

**ATTACHMENT 3:
AIR QUALITY
CONFORMITY ANALYSIS**

June 14, 2007

Tania Treis
MHA Environmental Consulting
4 West Fourth Avenue, Suite 303
San Mateo, CA 94402

SUBJECT: Grass Valley WWTP Upgrades – CAA Conformity Applicability

Dear Tania:

The Grass Valley Wastewater Treatment Plant upgrades would result in air pollutant emissions during the construction period. Because the project would receive federal funds and it is in an area designated as non-attainment for ozone, an evaluation of project air pollutant emissions was conducted.

Clean Air Act General Conformity to the SIP

The Federal Clean Air Act (CAA) requires that the California Air Resources Board (CARB), based on air quality monitoring data, designate portions of the state where the national ambient air quality standards are not met as “nonattainment areas”. The western part of Nevada County, which includes Grass Valley, does not meet national ambient air quality standards for ozone. The U.S. EPA has classified the area as “Basic” nonattainment for ozone and attainment or unclassifiable with respect to the national air quality standards for all other pollutants. The U.S. EPA requires states that have areas that are not in compliance with the national ambient air quality standards to prepare and submit air quality plans showing how the standards would be met. These plans are referred to as the State Implementation Plan (SIP).

The EPA’s Conformity Rule, as promulgated in 40 CFR Part 93 Subpart B, and 40 CFR Part 51, Subpart W, implements the conformity requirements of Section 176(c) of the 1990 Amendments to the Federal Clean Air Act. Conformity to the SIP is defined in the CAA as requiring all federal agencies to ensure that any agency activity conforms to an approved SIP in non-attainment or maintenance areas. The General Conformity Rule requires that the total of direct and indirect emissions of nonattainment or maintenance area criteria pollutants, including ozone precursors (reactive organic gases and nitrogen oxides), be considered in determining conformity.

Federal actions, such as SRF projects, that take place in a nonattainment or maintenance area are subject to a General Conformity evaluation. This determination can take one of three forms: (1) If the action meets certain criteria, it may be specifically exempted, regardless of whether the action would emit pollutants of concern; (2) if the action is determined to emit pollutants below specified “de minimis” thresholds and the potential emission levels are not regionally significant (less than 10 percent of the region’s emissions for a particular pollutant), the action can be

assumed to conform with the SIP; and (3) for actions that do not fall under either of these two categories, a complete conformity determination must be made. Specifics of this process are listed in 40 CFR 93, Subpart B.

CAA General Conformity “de minimis” Thresholds

An evaluation of General Conformity applicability to the project was conducted since this is a SRF-funded projects in an area designated non-attainment for the national ozone standard. Elevated ozone levels are caused by emissions of reactive organic gases (ROG) and nitrogen oxides (NOx). Emissions of these air pollutants caused by the project would be considered to require a formal conformity determination if annual emissions exceed the EPA’s General Conformity thresholds (40 CFR Part 93 Subpart B, Section 93.153) or exceed 10% of the areas inventory for ozone precursor air pollutants. The conformity “de minimis” thresholds applicable to the western Nevada County are:

- 100 tons per year for NOx
- 100 tons per year for ROG

These thresholds are well below 10% of the areas specified inventory for ozone precursor pollutants¹, and therefore, are used to judge the applicability of General Conformity to the project.

Project Emissions

Operation of the project would result in no additional operational emissions. The project would not increase capacity of the existing plant. Construction activities associated with the Grass Valley WWTP Denitrification and UV Disinfection project would result in the highest annual emissions. These construction activities would affect a small area of the treatment plant (i.e., about 0.1 acres). Construction activities would include demolition of existing structures, some minor grading, and construction of the project. Primary sources emitting ozone precursor air pollutants would be operation of off-road diesel-powered construction equipment, truck trips, and worker trips. A preliminary description of the construction activities was obtained and used to predict emissions of ozone precursors. This description of activities provided by Carollo Engineers is included as Attachment 1.

Construction activities are expected to occur over 12 months. During this period, a combination of cranes, backhoes, front-end loaders, dump trucks, pavers and haul trucks would be used. Construction would occur about 8 hours per day, with equipment operating an average of 7 hours per day. There would be import of concrete and some fill. Demolition and excavation materials would be removed by dump truck.

Emissions from construction activities were estimated using CARB’s off road emission factors. The factors used represent average fleet emission factors for the specific type of equipment. The associated usage factor reported by CARB for that equipment was also applied to the emissions

¹ According to the CARB 2005 Emission Inventory for Nevada County, ROG and NOx emissions are 13.8 and 9.0 tons per day.

factors. The off-road emission factors were obtained from the Construction Mitigation Calculator (version 6.03) developed by the Sacramento Metropolitan Air Quality Management District². Construction period emissions, reported in Table 1, are well below the CAA General Conformity “de minimus” thresholds and would not be regionally significant. Thus, the proposed project is “de minimis” and is exempt from further conformity requirements. The worksheets developed to calculate these emissions are included as Attachment 2.

Table 1
Maximum Daily and Total Annual Emissions From Construction

Emission Rates	ROG	NOx
Pounds per Day (Maximum)	4.0	35.2
Tons per Year	0.6	4.8
<i>Conformity Threshold</i>	<i>100</i>	<i>100</i>

* * *

This concludes our conformity evaluation for the planned Grass Valley Wastewater Treatment Plant upgrades. Please call us if you have any questions regarding this report.

Sincerely,

James A. Reyff
Illingworth & Rodkin, Inc.

Attachment 1: Construction Information
Attachment 2: NOx and ROG Construction Emissions

Project: 07-093

² This calculator is distributed by SMAQMD through their website at: <http://www.airquality.org/ceqa/index.shtml>
505 Petaluma Blvd. South * Petaluma, CA 94952 * 707-766-7700 * fax 707-766-7790

Attachment 1 Construction Information

**City of Grass Valley WWTP Denitrification and UV Disinfection
Project
Construction Related Information Needs
4/25/07**

1. Construction start year and month/season for each phase of construction.

It is expected that the project will begin in the spring of 2008. Although different types of activities (i.e. excavation, concrete, etc...) may be completed at different times, all of the work will be completed in one construction phase. The attached schedule is a crude estimate of when the different types of activities will take place.

2. Length of each phase of construction.

It is expected that the project duration is approximately 1 year. In general, the sequence most Contractor's would follow is excavation and buried utility work, demolition, concrete work and backfill, above-grade mechanical and electrical and I&C, paving and sitework, and startup.

3. Type and number of construction equipment used in each phase of construction, including size and model years of engines if available.

It is difficult to provide this information because it will depend on the Contractor's approach to doing the work, and whether or not they own the equipment or will be renting. We cannot provide the model year of engines to be used.

The following assumptions are made in responding to this question:

- Product delivery (concrete, UV equipment, removal of demolished items) is the majority of construction equipment (with emissions) that will be used on the site.
- Excavation will include trenching for electrical conduit and small concrete slabs on grade with smaller equipment.

Based on these assumptions, the following major construction equipment is expected:

- First 8 months
 - One 6 CY dump truck
 - One 2 CY backhoe
 - One 10 ton crane

- Next 4 months
 - One 2 CY front end loader
 - One 2 CY backhoe
 - Two 6 CY dump trucks
 - One 130 hp pavers with tandem rollers

The remaining equipment to be used will be handheld powered by portable generators (concrete diamond saws, drills, etc.).

4. Avg. and max number of hours/day of operation for each piece of equipment during each construction phase.

Average 7 hours per day, maximum 8 hours per day.

5. Maximum acres disturbed per day from earthmoving (grading, scraping, or excavation).

The entire area to be disturbed from earthmoving is paved and less than 0.1 acres.

6. Depth and volume of soil material to be excavated for each proposed structure broken down by phase of construction.

Excavation depths are minimal (less than 10 feet deep), total volume excavated and replaced is expected to be approximately 30 cubic yards.

7. Volume of soil/material that would be hauled in or hauled away from the site broken down by phase of construction.

Little to no off-haul of soil or other material is expected from the site. It is expected that excavated materials can be used as structural and non-structural fill on-site.

The major items that are hauled into the site is pre-mixed concrete. The following estimates are made for different periods of construction.

- First 8 months
 - 400 CY concrete
 - 20 CY imported fill

8. Avg. and max number of haul truck trips per day associated with the importation of soil/material to the site for each phase of construction.

The major items that are hauled into the site are imported fill and pre-mixed concrete. It is assumed that 6 CY dump trucks would be used for hauling fill, and 10 CY trucks would be used for concrete. The following estimates are made for different periods of construction.

Maximum number of haul truck trips if construction follows the sequencing listed:

- First 8 months
 - 2, 5-CY truck trips for fill (2 trips per day)
 - 8, 10-CY truck trips for concrete (5 trips per day)

9. Avg. and max number of haul truck trips per day associated with the removal of soil/material from the site for each phase of construction.

Little to no off-haul of soil or other material is expected from the site. It is expected that excavated materials can be used as structural and non-structural fill on-site.

10. Avg. round trip distance of trucks hauling in soil/material to the site.

The round trip distance of trucks hauling in soil or concrete material to the site will depend on the fill site the Contractor decides to use. There are a few fill sites within 15 miles of the project site. One or more of these sites will likely be used as long as they can provide the type and quantity of material needed. We have not yet confirmed if these sites will be adequate, and do not know if the Contractor will use them.

11. Avg. round trip distance of trucks hauling out soil/material from the site.

Little to no off-haul of soil or other material is expected from the site. It is expected that a large majority of the excavated materials can be used as structural and non-structural fill on-site.

12. Acres of existing structures that would be demolished and the age of those structures, broken down by phase.

- First 8 months
 - Concrete Walls and Walkways (UV Structure), Constructed in 1979, Approximately 50 CY
 - Miscellaneous UV Equipment (Handrails, Piping), Various ages, oldest equipment installed in 1979, Approximately 5, 6 CY truck trips
- Last 4 months

- Miscellaneous UV Equipment (Mixers), constructed in 1979, 1 truck trip
- Chlorine Equipment (Enclosures, Piping, Misc. Equipment), constructed in 1992, approximately 5, 6 CY truck trips
- Blower Piping, constructed in 1992, 1 truck trip

13. Avg. length of work day.

8 hours per day.

14. Number of construction workers during each phase of construction.

It is expected that 10 workers will be on-site on average. It could be as low as 4 during slow periods (winter), and as high as 20 during peak activity periods.

15. Size of area to be paved by phase of construction.

Approximately 0.1 acres.

Attachment 2: NOx and ROG Construction Emissions