-flush facility, and operations buildings. Maximum noise levels generated during the loudest construction phase at the monitoring well sites are calculated to be 85 dBA  $L_{max}$  and 87 dBA  $L_{eq}$  at a distance of 50 feet. This source noise level would be attenuated due to distance, resulting in noise levels of up to 66 dBA  $L_{eq}$  at a distance of 500 feet, which is the distance to the closest sensitive receptor (i.e., residence). Maximum construction noise levels generated at the deep injection and vadose zone well sites would be the same as at the monitoring wells. This source noise level would be attenuated due to distance, resulting in noise levels of up to 64 dBA  $L_{eq}$  at a distance of 700 feet, which is the distance to the closest sensitive receptor (i.e., residence). Maximum noise levels generated by construction at the back-flush basin site could reach 85 dBA  $L_{eq}$  at a distance of 50 feet. This noise level would be attenuated due to distance, resulting in noise levels of 57 dBA  $L_{eq}$  at a distance of 1,200 feet, which is the distance to the closest sensitive receptor (i.e., residence).

Well drilling activity is assumed to occur for 24 hours a day at a noise level of 83 dBA  $L_{eq}$  at a distance of 50 feet. This noise level was measured during the drilling of the GWR monitoring well at measurement location ST-1, as shown in **Table 4.14-4** above, and is higher than the levels calculated by the noise model, so the actual measured level was used for a credible worst case assessment for the monitoring well. The noise level from drilling would be attenuated due to distance resulting in noise levels up to 63 dBA  $L_{eq}$  at a distance of 500 feet at the residence nearest to a monitoring well, and up to 67 dBA  $L_{eq}$  at a distance of 700 feet at the residence nearest to a deep injection or vadose well. **Table 4.14-18, Maximum Construction Noise Levels – Injection Well Facilities**, shows worst-case noise levels at nearest noise sensitive receptors to the Injection Well Facilities site.

Daytime construction activities would not exceed the daytime speech interference threshold of 70 dBA  $L_{eq}$ . Drilling activities during nighttime hours would result in noise levels up to 63 dBA  $L_{eq}$  at receiving properties, exceeding the sleep disturbance threshold of 60 dBA  $L_{eq}$  by up to 3 dBA. Therefore, temporary noise increases due to construction would be substantial during times of nighttime construction, and temporary construction noise impacts at this Proposed Project site would be significant. Implementation of Mitigation Measure NV-1a would reduce construction noise with use of equipment barriers or shields, reducing the impact to a less-than-significant level. Mitigation Measure NV-1c would also require notification of construction schedule be sent to sensitive receptors.

**Table 4.14-18**  
**Maximum Construction Noise Levels – Injection Well Facilities**

Construction Activity Source	Receptors	Distance to Receptor (In Feet)	L <sub>max</sub> (dBA)	L <sub>eq</sub> (dBA)
Monitoring Well (Paving)	Residence near Gen. Jim Moore Blvd south of San Pablo Ave.	500 (west)	65	66
Deep Injection and Vadose Wells (Paving)	Residence near Gen. Jim Moore Blvd north of San Pablo Ave.	700 (west)	63	64
Backflush Basin (Grading/Excavating)	Residence along Sandpiper Ct.	1,200 (west)	57	57
Monitoring Well Drilling	Residence near Gen. Jim Moore Blvd south of San Pablo Ave.	500 (west)	69	63
Deep Injection and Vadose Well Drilling	Residence near Gen. Jim Moore Blvd north of San Pablo Ave.	700 (west)	66	60

### *CalAm Distribution Pipelines*

The proposed pipelines would be constructed during daytime hours to the extent feasible. This analysis assumes that the Transfer Pipeline would be constructed only during daytime hours; however, nighttime construction could be required for the Monterey Pipeline component in order to meet the project schedule. All nighttime construction work would be conducted only with prior approval from the relevant jurisdictions. Pipeline installation would occur at a rate of approximately 150 to 250 feet per day.

#### **Transfer Pipeline**

The proposed Transfer Pipeline would traverse a residential neighborhood in Seaside. The alignment runs for about one mile, going west from Hilby Avenue to Yosemite Street and La Salle Avenue and west to section of Del Monte Boulevard/Auto Center Parkway. There are no sensitive receptors along Auto Center Parkway. Sensitive receptors in the other portion of the proposed alignment include a mobile home park, schools, and residences. Residences are within 50 feet of the alignment and border the alignment for most of its length. Short-term monitoring location ST-3 (see **Table 4.14-4**), where the ambient daytime noise level was measured at 59.1 dBA L<sub>eq</sub>, represents the noise environment for the residential receptors.

During construction, the resultant daytime noise level at residential receptors could be as high as 79.2 dBA as shown on **Table 4.14-19, Maximum Construction Noise Levels – CalAm Distribution Pipelines**. Based on a pipeline installation rate of 250 feet per day, the maximum amount of time that any one receptor would be exposed to these noise levels would be limited to up to four days. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA L<sub>eq</sub> as shown on **Table 4.14-19**, the duration of the impact would be less than two weeks. Therefore, temporary noise increases due to construction would not be substantial, and noise impacts at this Proposed Project site would be less than significant.

**Table 4.14-19**  
**Maximum Construction Noise Levels – CalAm Distribution Pipelines**

Pipeline	Closest Sensitive Receptor(s)	Distance to Receptor (feet) <sup>a</sup>	Existing Ambient Daytime Noise Level at Receptor(s) (dBA L <sub>eq</sub> )	Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L <sub>eq</sub> ) <sup>a</sup>	Resultant Noise Level at Receptor(s) during Construction (dBA L <sub>eq</sub> ) <sup>b</sup>
Transfer Pipeline	Residences along La Salle Avenue, Yosemite Street, and Hilby Avenue	50	Daytime – 59.1 <sup>c</sup>	79.2	Daytime – 79.2 Nighttime – n/a
Monterey Pipeline	Residences (various)	50	Daytime – 60.2 <sup>d</sup> Nighttime – 45.8	79.2	Daytime – 79.3 Nighttime – 79.2
		100	Daytime – 61.0 <sup>e</sup> Nighttime – 45.8	74.0	Daytime – 74.2 Nighttime – 74.0

NOTES:  
<sup>a</sup> Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.  
<sup>b</sup> Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.  
<sup>c</sup> Based on daytime ambient noise level at short-term noise monitoring location S5.  
<sup>d</sup> Based on daytime and nighttime ambient noise level at short-term noise monitoring location S6.  
<sup>e</sup> Based on daytime and nighttime ambient noise level at short-term noise monitoring location S7.  
 SOURCE: ESA, 2014.

### Monterey Pipeline

The proposed Monterey Pipeline would extend for 5.4 miles from Seaside to the Monterey Peninsula and would require construction in the cities of Seaside, Monterey, and Pacific Grove. Pipeline construction would occur during daytime hours to the extent feasible, but nighttime construction could be required at certain locations to expedite pipeline installation and meet the project schedule. Approval would be obtained from the local jurisdictions for all nighttime construction activities.

Several residences are located within 50 feet of the pipeline alignment along Del Monte Boulevard, Figueroa Street, Franklin Street, High Street, Spencer Street, and Eardley Street, and thus, sensitive residential receptors are within 50 feet of the alignment in all three affected jurisdictions – Seaside, Monterey, and Pacific Grove. Other sensitive receptors along this pipeline route include hotels and motels, churches, and schools.

**Table 4.14-19** presents the estimated construction-related noise levels at the closest sensitive receptors to the proposed Monterey Pipeline alignment. As shown, the resultant noise levels at the nearest residential receptors during daytime construction activities would range from 74.2 to 79.3 dBA, L<sub>eq</sub>. Based on a pipeline installation rate of approximately 150 feet per day, the maximum duration of time that a receptor would be exposed to construction-related noise increases would be limited to a period of three to five days. Although daytime construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact would be less than two weeks and the construction noise impact associated with increases in daytime noise levels would be less than significant.

If nighttime construction is necessary for the Monterey Pipeline to meet the project schedule, nighttime noise levels at nearby receptors would be similar to daytime noise levels ranging as high as 74.0 and 79.2 dBA, L<sub>eq</sub>. Because the resultant nighttime noise levels would exceed the sleep interference threshold of 60 dBA, the impact related to temporary increases in ambient nighttime noise levels during construction would be significant. Implementation of Mitigation Measure NV-1b (Noise Control Plan for Nighttime Pipeline Construction) would reduce the severity of this impact (16 dBA of reduction), but not to the degree necessary to reduce

construction noise below the sleep interference threshold of 60 dBA,  $L_{eq}$  (19 dBA of reduction). Consequently, although the impact at any given receptor would be limited in duration, the impact would remain significant and unavoidable even with implementation of mitigation measures. Mitigation Measure NV-1c would also require notification of construction schedule be sent to sensitive receptors.

On some portions of the Monterey Pipeline where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Should this method be used for the Monterey Pipeline, localized noise levels would be substantially increased (up to 88 dBA,  $L_{eq}$  at 100 feet) during installation of sheet piles. The duration of this significant noise impact would be limited to 1 to 3 days at any given sensitive receptor. Although this noise level is above the speech interference threshold of 70 dBA, the construction duration at any one location would be less than two weeks, and thus, the impact associated with temporary increases in daytime ambient noise levels during sheet pile driving (if required) would be less than significant.

### *Impact Conclusion*

Construction activities would result in temporary increases in noise that would not be substantial at Proposed Project construction sites, except for nighttime construction at the Injection Well Facilities and CalAm Distribution Monterey Pipeline sites. Construction noise at all other Proposed Project sites would be less than significant because construction noise levels at the nearest sensitive receptors would be below the significance threshold for speech interference during the day (70 dBA  $L_{eq}$ ) or would result in exposure for less than two weeks.

For the Injection Well Facilities site, construction noise would not exceed daytime thresholds, but would exceed nighttime thresholds, resulting in a significant construction noise impact. Implementation of Mitigation Measure NV-1a would reduce nighttime construction noise levels to less than that 60 dBA  $L_{eq}$  at the nearest residence, which would reduce the impact to a less-than-significant level

Construction noise along the CalAm Distribution Pipelines would exceed the daytime speech interference thresholds, but the duration would be less than two weeks at any one location, resulting in a less-than-significant impact. Any nighttime construction along the Monterey Pipeline could exceed the sleep disturbance threshold, resulting in a significant temporary noise impact. Implementation of Mitigation Measures NV-1b and NV-1c would reduce nighttime construction noise, and limit evening construction times, but would not reduce the impact to a less-than-significant level. Therefore, nighttime construction noise impacts along the CalAm Distribution Monterey Pipeline would remain significant and unavoidable even with implementation of mitigation measures.

### *Mitigation Measures*

#### **Mitigation Measure NV-1a: Drilling Contractor Noise Measures.** (*Applies to Injection Well Facilities*)

Contractor specifications shall include a requirement that drill rigs located within 700 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings or other noise reducing technology and the line of sight between the drill rig and nearby sensitive receptors shall be blocked by portable acoustic barriers and/or shields to

reduce noise levels such that drill rig noise levels are no more 75 dBA at 50 feet. This would reduce the nighttime noise level to less than 60 dBA  $L_{eq}$  at the nearest residence.

The contractor shall submit to the MRWPCA and the Seaside Building Official, a "Well Construction Noise Control Plan" for review and approval. The plan shall identify all feasible noise control procedures that would be implemented during night-time construction activities. At a minimum, the plan shall specify the noise control treatments to achieve the specified above noise performance standard.

**Mitigation Measure NV-1b: Monterey Pipeline Noise Control Plan for Nighttime Pipeline Construction.** *(Applies to CalAm Distribution System: Monterey Pipeline)*

CalAm shall submit a Noise Control Plan for all nighttime pipeline work to the California Public Utilities Commission for review and approval prior to the commencement of project construction activities. The Noise Control Plan shall identify all feasible noise control procedures to be implemented during nighttime pipeline installation in order to reduce noise levels to the extent practicable at the nearest residential or noise sensitive receptor. At a minimum, the Noise Control Plan shall require use of moveable noise screens, noise blankets, or other suitable sound attenuation devices be used to reduce noise levels during nighttime pipeline installation activities.

**Mitigation Measure NV-1c: Neighborhood Notice.** *(Applies to Injection Well Facilities and CalAm Distribution System: Monterey Pipeline)*

Residences and other sensitive receptors within 900 feet of a nighttime construction area shall be notified of the construction location and schedule in writing, at least two weeks prior to the commencement of construction activities. The notice shall also be posted along the proposed pipeline alignments, near the proposed facility sites, and at nearby recreational facilities. The contractor shall designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the noise disturbance coordinator shall be conspicuously placed on construction site fences and included in the construction schedule notification sent to nearby residences.

**Impact NV-2: Construction Noise That Exceeds or Violate Local Standards. Construction activity would result in a temporary increase that at some locations could generate noise levels in excess of standards established in the local general plans and/or could violate local regulations. (Criteria a) (Significant and Unavoidable)**

Two local jurisdictions have regulations regarding noise limits during construction: County of Monterey and City of Marina. In addition, the cities of Marina, Seaside, and Monterey have regulations that limit hours of construction and/or noise-producing activities. Potential conflicts with these regulations and/or standards are addressed below.

***City of Salinas***

Pursuant to the City of Salinas Zoning Ordinance (section 37-50-180), no use shall create ambient noise levels that exceed 70 dBA in an agricultural district and 60 dBA in a residential district, although construction activities are not specifically identified. For residential zones, the

noise standard shall be 5 dBA lower between 9:00 PM and 7:00 AM, resulting in a maximum allowable nighttime noise level of 55 dBA in a residential zone.

Construction of new facilities at the Salinas Pump Station would occur within the city of Salinas. Construction may occur up to 24 hours per day, 7 days per week due to the necessity of managing wastewater flows; however, major construction of new facilities would be limited to daytime hours. As shown on **Table 4.14-13**, construction noise levels at the nearest residences within the City of Salinas (45 dBA  $L_{eq}$ ) would be below the City's noise standards. Therefore, construction within the City of Salinas would not generate noise levels in excess of standards established in the local General Plan or noise ordinance.

### ***Monterey County Ordinances***

The Monterey County Code section 10.60.030 prohibits the operation of “any machine, mechanism, device, or contrivance which produces a noise level exceeding eighty-five (85) dBA measured fifty (50) feet therefrom” within the unincorporated limits of the County. However, the regulations do not apply to machines or devices that are operated in excess of 2,500 feet of any occupied dwelling. The following project sites are located within the unincorporated area of Monterey County, and potential conflicts with this regulation are addressed below.

#### **Salinas Treatment Facility Storage and Recovery**

The site is surrounded by agricultural lands in Monterey County. One distant residence to the southeast is in unincorporated Monterey County. Maximum noise levels generated by construction activities at this site are calculated to reach 89 dBA Leq at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 55 dBA Leq at 2,500 feet, which is the distance to the closest sensitive receptor (residence) as shown on **Table 4.14-13**. Since the nearest residence is located 2,500 away, construction at this site would not violate County Code section 10.60.030.

#### **Reclamation Ditch Diversion**

The site is surrounded by agricultural lands to the west in Monterey County and industrial land uses are to the east in Salinas. One distant residence, located approximately 1,000 feet to the west, is in unincorporated Monterey County. Maximum noise levels generated by construction activities at the Reclamation Ditch Diversion site are calculated to reach 86 dBA Leq at a distance of 50 feet, but would be attenuated due to distance, resulting in noise levels up to 60 dBA Leq at 1,000 feet, which is the distance to the closest sensitive receptor (i.e., residence) as indicated on **Table 4.14-13**. During the period the channel is blocked with temporary coffer dams, bypass pumps will need to operate at night. Construction noise could conflict with Monterey County Code Section 10.60.030 because some of the construction equipment was modeled to result in noise levels at or above 85 dBA at 50 feet, and construction would occur within 2,500 feet of residences within the unincorporated area of the county. Therefore, construction activities at this site could generate noise levels in excess of local standards, which is considered a significant impact. However, Mitigation Measure NV-2a requires that construction equipment have properly operating mufflers and stationary noise equipment be located as far as possible from sensitive receptors, consistent with County General Plan Policy S-7.10. Implementation of this measure would reduce noise levels generated by construction activities to below 85 dBA at 50 feet, and therefore would reduce the impact to a less-than-significant level.

#### **Tembladero Slough Diversion**

The site is surrounded by agricultural lands in Monterey County with one residential land use to the north and a subdivision beyond Hwy 1 to the east. Maximum noise levels generated by

construction activities (particularly vibratory driving) at the Tembladero Slough Diversion site are calculated to reach 94 dBA Leq at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 70 dBA Leq at 750 feet, which is the distance to the closest sensitive receptor (i.e., residence) as indicated on **Table 4.14-13** and shown on **Figure 4.14-1a**. Construction noise could conflict with Monterey County Code Section 10.60.30 because some of the construction equipment was modeled to result in noise levels above 85 dBA at 50 feet, and construction would occur within 2,500 feet of residences within the unincorporated area of the county. Therefore, construction activities at this site could generate noise levels in excess of local standards, which is considered a significant impact. Mitigation Measure NV-2a will ensure consistency with General Plan Policy S-7.10 regarding construction equipment and would reduce construction noise levels, but may not reduce sound below 85 dBA at 50 feet, and therefore the construction may temporarily conflict with local noise standards, a significant unavoidable impact. However, as indicated in the Impact NV-1 discussion for this site, construction noise at this site would not exceed the significance threshold for speech interference during the day (70 dBA Leq) at the nearest sensitive receptor.

### **Blanco Drain Diversion (Pump Station and Pipeline)**

The site is surrounded by agricultural lands in Monterey County with an industrial land use to the west. Two distant residences, one to the northeast and another to the southeast, are in unincorporated Monterey County. Maximum noise levels generated by construction activities at the Blanco Drain Diversion site are calculated to reach 87 dBA Leq at a distance of 50 feet. The source noise level would be attenuated due to distance, resulting in noise levels up to 56 dBA Lmax and 53 dBA Leq at 2,400-feet, which is the distance to the closest sensitive receptor (i.e., residence) as indicated on **Table 4.14-13** and shown on **Figure 4.14-1a**. Construction noise could conflict with Monterey County Code Section 10.60.30 because some of the construction equipment would result in noise levels above 85 dBA at 50 feet, and construction would occur within 2,500 of a residence within the unincorporated area of the county. Therefore, construction activities at this site could generate noise levels in excess of local standards, which is considered a significant impact. However, Mitigation Measure NV-2a will ensure consistency with General Plan Policy S-7.10 regarding construction equipment and would reduce noise levels to below 85 dBA at 50 feet, which would reduce the impact to a less-than-significant level.

Section 10.60.040 of the County Code applies to nighttime noise, in which it is prohibited to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 PM to 7:00 AM that exceeds 65 dBA Lmax or 45 dBA Leq as measured at or from the property line. Construction noise levels would reach 56 dBA Lmax at the nearest receptor during nighttime construction, which is below the 65 dBA Lmax noise level (**see Table 4.14-14**), and would not result in loud and unreasonable noise, consistent with the intent of the ordinance adopting the regulations. However, the temporary nighttime noise would result in 53 dBA Leq, which would exceed the Leq standard for the nighttime hours. The proposed facilities include improvements to the existing treatment facilities in order to provide additional agricultural irrigation water via the Castroville Seawater Intrusion Project, and commercial agricultural operations are exempt from the provisions of Section 10.60.040 of the County Code.

### **Treatment Facilities at Regional Treatment Plant**

New Advanced Water Treatment facilities are proposed for construction at the Regional Treatment Plant site in a northern portion of Monterey County, north of the city limits of Marina. As shown in **Table 4.14-14**, the source noise level would be attenuated due to distance, resulting in noise levels up to 39 dBA Leq at a distance of one mile and up to 38 dBA Leq at 5,400 feet, which are the distances to the closest sensitive receptors. Some of the proposed

construction equipment would result in noise levels at or above 85 dBA at 50 feet; however, no residences are within 2,500 feet of construction. Therefore, construction noise would be in conformance with the Monterey County Code Section 10.60.030. Section

Section 10.60.040 of the County Code applies to nighttime noise, in which it is prohibited to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 PM to 7:00 AM that exceeds 65 dBA  $L_{max}$  or 45 dBA  $L_{eq}$  as measured at or from the property line. Construction noise levels would reach 39 dBA  $L_{eq}$  and 35 dBA  $L_{max}$  at the nearest receptor during nighttime construction, which is below the 65 dBA  $L_{max}$  or 45 dBA  $L_{eq}$  noise levels (**see Table 4.14-14**), and would not result in loud and unreasonable noise, consistent with the intent of the ordinance adopting the regulations.

### *City of Marina*

Chapter 9.24 of the City of Marina Municipal Code establishes noise regulations within Marina. Pursuant to section 9.24.040.D, operation or use of a range of tools and power equipment is limited to between the hours of 7 AM and 7 PM on Monday through Saturday, and between the hours of 10 AM and 7 PM on Sundays and holidays, and when daylight savings time is in effect, until 8:00 PM. However, section 9.24.050 exempts activities on or in publicly owned property and facilities, or by public employees or city franchisees, while in the authorized discharge of their responsibilities, provided that such activities have been authorized by the owner of such property or facilities or its agent. Section 15.04.055 identifies the same time limits when construction that is adjacent to residential uses, including transient lodging. This section of the Municipal code further indicates that no construction, tools or equipment are allowed to produce a noise level of more than 60 decibels for 25% of an hour during construction at any receiving property line.

#### **Product Water Conveyance and Booster Pump Station**

Segments of both the RUWAP and Coastal Alignment recycled water pipeline routes would be located in the City of Marina. Construction would occur during two daytime shifts between 7:00AM and 8:00 PM, Monday through Saturday. Pipeline construction activities occurring within 350 feet (in either direction) of a sensitive receptor would yield noise levels greater than 70 dBA  $L_{eq}$  as shown on **Tables 4.14-15** and **4.14-16**. Additionally, the RUWAP Booster Pump Station would be located in the City of Marina. Maximum noise levels generated by structural work at the RUWAP Booster Pump Station option are calculated to reach 85 dBA  $L_{max}$  and 87 dBA  $L_{eq}$  during the loudest construction phase at a distance of 50 feet.

Noise within the City of Marina exceeding 60 dBA for 25% of an hour at any receiving residential property in Marina could conflict with the City of Marina Municipal Code. Additionally, the City of Marina limits construction to the hours of 7:00 AM and 7:00 PM on Monday through Saturday and between 10:00 AM and 7:00 PM on Sundays and holidays, except construction until 8:00 PM is permitted when daylight savings time is in effect.

Construction of the pipeline segments and booster pump station within the City of Marina could result in noise levels that exceed the levels specified in the City of Marina code (exceeding 60 dBA for 25% of an hour adjacent to residential uses). Therefore, construction activities could generate noise levels in excess of local standards, including established construction time limits, which is considered a significant impact. Implementation of Mitigation Measures NV-2a and NV-2b would reduce this impact to a less-than-significant level by ensuring that construction activities on pipeline segments within the City of Marina do not exceed 60 dBA for more than 25 percent of an hour, and by limiting construction hours within the City of Marina to those allowed under the City's noise regulations.

### *City of Seaside*

Chapter 9.12 of the City of Seaside Municipal Code establishes noise regulations within Seaside. Pursuant to section 9.12.030.D, operation or use of a range of tools and power equipment and any construction, demolition, excavation, erection, alteration, or repair activity is declared to be unlawful and a nuisance if it occurs before 7:00 AM or after 7:00 PM daily (except Saturday, Sunday, and holidays when the prohibited time shall be before 9:00 AM and after 7:00PM) unless authorized in writing by a building official. Section 9.12.040D exempts activities on or in publicly owned property and facilities, or by public employees or their franchisees, while in the authorized discharge of their responsibilities, provided that such activities have been authorized by the owner of such property or facilities or its agent or by the employing authority.

Seaside's Municipal Code Section 17.30.060 of Title 17 (Zoning Ordinance) establishes noise standards to implement policies of the Noise Element of the General Plan and provides noise mitigation standards that are intended to protect the community health, safety and general welfare by limiting exposure to the unhealthful effects of noise. No "use, activity, or process shall exceed the maximum allowable noise levels" established in this section, except for "construction, maintenance, and/or repair operations by public agencies and/or utility companies or their contractors that are serving public interest and/or protecting the public health, safety, and general welfare" (section 17.30.060B.3)..

#### **Product Water Conveyance and Booster Pump Station**

Segments of both the RUWAP and Coastal Alignment recycled water pipeline routes and Coastal Booster Pump Station would be located in the City of Seaside. Construction would occur during two daytime shifts between 7:00AM and 8:00 PM, Monday through Saturday. Pipeline construction activities occurring within 350 feet (in either direction) of a sensitive receptor would yield noise levels greater than 70 dBA  $L_{eq}$  as shown on **Tables 4.14-15 and 4.14-16**.

Daytime work shift times would violate Seaside regulations that prohibit construction after 7:00 PM and before 9 AM on Saturdays. Because the Proposed Project would be constructed on publicly owned property and would be undertaken by a public agency that is serving the public interest, the project would be exempt from the City of Seaside construction hours and noise standards.

#### **Injection Well Facilities Site**

The proposed new Injection Well Facilities would be located east of General Jim Moore Boulevard, south of Eucalyptus Road in the City of Seaside, and would include a total of eight injection wells (four deep injection wells, four vadose zone wells), monitoring wells, and backflush facilities. Construction would occur over a 21-month construction period, and 24 hours/7 days a week construction activities are anticipated to be required at times during construction. Monitoring well drilling would yield noise levels greater than 65 dBA  $L_{eq}$  at the nearest residence, as shown on **Table 4.3-18**.

Because the Proposed Project would be constructed on publicly owned property and would be undertaken by a public agency that is serving the public interest, the project would be exempt from the City of Seaside construction hours and noise standards.

### *City of Monterey*

The City of Monterey has not established quantitative construction noise limits. However, Section 38-112.2 of the City's Municipal Code limits construction to the following: Monday

through Friday between the hours of 7:00 AM and 7:00 PM, on Saturday between 8:00 AM and 6:00 PM, and on Sunday between 10:00 AM and 5:00 PM. Pursuant to this section, the City a permit may be issued by the Zoning Administrator for requests to conduct construction activity outside listed hours for unique circumstances.

### **Lake El Estero Diversion**

Construction of new facilities at Lake El Estero Diversion site would occur Monday through Saturday, 7 AM to 8 PM, and would take up to three months to complete. Construction activities after 7 PM would conflict with City regulations, although a permit may be issued by the Zoning Administrator for construction activities outside hours specified in the City's Municipal Code. Because the City of Monterey Municipal Code allows the Zoning Administrator to permit construction activity outside listed hours, the construction activities would not violate local regulations.

### **CalAm Distribution Pipelines**

The proposed pipelines would be constructed during daytime hours to the extent feasible. However, nighttime construction could be required for the Monterey Pipeline component in order to meet the project schedule. All nighttime construction work would be conducted only with prior approval from the relevant jurisdictions. Because the City of Monterey Municipal Code allows the Zoning Administrator to permit construction activity outside listed hours, the construction activities would not violate local regulations.

### ***Impact Conclusion***

Construction activities at some of the Proposed Project components could generate noise levels that are in excess of local standards and/or regulations, as summarized below. This would be considered a significant impact. No impacts would occur at the remainder of the Proposed Project sites.

- **Monterey County:** Construction at the Reclamation Ditch, Tembladero Slough and Blanco Drain Diversion sites could conflict with County Code Section 10.60.030 as some construction equipment could result in noise levels at or above 85 dBA at 50 feet and construction would occur within 2,500 feet of residences within the unincorporated area of the county. However, Mitigation Measure NV-2a requires that construction equipment have properly operating mufflers and stationary noise equipment be located as far as possible from sensitive receptors, consistent with County General Plan Policy S-7.10. Implementation of this measure would reduce noise levels to below 85 dBA at 50 feet, except potentially for the Tembladero Slough Diversion site.
- **City of Marina:** Construction of segments of the RUWAP and Coastal Alignment Product Water Conveyance Pipelines and the RUWAP Booster Pump Station could violate Municipal Code Section 15.04.055 as construction activities could exceed 60 dBA for 25% of an hour and construction would occur after 7 PM.

Mitigation Measure NV-2a would reduce construction noise and ensure compliance with Monterey County and City of Marina noise standards. Mitigation Measure NV-2b would limit evening construction times to those specified by the Marina City Code. These measures would reduce the impact from inconsistency with local noise regulations to a less-than-significant level, except for some potential construction noise at Tembladero Slough Diversion site.

### ***Mitigation Measures***

**Mitigation Measure NV-2a: Construction Equipment.** *(Applies to Reclamation Ditch Diversion, Tembladero Slough Diversion, Blanco Drain Diversion, Product Water Conveyance Pipeline (RUWAP and Coastal Alignments) segments within the City of Marina and RUWAP Booster Station)*

Contractor specifications shall include a requirement that the contractor shall:

- a. Assure that construction equipment with internal combustion engines has sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an un-muffled exhaust.
- b. Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be placed on the compressed air exhaust to lower noise levels by approximately 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- c. The construction contractor(s) shall locate stationary noise sources (e.g., generators, air compressors) as far from nearby noise-sensitive receptors as possible,
- d. For Product Water Conveyance pipeline segments within the City of Marina, noise controls shall be sufficient to not exceed 60 decibels for more than twenty-five percent of an hour,

**Mitigation Measure NV-2b: Construction Hours.** *(Applies to Product Water Conveyance Pipelines (RUWAP and Coastal Alignments) and RUWAP Booster Pump Station in the City of Marina)*

The construction contractor shall limit all noise-producing construction activities within the City of Marina to between the hours of 7:00 AM and 7:00 PM on weekdays and between 9:00 AM and 7:00 PM Saturdays, except that construction may be allowed until 8:00 PM during daylight savings time.

### **Impact NV-3: Construction Vibration. Construction of the Proposed Project would not expose sensitive receptors to excessive groundborne vibration. (Criteria b) (Less than Significant)**

To assess the potential for vibration to result in structural damage, Caltrans recommends a vibration limit of 0.5 in/sec PPV for structurally sound buildings that are designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened.

All buildings in the project vicinity appear to be structurally sound, but these buildings may or may not have been designed to modern engineering standards. To be conservative, vibration impacts would be considered significant if levels from proposed construction activities would exceed 0.3 in/sec PPV at nearby buildings. Vibration levels exceeding 0.3 in/sec PPV could result in cosmetic damage. No ancient buildings or buildings that are documented to be

structurally weakened are known to exist near the project component sites, except along segments of the CalAm Distribution System Monterey Pipeline in the vicinity of historic structures. Potential vibration significance criteria and impacts to historic structures are addressed in **Section 4.6, Cultural and Paleontological Resources**, of this EIR.

In areas near existing buildings, the construction methods for the Proposed Project include both open trench installation and trenchless construction methods. Open trench construction activities with the potential of generating perceptible vibration levels would include the removal of pavement and soil, and the compacting of backfill after the new pipeline is installed. Trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling would be employed where it is not feasible or desirable to perform open-cut trenching. **Table 4.14-20, Vibration Source Levels for Construction Equipment**, summarizes typical vibration levels associated with varying pieces of construction equipment at a distance of 25 feet.

A review of the proposed equipment and the vibration level data provided in **Table 4.14-20** indicates that, with the exception of impact or vibratory pile driving (not proposed as a construction technique for any project component), vibration levels generated by the proposed equipment would be below the 0.3 in/sec PPV criterion used to assess the potential for cosmetic or structural damage to buildings located beyond a distance of 25 feet. The nearest buildings would be a minimum distance of 25 feet from the work areas for all project components. Trenchless construction methods results in less vibration than open trench construction activities because the equipment used in these processes are not high-powered vibratory devices, and the depth of the underground tunnel increases the distance between the equipment and structures on the surface and reduces vibration. Therefore, construction related vibration would not be excessive at nearby land uses, resulting in a less than significant impact.

**Table 4.14-20**  
**Vibration Source Levels for Construction Equipment**

Equipment		PPV at 25 ft. (in/sec)
Pile Driver (Impact)	upper range	1.158
	typical	0.644
Pile Driver (Sonic)	upper range	0.734
	typical	0.170
Clam shovel drop		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003
Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Federal Transit Agency, Office of Planning and Environment, May 2006.		

### *Impact Conclusion*

The Proposed Project would not result in excessive construction-related vibration at any of the Proposed Project sites, resulting in a less-than-significant impact, and no mitigation measures would be required.

#### **4.14.4.5 Operation Impacts and Mitigation Measures**

**Impact NV-4: Operational Noise. Operation of the Proposed Project facilities would potentially increase existing noise levels, but would not exceed noise level standards and/or result in nuisance impacts at sensitive receptors. (Criteria a and c) (Less than Significant)**

The Proposed Project would not locate any above-ground facilities in areas with noise levels that exceed a noise-land use compatibility standard. As shown on **Table 4.14-5**, utilities are normally acceptable in areas where ambient noise levels are up to 70 dBA, Ldn or CNEL. All of the above-ground facilities would be located in areas where ambient noise levels are below this level. Thus, project operations would not expose employees to noise levels that exceed standards.

Sources of noise associated with the operation of the Proposed Project would include new pumps and other equipment at the Source Water Diversion and Storage Sites, the Regional Treatment Plant, the Salinas Pump Station, the Product Water Conveyance Booster Station, and the new Injection Well Facilities. No operational noise sources would result from the Product Water Conveyance Pipeline or CalAm Distribution Pipelines. Employee traffic and maintenance activities would not be considerable sources of noise for the following reasons:

- **Operational Traffic: Table 2-10, Overview of Typical Facility Operations – Proposed Project** of the Project Description provides a summary of operational trips anticipated for each of the various project components; these trips are a combination of employee commute trips, maintenance trips, and delivery of materials to the various pump stations and well sites. The project would generate up to 10 employee trips and 2 truck trips per day at the AWT facility and fewer trips at any other facility. Noise generated by employee and truck traffic would not be considerable due to the minor number of trips generated at any one facility. Generally, an increase in one

decibel would result from a significant number of trips (e.g., 26% more trips as compared to existing vehicle trips along a roadway). Thus, associated impacts not be perceptible and would be less than significant.

- **Maintenance Activities:** Noise that would be associated with plant, pipeline, and other facility maintenance would be short-term and infrequent resulting from activities that would not result in measureable increases of ambient noise levels in the surrounding area. Impacts related to project maintenance would be less than significant.

### *Source Water Diversion and Storage Sites*

#### **Salinas Pump Station Diversion**

New facilities at the Salinas Pump Station include diversion structures and short pipelines to re-direct urban runoff, storm water, and agricultural wash water to the Regional Treatment Plant for advanced water treatment. No new permanent noise-generating equipment, such as pumps, are proposed at this location and there would be no impact related to noise generated by Proposed Project operations at this site.

#### **Salinas Treatment Facility Storage and Recovery**

The Proposed Project includes improvements that would enable the agricultural wash water to be conveyed from the ponds at the Salinas Industrial Wastewater Treatment Facility to the Regional Treatment Plant for recycling. Components of the project include a new pump station, pipeline, on-site piping, SCADA, and a return with valve and meter vaults. No new operations/maintenance staff is expected. The only source of noise associated with this component of the project would be a new submersible pump installed in the wet well. The sound of the submersible pump would be attenuated at the water/air interface because the acoustical characteristics of water and air are different given that the density of water is so much greater than the density of air. The sound of the submersible pump would be barely audible just outside of the wet well. Operational noise levels would not make a measurable contribution to ambient noise levels at the nearest receptors approximately 2,500 feet southeast of the site. The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

#### **Reclamation Ditch Diversion**

New facilities at the Reclamation Ditch Diversion site east of Davis Road include improvements to divert water to the Regional Treatment Plant. Improvements include a wet well/diversion structure, connecting pipelines, flow meter and valve, electrical pump/cabinet, and concrete lining of channel banks. The only source of noise associated with this component of the project would be a new submersible pump installed in the wet well. The submersible pump and associated piping would be installed below grade and submersed in water. The sound of the submersible pump would be attenuated at the water/air interface because the acoustical characteristics of water and air are different given that the density of water is so much greater than the density of air. The noise from the new pump would be barely audible just outside of the wet well in the absence of traffic along Davis Road and inaudible at residences located approximately 1,000 feet away from the Davis Street site along West Market Circle (west), West Rossi Street (northwest), and Nacional Court (south). The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

#### **Tembladero Slough Diversion**

Improvements to divert water to the Regional Treatment Plant at the Tembladero Slough site include a wet well/diversion structure, connecting pipelines, flow meter and valves, electrical

cabinet, and concrete lining of channel banks. Similar to the Reclamation Ditch Diversion site east of Davis Road, the sound of the proposed submersible pump in the wet well would be barely audible just outside of the wet well in the absence of local traffic along Highway 1. Operational noise levels from new noise-generating equipment would not make a measurable contribution to ambient noise levels resulting from Highway 1 traffic at the nearest receptors along Watsonville Road (750 feet north of the project site) or Merritt Circle (850 feet east of the project site). The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

#### **Blanco Drain Diversion (Pump Station and Pipeline)**

The Blanco Drain Diversion includes improvements that would allow for the diversion of water to the Regional Treatment Plant for recycling. Components of the project include a wet well/diversion structure, flow meter, valves, and on-site surge tank, connecting pipelines, electrical cabinet, concrete lining of channel banks, and pipelines. The only source of noise associated with this component of the project would be a new submersible pump installed in the wet well. As noted above, the sound of the submersible pump would be attenuated and barely audible just outside of the wet well. Operational noise levels would not make a measurable contribution to ambient noise levels at the nearest receptors approximately 2,400 feet east-northeast of the site along Nashua Road. The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

#### **Lake El Estero Diversion**

New facilities at the Lake El Estero site include either an electrical pump or electrically operated motorized valve, and short connecting pipelines. The improvements would be housed within the existing lake management pump station structure or underground. The small diversion pump would be located within the pump vault that houses two larger pumps. The addition of the new pump would not measurably affect the noise emanating from the pump station, because the new pump would be used instead of the existing pumps. The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

#### ***Treatment Facilities at Regional Treatment Plant***

New facilities at the Regional Treatment Plant would include pre-treatment, the AWT Facility, product water pump station, and concentrate disposal facilities. As previously indicated, modifications to the existing Salinas Valley Reclamation Plant are proposed in order to enable increased use of tertiary treated wastewater for crop irrigation during winter months. The proposed modifications include new sluice gates, a new pipeline between the existing inlet and outlet structures within the storage pond, chlorination basin upgrades, and a new storage pond platform. All of the modifications would occur within the existing Salinas Valley Reclamation Plant footprint and would not include new sound-generating equipment.

The AWT Facility and concentrate disposal facilities (or brine mixing facility) would include several structures each. New pipes will be underground. The Product water pump station would be within a structure if not underground. The membrane filtration feed pumps may be in underground structure. The reverse osmosis feed pumps would be above ground but may be in an enclosure. In the analysis of operational noise, because mechanical equipment noise is constant, the  $L_{eq}$  noise level is used to assess operational noise against the relevant thresholds.

The proposed new AWT Facility would have a design capacity of between 3.5 and 4.0 million gallons per day (mgd) of product water. Noise resulting from new facilities would be generated from proposed stationary sources associated with facility operations, primarily electric water pumps. The estimated motor size for each pump is 400 hp or less. The pumps have an

estimated combined noise level of 108 dBA  $L_{eq}$  at a distance of 3 feet. Typical operating conditions would result in pump noise levels of approximately 85 dBA  $L_{eq}$  at 50 feet assuming the pumps were at grade and not inside an enclosure. There are no other known sources of noise that would measurably increase the noise levels generated by the pumps. A residence to the northwest is in Monterey County and residences to the southwest are in the City of Marina. Maximum noise levels generated by operations at the RTP would be 37 dBA  $L_{eq}$  at a distance of approximately 1 mile as summarized on **Table 4.14-21, Operational Noise Levels – Regional Treatment Plant**.

**Table 4.14-21****Operational Noise Levels – AWT at Regional Treatment Plant**

Operational Source	Receptors	Distance to Receptor	$L_{eq}$
Treatment Facilities at the Regional Treatment Plant (i.e., new pumps at the AWT and Brine Mixing Facilities)	Monte Road Residence	5,260 feet/1 mile (northwest)	37
	Cosky Drive Residences	5,400 feet (southwest)	37

Note: The noise attenuation rate is assumed to be approximately 7.5 dBA for each doubling of distance from the source where the distance is over fields.

Noise levels as a result of the operation of the new facilities at the RTP would not exceed the City of Marina or Monterey County noise standards at the nearest sensitive receptors. Noise levels would be substantially below ambient noise levels in the surrounding area, and plant operations would not result in an increase in ambient noise levels that would exceed local standards. The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

Section 10.60.040 of the County Code applies to nighttime noise, in which it is prohibited to make, assist in making, allow, continue, create, or cause to be made any loud and unreasonable sound any day of the week from 10:00 PM to 7:00 AM that exceeds 65 dBA  $L_{max}$  or 45 dBA  $L_{eq}$  as measured at or outside the property line. As indicated above, noise levels would reach 37 dBA at the nearest sensitive receptor, which is below the 65 dBA  $L_{max}$  or 45 dBA  $L_{eq}$  noise levels, and operations would not result in loud and unreasonable noise, consistent with the intent of the ordinance adopting the regulations. Furthermore, the proposed facilities include improvements to the existing treatment facilities in order to provide additional agricultural irrigation water via the Castroville Seawater Intrusion Project which is in direct support of commercial agricultural operations, which are exempt from the provisions of Section 10.60.040 of the County Code.

***Product Water Conveyance***

The proposed new Booster Pump Station would receive flow from the Product Water Conveyance Pipeline and pump the product water into one of the two proposed alternative alignments that merge to a single alignment along General Jim Moore Boulevard. One Booster Pump Station option would be located along the RUWAP Alignment in the City of Marina. The nearest sensitive receptors would be residents of the CSUMB campus housing located west of the pump station site and a classroom building southeast of the site.

Noise resulting from the Booster Pump Station would primarily result from the operation of electric water pumps. Two nominal 250 hp pumps would be installed, but only one pump would operate at any given time. The estimated operational noise level would be 93 dBA  $L_{eq}$  at a distance of three feet. Typical operating conditions would result in pump reference noise levels

of approximately 70 dBA  $L_{eq}$  at 50 feet assuming the pumps were at grade and not inside an enclosure. The additional attenuation provided by locating the pumps below ground and within an enclosure is conservatively estimated to be 20 dBA resulting in pump reference noise levels of approximately 50 dBA  $L_{eq}$  at 50 feet. The nearest sensitive receptors are residents of the CSUMB campus housing located west of the pump station site and a classroom building southeast of the site. Maximum noise levels generated by operations at Booster Pump Station RUWAP Option are calculated to result in noise levels of up to 31 dBA  $L_{eq}$  at a distance of 450 feet and up to 28 dBA  $L_{eq}$  at 650 feet, as indicated in **Table 4.14-22, Operational Noise Levels – RUWAP Booster Pump Station Option**.

Noise levels as a result of the operation of RUWAP Booster Pump Station Option would not exceed the City of Marina noise standards for daytime noise at the nearest classroom buildings or the daytime or nighttime noise standards at the campus housing. Operational noise levels would not result in a measurable contribution or increase to existing ambient noise levels at the nearest receptors.

**Table 4.14-22****Operational Noise Levels – RUWAP Booster Pump Station Option**

Operational Source	Receptors	Distance to Receptor	$L_{eq}$
RUWAP Booster Pump Station Option	Classroom Building	450 feet (southeast)	31
	Campus Housing (Strawberry Apartments)	650 feet (west)	28

The second Booster Pump Station option would be located on CSUMB property along the Coastal Alignment. There are no residential receptors in the vicinity of the site. A recreation area is located east of the Booster Pump Station site and a child development center is located about 875 feet northeast of the site. The recreation area is on CSUMB property within the City of Seaside while the project and child development center are within the City of Marina. Operational noise generation from the pump station would be the same as the RUWAP option. Maximum noise levels generated by operations at the Coastal Booster Pump Station Option are calculated to result in noise levels of up to 41 dBA  $L_{eq}$  at a distance of 750 feet and up to 40 dBA  $L_{eq}$  at 875 feet, as indicated in **Table 4.14-23, Operational Noise Levels – Coastal Booster Pump Station Option**.

**Table 4.14-23****Operational Noise Levels – Coastal Booster Pump Station Option**

Operational Source	Receptors	Distance to Receptor	$L_{eq}$
Coastal Booster Pump Station Option	Recreation Center	750 feet (east)	41
	Child Development Center	875 feet (northeast)	40

Noise levels as a result of the operation of the Coastal Booster Pump Station option would not exceed the City of Marina noise standards for daytime or nighttime noise. Operational noise levels would not make a measurable contribution to ambient noise levels at the nearest receptors. The impact related to noise generated by operations of the Product Water Conveyance system less than significant.

### *Injection Well Facilities*

The proposed new Injection Well Facilities would be located east of General Jim Moore Boulevard, south of Eucalyptus Road in the City of Seaside, and include up to eight injection wells (four deep injection wells, four vadose zone wells), monitoring wells, and back-flush facilities. Each injection well would be equipped with a well pump to back-flush the well. The estimated motor size for each pump is approximately 400 hp. The back-flush pumps are the only considerable source of noise from these facilities. The back-flushing rate would be approximately 2,000 gallons per minute (gpm) and would require a well pump and motor. Based on the experience of the Monterey Peninsula Water Management District in the operation of its nearby Aquifer Storage and Recovery wells, back-flushing of each injection well would occur about weekly and would require discharge of the back-flush water to a percolation pond, or backflush basin, with a capacity of about 300,000 gallons. At this back-flush rate, the pump would operate for about 150 minutes during the daytime.

The 400 hp back-flush pump has an estimated noise level 85 dBA  $L_{eq}$  at 50 feet assuming the pumps are at grade and not inside an enclosure. The nearest residences to the proposed Deep Injection Well 4 (DIW4) as shown on **Figure 4.14-1C, Sensitive Noise Receptors Near Project Facilities-Product Water Pipeline and Injection Well Site** are located 700 feet to the west in Seaside. The maximum noise level, generated by backflush operations at DIW4, is calculated to be 56 dBA  $L_{eq}$  and 46 dBA CNEL, as indicated in **Table 4.14-24, Operational Noise Levels – Injection Well Facilities**. The impact related to noise generated by operations of the Proposed Project at this site is less than significant.

**Table 4.14-24**

#### **Operational Noise Levels – Injection Well Facilities**

Operational Source	Receptors	Distance to Receptor	$L_{eq}$	CNEL
Backflush Pump	Residence near Gen. Jim Moore Blvd north of San Pablo Ave.	700 feet (west)	56	46
Noise levels as a result of the operation of the backflush pump at DIW4, as well as the remaining wells located further from receptors, would not exceed the City of Seaside noise standard of 65 dBA CNEL.				

### *CalAm Distribution Pipelines*

There are no pumps or emergency generators proposed as part of this project component. Therefore, there would be no impact related to noise generated by Proposed Project operations at this site.

#### *Impact Conclusion*

Operation at the Salinas Pump Station Source Water Diversion and the Product Water Conveyance and CalAm Distribution Pipelines would not result in operational noise impacts as no new permanent noise-generating equipment, such as pumps, is proposed at these locations. Operation at the remaining sites would generate operational noise levels at less-than-significant levels, and no mitigation measures are required.

#### 4.14.4.6 Cumulative Impacts

The geographic scope for cumulative impact analysis of noise and vibration effects consists of the Proposed Project component sites and the immediate vicinity around each of these sites, in which noise could combine with noise from the Proposed Project to adversely affect the same sensitive receptors. Based on the list of cumulative projects provided on **Table 4.1-2** (see **section 4.1**), relevant projects with potential noise impacts that could combine with noise impacts resulting from the Proposed Project are summarized below. Cumulative project locations are shown on **Figure 4.1.1**. The cumulative projects are cross-referenced (in parentheses) to the project number on **Table 4.1-2**.

The discussion of cumulative impacts is organized to address the combined impacts of the Proposed Project plus the MPWSP (with the 6.4 mgd desalination plant) and then to address the overall combined impacts of the Proposed Project and all relevant projects identified on **Table 4.1-2** for the cumulative analysis:

- *Combined Impacts of Proposed Project Plus MPWSP (with 6.4 mgd Desalination Plant)* (referred<sup>3</sup> to as the MPWSP Variant): The CalAm Monterey Peninsula Water Supply Project includes: a seawater intake system; a source water pipeline; a desalination plant and appurtenant facilities; desalinated water conveyance facilities, including pipelines, pump stations, a terminal reservoir; and an expanded ASR system, including two additional injection/extraction wells (ASR-5 and ASR-6 Wells), a new ASR Pump Station, and conveyance pipelines to convey between the well. The CalAm Distribution Pipelines (Transfer and Monterey) would be constructed for either the MPWSP or GWR projects. The overall estimated construction schedule for the Proposed Project could overlap for approximately 18 months (mid-summer 2016 through December 2017 during GWR construction). The cumulative impact analysis in this EIR anticipates that the Proposed Project could be combined with a version of the MPSWP that includes a 6.4 mgd desalination plant. Similarly, the MPSWP EIR is evaluating a “Variant” project that includes the proposed CalAm Facilities (with the 6.4 mgd desalination plant) and the Proposed Project. The impacts of the Variant are considered to be cumulative impacts in this EIR. The CalAm and GWR Facilities that comprise the MPSWP Variant are shown in **Appendix Y**.
- *Overall Cumulative Projects*: This impact analysis is based on the list of cumulative projects provided on **Table 4.1-2** (see **Section 4.1**). The overall cumulative impacts analysis considers the degree to which all relevant past, present and probable future projects (including the MPSWP (with the 6.4 mgd desalination plant) could result in impacts that combine with the impacts of the Proposed Project.

*Combined Impacts of Proposed Project Plus MPSWP (with 6.4 mgd Desalination Plant)*. Both the Monterey Peninsula Water Supply Project desalination plant and the Proposed Project Treatment Facilities at the Regional Treatment Plant would be located in the unincorporated area of Monterey within a distance of approximately 0.5 miles. Due to the distance between the two sites (at least 0.5 miles or about 2,600 feet), construction-noise impacts to sensitive receptors would only result from the construction source closest to the receptor. As discussed in this section, the Proposed Project construction at the Regional Treatment Plant would result in a

<sup>3</sup> The October 2012 Notice of Preparation of an EIR for the MPWSP describes an alternative to the MPWSP that would include a smaller desalination plant combined with the Proposed GWR Project (CPUC, 2012). Based on ongoing coordination with the CPUC’s EIR consultants, this alternative is referenced as the “Variant” and includes a 6.4 mgd desalination plant that was proposed by CalAm in amended application materials, submitted in 2013 to the CPUC (CPUC, 2013).

noise level of approximately 39 dBA  $L_{eq}$  at the closest receptor, which is about one mile from the construction site. The nearest sensitive receptor to the proposed desalination plant is about 0.5 mile west of the site, and construction noise would not combine with noise from the Proposed Project at that distance. Therefore, construction of these components would not result in a significant cumulative temporary noise impact.

The Transmission Pipeline component of the Monterey Peninsula Water Supply Project would be in the similar location as a segment of the Proposed Project Product Water Conveyance Coastal Alignment pipeline along the Transportation Agency's rail line corridor. Overlapping construction schedules in these locations could result in extended duration of construction-noise in any one location depending on the actual construction schedule. Given the limited area of the existing right-of-way to accommodate construction of two pipeline projects, it is likely that the two construction projects would not occur simultaneously. However, it would be expected that the overall construction duration could be extended with construction of two pipelines. The installation of both pipelines would occur in a similar amount of time (i.e., 250 feet per day), and even with two simultaneous or back-to-back construction schedules, construction duration in any one location would be less than two weeks. Thus, construction of the two pipelines in this location would result in a less-than-significant cumulative impact related to temporary construction-related noise increases at the nearest sensitive receptors.

Both the MPWSP and GWR projects include installation of new wells in the Seaside area. However, the well locations would be approximately 0.5 miles from each other. While each project would result in nighttime construction due to need to install wells on a continuous basis, the distance between the two construction sites would be far enough that there would be no cumulative noise impacts to the sensitive receptors closest to either construction site. Therefore, construction noise at either site would not combine to result in a significant cumulative construction noise impact.

Once constructed, no significant cumulative operational noise impacts would occur from the two projects due to the distance between the desalination plant and Regional Treatment Plant sites and distance to sensitive receptors. The pipelines of both projects would be underground and without noise-generating equipment. Therefore, the Proposed Project Conveyance pipelines and the MPSWP Transmission Pipeline would not generate significant cumulative noise and vibration during operations.

Thus, there would be no significant cumulative noise impacts resulting from the construction or operation of the two projects.

*Overall Cumulative Impacts.* None of the other identified cumulative projects would have overlapping short-term construction schedules that would result in cumulative construction noise and vibration impacts, except within the cities of Salinas and Marina. Cumulative development projects are summarized below by geographic area.

- Salinas Area – Salinas Pump Station Diversion and Salinas Treatment Plant sites. The pump station site is located within the City of Salinas, and the treatment plant site is located nearby within the unincorporated area of the county. No cumulative projects have been identified in the vicinity of these Project sites, except for several development projects along Highway 68 to the west of the project sites (#6,7,8) within the Monterey County area. The exact timing of construction is not known, but due to the distance from the Proposed Project sites (about three miles to #8 [Ferrini Ranch] as shown on **Figure 4.1-1**), there would be no overlapping cumulative impacts related to construction or operational noise or vibration in this area.

- The City of Salinas Solar Project (#34) includes construction of solar panels on approximately 18 acres at the existing Salinas Treatment Facility. The project would be constructed starting in 2015 and ending in 2016, which would not completely coincide with construction at the Salinas Pump Station Diversion site, which is planned to begin in the summer of 2016. Should an overlap of construction schedules occur, it is likely that the installation of the solar project would be nearing completion with the major noise-producing construction activities complete. Neither project at the Salinas Pump Station Diversion site would result in measurable increases in operational sound levels and would be located miles away from cumulative development projects along Highway 68. Therefore, no significant cumulative temporary construction or operational noise would occur in this area.
- Unincorporated Monterey County – Advanced Water Treatment Site and northern segment of the Product Water Conveyance Pipeline. Cumulative projects in the vicinity include two water projects (#1, #2) and a mixed-use project (#3).
  - The MPSWP Desalination Plant) (#1) would be located northwest of the existing Regional Treatment Plant site and is currently undergoing environmental review. As discussed above, noise from construction and operation of the MPSWP Desalination Plant and from construction and operation of the Facilities at the Regional Treatment Plant would not combine to create significant cumulative impacts due to the 0.5 mile distance between the construction sites, and the distance to sensitive receptors. Construction noise from simultaneous construction of the MPSWP Transmission Pipeline and the Proposed Project Product Water Conveyance (Coastal Alignment) could combine, but construction duration in any one location would be less than two weeks; therefore a significant cumulative impact would not occur.
  - The Salinas Valley Water Project Phase 2 (#2) would be located 1.6 miles from the Proposed Project Product Water Conveyance pipeline; the construction schedule for these proposed facility improvements would not coincide with the Proposed Project. Because the construction schedules do not coincide, no combined construction-related impacts would occur. The Proposed Project Conveyance pipelines would not generate noise and vibration during operations, and therefore would not contribute to any combined noise and vibration impacts during operation.
  - East Garrison Specific Plan (#3) at the former Fort Ord is a mixed-used development project, consisting of residential, commercial and institutional uses, planned for construction starting in 2014. The Proposed Project component closest to this project are facilities at the Regional Treatment Plant, which is located more than two miles from the East Garrison site. Due to the distance between the two sites, there would be no combined construction or operational noise impacts.
- City of Marina – Segments of the Product Water Conveyance Pipeline (both Alignments) and RUWAP Booster Pump Station. Cumulative projects in the vicinity include:
  - Two water projects - The Regional Urban Water Augmentation Desalination (#18) and a Recycle Project (#19), are both proposed by the Marina Coast Water District. Both projects would be located south of the

Regional Treatment Plant and north of the City of Marina. The Desalination project would be located on the Armstrong Ranch property. Both of these proposed projects are located in proximity to the RUWAP Product Water Conveyance alignment.

- California State University Monterey Bay (CSUMB) Projects – Student housing (#16) and an academic building (#17) are planned at the CSUMB campus in proximity to the proposed RUWAP Booster Pump Station location.
- Four development projects - The Dunes on Monterey Bay (#10) – a mixed-use residential, hotel, retail and office developments is scheduled for buildout in 2020 and an affordable housing project (#14) is estimated for construction in 2015. Another housing project (#15) and a mixed use project (#12) do not have an identified construction schedule.

Segments of the Product Water Pipeline (RUWAP option) would be in proximity to the proposed Marina Coast Water District Regional Augmentation Water Projects: Desalination (#18) and Recycled Water Project (#19). However, the construction schedule has not been identified for either of these projects, and no overlapping construction schedules are anticipated that would result in cumulative construction noise and vibration impacts. The Proposed Project Conveyance pipelines would not generate noise and vibration during operations, and therefore would not contribute to any combined noise and vibration impacts during operation.

Construction of segments of the proposed Product Water Conveyance Pipeline (RUWAP alignment option) and the RUWAP booster station would be in proximity to the planned CSUMB projects (#16, #17). According to the currently available information, the CSUMB housing project (#16) would be constructed prior to construction of the Proposed Project, and the timing of construction of the CSUMB academic building (#17) is not known. Accordingly, noise and vibration from construction of the CSUMB projects is not anticipated to combine with noise and vibration from construction of the Proposed Project. The Proposed Project Conveyance pipelines would not generate noise and vibration during operations, and therefore would not contribute to any combined noise and vibration impacts during operation.

A segment of the proposed Product Water Conveyance pipeline (Coastal alignment option) would be constructed west of The Dunes site (#10) that currently is under construction. Due to the daily extent of pipeline installation, there would be no combined construction noise impacts that would exceed two weeks in one location.

None of the other cumulative development projects identified above would result in substantial permanent operational noise impacts as most projects are residential, commercial and/or institutional land uses that would not result in substantial noise-producing equipment or uses. Thus, neither the proposed Product Water Conveyance Pipeline (either Coastal or RUWAP option) nor the RUWAP Booster Pump Station would contribute to a cumulative operational noise impact.

- City of Seaside – Segments of the Product Water Conveyance Pipeline, the Injection Well Facilities site and segments of the CalAm Distribution System pipelines would be located in Seaside. The following cumulative projects would be in the vicinity of the Proposed Project within the City of Seaside: the West Broadway Urban Village Specific Plan (#21); the Seaside Resort expansion (#22); Monterey Downs and Horse Park (#24); and the Seaside Groundwater Basin Aquifer Storage and Recovery Project (#27, #28) adjacent to the Injection Well Facilities, of which Phase 1 and Phase 2 were

completed in 2014. The schedule for construction of the West Broadway Urban Village Specific Plan, the Seaside Resort expansion, and Monterey Downs and Horse Park are unknown.

The southern segment of the Production Water Conveyance Pipeline (Coastal Alignment option) would be located approximately 1,000 feet east of the Fort Ord Dunes State Park Campground project site (#34). This project is scheduled for construction in 2015 prior to the start of construction of the GWR project. Furthermore, given this distance, any overlapping construction would not result in cumulative construction noise impacts as the two sites would be separated by distance and topographical changes. Furthermore, there are no sensitive noise receptors in the area of the campground development. Thus, there would be no cumulative construction noise and vibration impacts within the city of Seaside. None of the identified cumulative projects would result in permanent operational noise impacts. Thus, the operation of the Injection Well Facilities would not contribute to a cumulative operational noise impact.

- City of Monterey - Lake El Estero Water Source Diversion Site and CalAm Distribution Pipelines. These two Project sites are located within the City of Monterey. No cumulative projects have been identified in the vicinity of these Proposed Project sites with construction schedules known to overlap with construction of the Proposed Project. Thus, there would be no cumulative impacts related to construction or operational noise or vibration in this area.

#### *Cumulative Impact Conclusion*

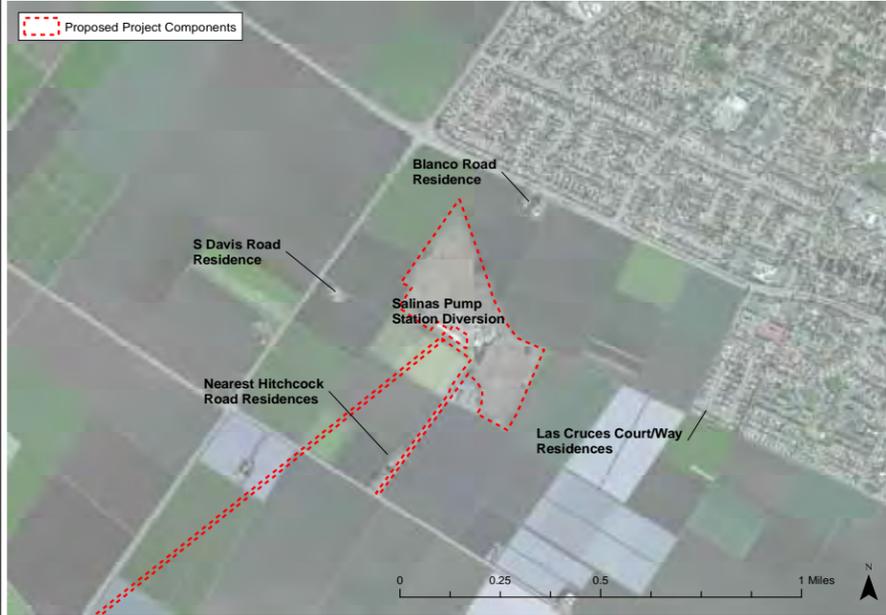
There would be no significant cumulative construction noise and vibration impacts to which the Proposed Project would contribute. Construction of the MPWSP Transmission Pipeline and GWR Product Water Conveyance Pipeline Coastal Alignment may have overlapping or close construction schedules, but due to the level of daily pipeline installation, cumulative construction noise impacts would not be significant. No cumulative noise impacts have been identified related to ongoing operation of cumulative projects.

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Salinas Pump Station Diversion



Salinas Treatment Facility



Reclamation Ditch Diversion



Tembladero Slough Diversion



Blanco Drain Diversion



El Estero Diversion



Source: Illingworth and Rodkin, 2014



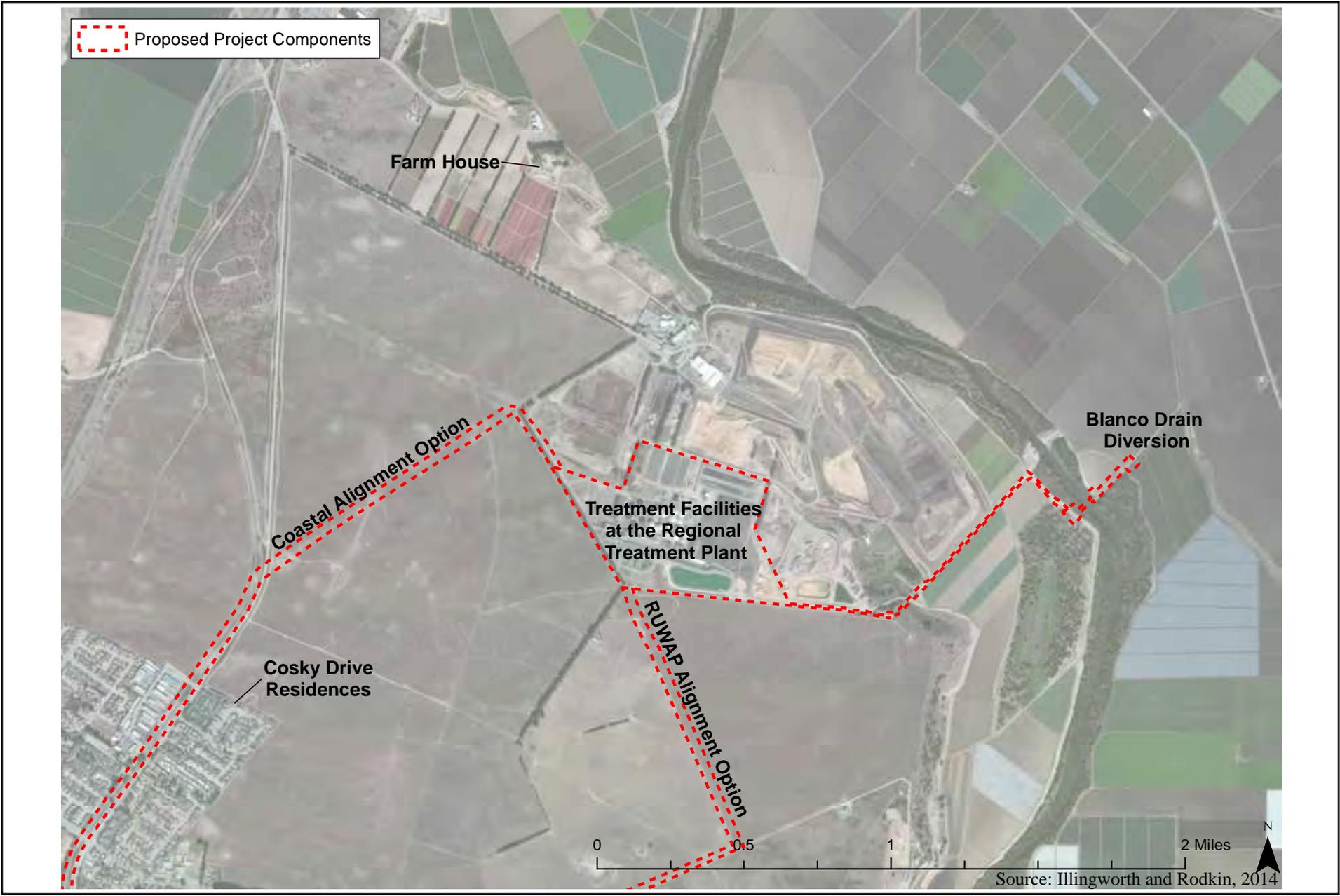
# Sensitive Noise Receptors Near Project Facilities - Source Water Storage and Diversion Sites

April 2015

Pure Water Monterey GWR Project  
Draft EIR

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4.14-1A

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Sensitive Noise Receptors Near Project Facilities - Treatment Facilities at Regional Treatment Plant

April 2015

Pure Water Monterey GWR Project  
Draft EIR

Figure  
4.14-1B



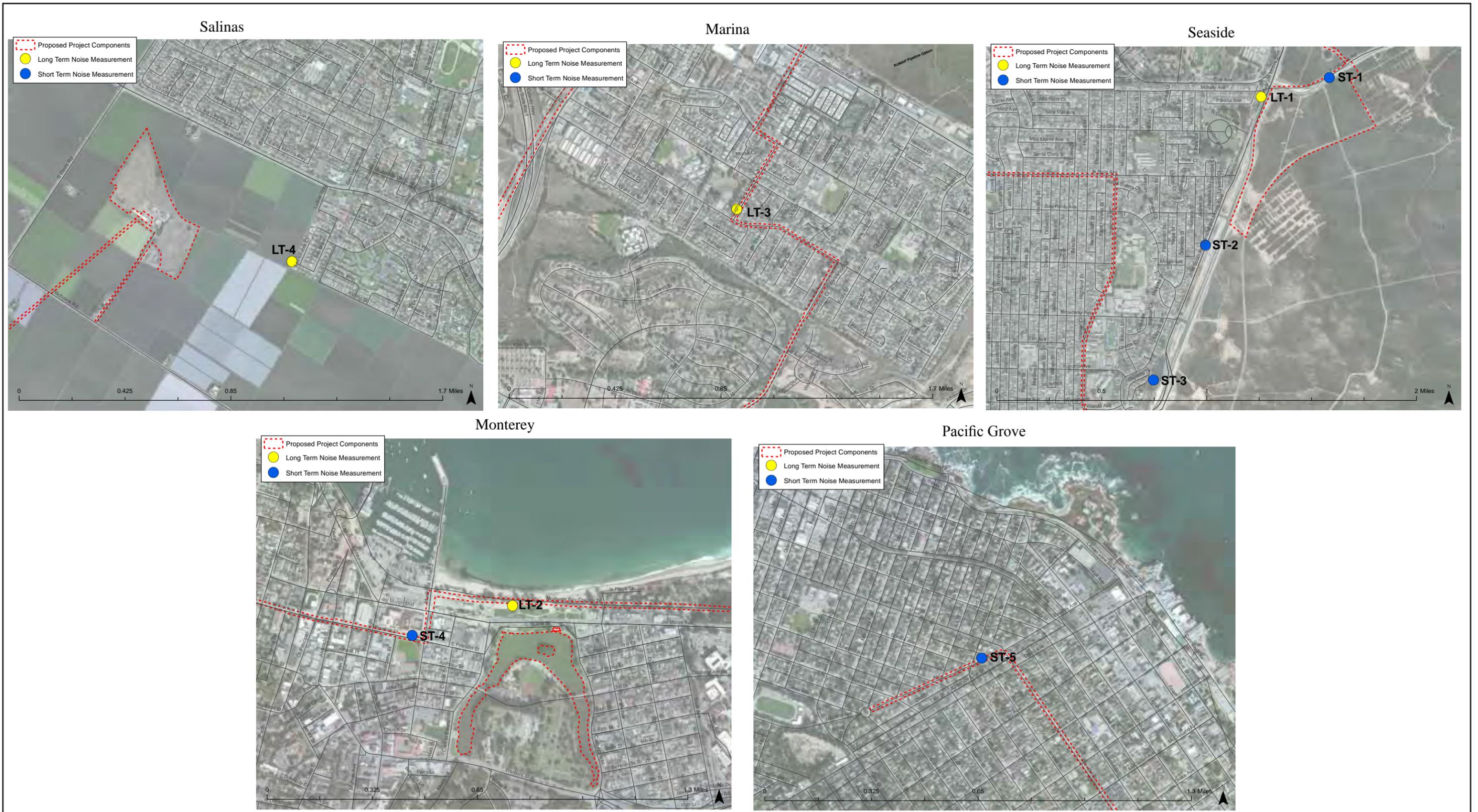
Source: Illingworth and Rodkin, 2014



Sensitive Noise Receptors Near Project -  
 Product Water Conveyance and Injection Well Site  
 April 2015

Pure Water Monterey GWR Project  
 Draft EIR

Figure  
 4.14-1C



Source: Illingworth and Rodkin, 2014



# Location of Noise Measurements

April 2015

Figure  
4.14-2

Pure Water Monterey GWR Project  
Draft EIR

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