

## 4.8 AIR QUALITY

### 4.8.1 INTRODUCTION

This section addresses the potential for the proposed project to impact air quality surrounding the project site. Following an overview of the existing air quality setting in **Subsection 4.8.2** and the relevant regulatory setting in **Subsection 4.8.3**, project-related impacts and recommended mitigation measures are presented in **Subsection 4.8.4**.

As explained in **Section 1.0**, the discussion and analyses in this SEIR tier from the information and conclusions included within the 2006 City of Hollister Domestic Wastewater System Improvement (DWSI) and San Benito County Water District Recycled Water Project (RWP) EIR (2006 EIR). The 2006 EIR described, in general, what potential environmental effects may be expected from the development of reclaimed water sites and the extension of water distribution pipelines, and how these impacts are to be addressed and/or mitigated. The 2006 EIR anticipated no significant and unavoidable air quality impacts resulting from implementation of the DWSI and RWP. Potential impacts relating to air quality were reduced to less than significant levels through implementation of mitigation measures. This section expands on the air quality impacts discussion of the 2006 EIR as it relates specifically to the development of reclaimed water irrigation sites and previously unassessed pipeline alignments.

### 4.8.2 ENVIRONMENTAL SETTING

The environmental setting for air quality is incorporated by reference from Section 4.8.2 of the 2006 EIR (refer to **Section 1.3** of this SEIR). An overview of regional and local conditions is provided below, as well as a summary of the attainment status and CEQA thresholds established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD).

#### **Regional Setting**

The project area is located within the North Central Coast Air Basin (NCCAB), which includes Santa Cruz, Monterey, and San Benito Counties. The project site is located within the portion of the Basin that is under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD).

Winds originating in the San Francisco Bay Area Air Basin often transport pollutants into the NCCAB, where surface winds move the pollutants to the eastern part of the NCCAB. The transport of pollutants can often cause exceedances of air quality standard in the NCCAB. The regional temperature averages in the low 70s (Fahrenheit) for highs and the middle 40s for lows. Precipitation averages approximately 12.31 inches per year (1949 to 2006) (Western Regional Climate Center, 2007).

#### **Local Air Quality Conditions**

The U.S. Environmental Protection Agency (EPA) has identified six criteria air pollutants (CAPs) that are both common and detrimental to human health. These CAPs are used as indicators of regional and local air quality. The six CAPs include: ozone (O<sub>3</sub>), carbon monoxide (CO), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>). The area monitored by the MBUAPCD, including

the project site, is in non-attainment for O<sub>3</sub> (8-hour and 1-hour standard) and PM<sub>10</sub> according to the California Ambient Air Quality Standards (CAAQS) (**Table 4.8-1**). All other pollutants are considered in attainment (or unclassified) under the CAAQS and National Ambient Air Quality Standards (NAAQS).

**TABLE 4.8-1. MBUAPCD ATTAINMENT STATUS**

Pollutant	State Status	Federal Status
Ozone (O <sub>3</sub> ) - 1- hour	Non-attainment	–
Ozone (O <sub>3</sub> ) - 8- hour	Unclassified/Attainment	Unclassified/Attainment
Respirable Particulate Matter (PM <sub>10</sub> )	Non-attainment	Unclassified/Attainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Attainment	Unclassified/Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Unclassified/Attainment
Lead (Pb)	Attainment	–
Source: CARB, 2006		

### **CEQA Thresholds**

The MBUAPCD provides project-level California Environmental Quality Act (CEQA) thresholds in the district's 2004 CEQA Air Quality Guidelines. The MBUAPCD has set emission thresholds for ROG and NO<sub>x</sub> at 137 pounds per day and for PM<sub>10</sub> at 82 pounds per day.

### **Sensitive Receptors**

Sensitive receptors are generally defined as land uses that house people who are susceptible to experience adverse impacts from air pollution emissions and, as such, should be given special consideration when evaluating air quality impacts from projects. Sensitive receptors include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. Sensitive receptors in the vicinity of project site include residential housing, schools, and health care facilities.

R.O. Hardin Elementary School, located at 881 Line Road, Hollister, California is the closest school to the project site at over 4,600 feet away. San Benito Health Foundation located at 351 Felice Drive, Hollister, California is the closest medical facility to the project site at 4,500 feet away. Residential houses are sparse along the project corridors; however they can be as close as 600 feet to the project site. There are no other types of sensitive receptors within a 5-mile radius of the project corridor.

## **4.8.3 REGULATORY SETTING**

A description of the regulatory setting is incorporated by reference from Section 4.8.1 the 2006 EIR (refer to **Section 1.3** of this SEIR). Section 4.8.1 of the 2006 EIR provides a description of the following:

- Federal Clean Air Act
- California Clean Air Act
- Monterey Bay Unified Air Pollution Control District Air Quality Standards
- San Benito General Plan
- City of Hollister General Plan

Supplemental regulatory information applicable to the development of the proposed reclaimed water irrigation sites is provided below.

## **Asbestos – NESHAPS**

The demolition, renovation, or removal of asbestos-containing materials is subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as listed in the Code of Federal Regulations (40 CFR Part 61, Subpart M), requiring notification and inspection. The appropriate regulatory agency must be notified before any demolition takes place, even if no asbestos is present at the site. The appropriate regulatory agency for the proposed project is the MBUAPCD. Also, all demolitions and renovations are “subject” to the Asbestos NESHAP insofar as owners and operators must determine if and how much asbestos is present at the site.

Asbestos NESHAP regulations must be followed for demolitions of facilities with at least 15 square meters (160 square feet) of regulated asbestos-containing materials on facility components, or at least one cubic meter (35 cubic feet) of facility components where the amount of Regulated Asbestos-Containing Material (RACM) previously removed from pipes and other facility components could not be measured before stripping. The NESHAP regulations cover demolition and renovation projects and require that the owner/operator thoroughly inspect the facility for asbestos prior to the start of demolition or renovation and require that all regulated asbestos-containing material be properly removed prior to the start of demolition or renovation. All individuals who inspect for asbestos develop management plans, and conduct abatement work must be certified per the Asbestos Hazard Emergency Response Act (AHERA).

## **Climate Change**

### **Executive Order S-3-05 (EO S-3-05)**

EO S-3-05 was signed by the Governor on June 1, 2005. EO S-3-05 established the following statewide emission reduction targets:

- Reduce Greenhouse Gas (GHG) emissions to 2000 levels by 2010,
- Reduce GHG emissions to 1990 levels by 2020, and
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

EO S-3-05 created a “Climate Action Team” or “CAT” headed by the California Environmental Protection Agency and including several other state agencies. The CAT is tasked by EO S-3-05 with outlining the effects of climate change on California and recommending an adaptation plan. The CAT is also tasked with creating a strategy to meet the emission reduction target required by the EO. In April 2006 the CAT

published an initial report that accomplished these two tasks and in April 2007 CAT published there report, which contains additional strategies.

### **Assembly Bill 32**

Signed by the Governor on September 27, 2006, Assembly Bill (AB) 32 codifies a key requirement of EO S-3-05, specifically the requirement to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 tasks California Air Resource Board (CARB) with monitoring state sources of GHGs and designing emission reduction measures to comply with the law's emission reduction requirements. However, AB 32 also continues the CAT's efforts to meet the requirements of EO S-3-05 and states that the CAT should coordinate overall state climate policy.

In order to accelerate the implementation of emission reduction strategies, AB 32 requires that CARB identify a list of discrete early action measures that can be implemented relatively quickly. In October 2007, CARB published a list of early action measures that it estimated could be implemented and would serve to meet about a quarter of the required 2020 emissions reductions (CARB, 2007a). In order to assist CARB in identifying early action measures, the CAT published a report in April 2007 that updated their 2006 report and identified strategies for reducing GHG emissions (CAT, 2007). In its October 2007 report, CARB cited the CAT strategies and other existing strategies that may be utilized in achieving the remainder of the emissions reductions. AB 32 requires that CARB prepare a comprehensive "scoping plan" that identifies all strategies necessary to fully achieve the required 2020 emissions reductions. According to AB 32 this scoping plan must be in place no later than January 1, 2009. CARB has initiated preparation of the scoping plan and plans on adopting a final plan in late 2008 (CARB, 2007b).

~~Approved by the state legislature in 2006, California Assembly Bill 32 (AB 32) requires that greenhouse gas (GHG) emissions within the State be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in beginning in 2012. In order to effectively implement the cap, CARB is currently developing regulations to require reporting and verification of the statewide GHG emissions by significant source emitters of GHG. Examples of significant source emitters are electrical plants, large planned developments (>5,000 units), and manufacturing processes (Varenchik, 2007). Monitoring and enforcement of the program is the responsibility of CARB. CARB has not yet implemented any regulations regarding GHG. As of September 7, 2007 CARB has published 44 discrete early action measures as proposed by the Environmental Justice Advisory Committee on the Implementation of AB 32 (CEPA, 2007).~~

## **4.8.4 IMPACT ANALYSIS**

### **Thresholds of Significance**

Criteria for determining the significance of impacts to air quality have been developed based on Appendix G of the CEQA *Guidelines* and City thresholds. For the purposes of this SEIR, impacts to air quality are considered significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan;

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase in any criteria air pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people

## Methods and Assumptions

This section identifies impacts to air quality that could occur from construction and/or operation of the proposed project. Impacts to air quality were analyzed based on a survey of the project site, published information regarding regional and local air quality, and comparison of these factors to the significance criteria. URBEMIS 2002, a CARB approved air modeling program, was used to estimate the overall emissions for the project. The project consists of five potential pipeline alignments of the following lengths:

Site 1 - Hollister Municipal Airport (S1)	21,000 feet
Site 2 - Brookhollow Ranch (three options)	
Alignment A	12,000 feet
Alignment B	31,600 feet
Alignment C	4,900 feet
Site 3 - IWTP/Riverside Park (S3)	7,200 feet
Site 4 - Pacific Sod Farm (S4)	6,400 feet
Site 5 - San Juan Golf Course (S5)	15,200 feet

Although only necessary pipeline alignments will be constructed and development of alignments will not necessarily occur simultaneously, it is assumed for the purpose of analysis that all five alignments would be constructed concurrently. The longest option for Site 2 was used in the estimation of the disturbed area. A trench width of 3 feet is assumed for estimating ground disturbance; therefore, the total disturbed project area is estimated at 5.6 acres.

Mitigation measures identified in the 2006 EIR are assumed to be implemented as a component of the proposed project. The 2006 EIR identified mitigation measures applicable to the development of reclaimed water irrigation areas that would reduce potential air quality impacts addressed below. This measure is presented in **Appendix C**.

- **2006 EIR MM 4.8.1:** Implementation of the Best Management Practices (BMPs) would control fugitive dust generation during construction and site grading. Implementation of these measures would ensure that construction-related fugitive dust emissions are minimized. BMPs would as reduce impacts from PM<sub>10</sub>, ROG and NO<sub>x</sub>.

## Effects Found Not to be Significant

The Initial Study found that the proposed project facilities would not create any objectionable odor that would affect a substantial number of people. This effect is therefore not considered within this SEIR.

## Impact Statements and Mitigation Measures

**IMPACT 4.8-1. Construction of the reclaimed water pipelines would generate NO<sub>x</sub>, ROG, and PM<sub>10</sub> emissions, which could violate regional air quality standards, conflict with current SIPs, or result in cumulative considerable net increase in any criteria pollutants.**

**Sites 1-5** Installation of the recycled water pipelines would generate PM<sub>10</sub>, NO<sub>x</sub>, and ROG emissions from construction/excavation activities and vehicle/equipment operation.

Sources of PM<sub>10</sub> emissions include equipment and vehicle exhaust, grading and earth moving activities, and wind erosion from exposed surfaces. Under worst-case scenario, assuming full build out of all recycled water pipelines, the project would result in disturbance of approximately 6.8 acres of land during a nine-month construction period. Excavation and fill volumes are expected to roughly balance. Sources of NO<sub>x</sub> and ROG are exhaust from heavy equipment, material delivery vehicles, and worker trips to and from the construction site.

As required by the 2006 EIR MM 4.8-1, air quality BMPs would be implemented during construction to reduce overall emissions. **Table 4.8-2** compares mitigated project emissions to MBUAPCD CEQA thresholds. URBEMIS 2002 output files are included as **Appendix M**.

**TABLE 4.8-2. MITIGATED CONSTRUCTION EMISSIONS**

Construction	ROG	NO <sub>x</sub>	PM <sub>10</sub>
	pounds per day		
Mitigated 2008	9.01	58.55	28.05
Mitigated 2009	9.01	56.72	27.91
<b>Mitigated Total Emissions</b>	<b>18.02</b>	<b>115.27</b>	<b>55.96</b>
<i>CEQA Thresholds</i>	<i>137</i>	<i>137</i>	<i>82</i>
<b>Exceed Thresholds</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Source: URBEMIS 2002 air modeling program; AES, 2007

As shown in the table, with implementation of mitigation measures recommended in the 2006 EIR, project emissions would be less than the MBUAPCD CEQA thresholds; therefore, the proposed project would not violate or contribute to any air quality standards, conflict with any air quality plan, or cumulatively increase NO<sub>x</sub>, ROG, and PM<sub>10</sub>. Impacts would therefore be less than significant with implementation of 2006 EIR MM 4.8.1. **Less than Significant with Mitigation.**

**IMPACT 4.8-2. Construction of the proposed project could temporarily expose sensitive receptors to substantial concentration of pollutants.**

**Sites 1-5** Construction activities of the proposed project will often occur near sensitive receptors, in some cases residences are located as close as 600 feet from residences along the project pipeline corridors. However, trenching activities for the recycled water pipelines will move approximately 100 to 200 feet per day, limiting each receptor's close exposure to no more

than one week. NO<sub>x</sub>, ROG, and CO dissipate rapidly so there would be no buildup of these pollutants within the immediate vicinity of construction. PM<sub>10</sub> is a area pollutant and can concentrate without proper mitigation measures. The proposed project would temporarily expose sensitive residential receptors to increased pollutants during construction. This is considered a potentially significant impact. However, with the implementation of 2006 EIR MM 4.8.1, PM<sub>10</sub> emissions would be below the MBUAPCD CEQA thresholds. Therefore, impacts would be reduced to less than significant. **Less than Significant with Mitigation.**

**IMPACT 4.8-3. Short-term construction activities associated with grading and earth moving at potential reclamation sites would result in the generation of ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions.**

**Sites 1-3** Grading, earth moving, and demolition activities are expected to be required during construction of the proposed reclaimed water irrigation systems at Sites 1, 2, and 3. Using a conservative estimate that 20 percent of Sites 1 and 2 would be disturbed due to the development of perimeter ditches and facilities, and the entire area at Site 3 would be disturbed, then the total potential area of disturbance is 93 acres. Grading and earth moving activities are assumed to occur at a rate of 10 acres per day. Additionally, there could be up to a total of 200,000 cubic yards of fill delivered to Site 3 from excavation activities at the DWTP. URBEMIS 2002 air quality computer program was used to estimate emissions from the import of fill, grading, and demolition activities. URBEMIS output files are shown in **Appendix M**. The URBEMIS air model assumes a haul-truck of 20 cubic yard and a maximum round trip haul distance of 5.0 miles. It is assumed for this analysis that all grading and earth moving activities to the reclamation sites would occur simultaneously. **Table 4.8-3** provides a breakdown of unmitigated and mitigated emissions expected to result from grading and earth moving activities. Implementation of 2006 EIR MM 4.8.1 would mitigate grading and earth moving emissions to below CEQA thresholds.

NO<sub>x</sub>, ROG, and PM<sub>10</sub> emissions from grading, earth moving, demolition activities at the potential reclaimed water irrigation areas do not exceed the MBUAPCD CEQA thresholds; therefore, the impact from grading and earth moving activities is considered to be less than significant. **Less than Significant with Mitigation.**

**TABLE 4.8-3 MITIGATED GRADING, EARTH MOVING, AND DEMOLITION EMISSIONS**

Grading and Earth Moving	ROG	NO <sub>x</sub>	PM <sub>10</sub>
	pounds per day		
Unmitigated 2008	13.28	104.05	103.83
Mitigated 2008	13.28	83.27	31.55
<i>CEQA Thresholds</i>	<i>137</i>	<i>137</i>	<i>82</i>
<b><i>Exceed Thresholds</i></b>	<b><i>NO</i></b>	<b><i>NO</i></b>	<b><i>NO</i></b>

Source: URBEMIS 2002 air modeling program; AES, 2007

**Impact 4.8-4 Demolition of the buildings on Site 2 may contain asbestos, which could contain friable asbestos.**

**Site 2** Site 2 would entail the demolition of existing buildings. Buildings built before 1982 have the potential to contain asbestos materials. When a building is demolished there is a potential to create airborne asbestos fibers, if adequate control techniques are not implemented when the material is disturbed. This would pose serious health concerns. As noted above, demolition activities associated with Site 2 would be subject to NESHAP regulations for asbestos removal as promulgated under the authority of the MBUAPCD. Strict compliance with NESHAP regulations, through MBUAPCD Rules 424 and 306, would result in a less than significant level of construction-related airborne asbestos. **Less than Significant.**

**IMPACT 4.8-5. Operation of the proposed project would generate NO<sub>x</sub>, ROG, and PM<sub>10</sub> emissions, which could violate regional air quality standard, conflict with current SIPs, or result in cumulative considerable net increase in any criteria pollutants.**

**Sites 1-5** Operational activity will be limited to inspection and maintenance of the pipeline system. Operational activities are expected to create minimal new vehicle trips, as these activities will incorporate into the City of Hollister Domestic Wastewater Treatment Plant (DWTP) normal operations. Additionally, the project may develop several pump stations that would be powered by electricity and therefore would not directly emit ROG, NOX, and PM<sub>10</sub>. The pollutants that would be emitted during the operation of the proposed project would be negligible. Thus, the proposed project would have a less than significant impact to air quality. **Less than Significant.**

**IMPACT 4.8-6. Construction and operation of the proposed project would increase emissions of greenhouse gases, potentially contributing to the effects of global climate change.**

**Sites 1-5** AB 32 requires that California's GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on emissions of carbon dioxide, methane, and other heat-trapping pollutants that will be phased in beginning in 2012. In order to effectively implement the cap, AB 32 requires that CARB develop and adopt regulations that would require reporting and verification of the statewide GHG emissions. Monitoring and enforcement of the program will also be the responsibility of CARB. It is anticipated that these standards will be developed and approved in 2009 and include the 44 early action measures; however, regulations would not become effective until 2012. ~~Because reduction goals have yet to be adopted, there~~ There is currently no consistent or accepted means of determining whether a project will exceed established CEQA thresholds of significance for air quality with regard to GHG emissions. Therefore, the significance of project related GHG emissions is measured through an analysis of the project's consistency with applicable CAT strategies that have been developed to assist in achieving the emission reduction goals of AB 32.

Construction GHG emissions would be temporarily generated through construction activities. Cumulative emissions of GHGs have the potential to contribute to global warming effects; however due to the temporary nature of construction activities there would be a less than significant impact to global climate. Additionally, operational emissions associated with maintenance activities would be intermittent and relatively minor; therefore this impact is considered less than significant. **Less than Significant.** Construction emissions have been estimated using URBEMIS 2007. CO<sub>2</sub> emissions for construction activities were estimated at 477 tpy and would only be emitted in 2008.

Additionally, long-term GHG emissions would be generated through the operation of proposed electric pumps for distribution of reclaimed water and maintenance vehicle trips. Operational emissions have been estimated using URBEMIS 2007 air quality program and emissions factors from the Climate Change Action Registry (2007) and USEPA. **Table 4.8-4** shows operational GHG emissions from mobile sources to be 0.64 tpy of CO<sub>2</sub>e. Indirect emission sources, which include the electric distribution pumps, would emit 8.73 tpy of CO<sub>2</sub>e. The total GHG emissions are 9.37 tpy of CO<sub>2</sub>e. Operational GHG emissions would be 0.0000017 percent of California's GHG emissions and 0.000000011 percent of global GHG emissions.

GHG emissions have the potential to contribute to climate change effects. Under AB 32 California has committed to reducing GHG emissions to 1990 levels; however, this bill recognizes the need for continued upgrades to public services. The 2007 CAT report outlines a Water Efficiency Strategy. This strategy estimates that transporting, treating and using water and wastewater currently accounts for 19 percent of all electricity usage, 30 percent of all natural gas usage, and 88 million gallons of diesel per year. The proposed project would result in the development of infrastructure for the beneficial reuse of reclaimed water which would assist in water conservation, and thus would be consistent with the applicable CAT strategy; therefore, this impact is considered less than significant. **Less than Significant.**

**TABLE 4.8-4 OPERATIONAL GHG EMISSIONS**

<b>CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O Emission from Mobile Sources<sup>1</sup></b>					
<b>Emission Factor (CO<sub>2</sub>/ CH<sub>4</sub>/ N<sub>2</sub>O)</b>	<b>Miles Traveled<sup>2</sup></b>	<b>CO<sub>2</sub> Emissions</b>	<b>CH<sub>4</sub> Emissions</b>	<b>N<sub>2</sub>O Emissions</b>	<b>Total CO<sub>2</sub>e</b>
<b>g/mile</b>	<b>miles/day</b>	<b>tons per year</b>			
552.08/0.05/0.05	2	0.64	0.00	0.00	0.64
<b>Indirect GHG emissions<sup>1</sup></b>					
<b>Emission Factor (CO<sub>2</sub>/ CH<sub>4</sub>/ N<sub>2</sub>O)</b>	<b>Estimated kW-h Usage<sup>3</sup></b>	<b>CO<sub>2</sub> Emissions</b>	<b>CH<sub>4</sub> Emissions</b>	<b>N<sub>2</sub>O Emissions</b>	<b>Total CO<sub>2</sub>e</b>
<b>lb/MW-h</b>	<b>MW-h/year</b>	<b>tons per year</b>			
804.54/0.006/0.0037	47.2	8.73	0.00	0.00	8.73
<b>Total GHG Emissions</b>					
<b>tons per year of CO<sub>2</sub>e</b>					
<b>9.37</b>					

Notes: <sup>1</sup> Emission factors from Climate Change Action Registry

<sup>2</sup> Miles per day based on 20 mile round trip per week

<sup>3</sup> Estimated using 47.2 megawatts of power usage (RCM Water and Environment, 2007)

Source: URBEMIS, 2007; Climate Change Action Registry, 2007.