

Attachment 2 - NPDES ORDER R3-2009-0019
**RESPONSE AND COMMENTS TO THE AUGUST 2008
ENGINEERING REPORT ON THE PRODUCTION,
DISTRIBUTION, AND USE OF RECYCLED WATER FOR CITY
OF SAN JUAN BAUTISTA**

1. ENGINEERING REPORT - PAGE 2, SECTION 2.2

State of California Department of Public Health (DPH) Comment

This section states that "the City will develop procedures, restrictions and other requirements for the storage and use of recycled water...". Assuming this includes something beyond what is outlined elsewhere in this report, such documentation must be submitted to CDPH for review and approval when available and prior to the delivery of recycled water. The report also states that the above documentation will be based (in part) on "Guidelines for Use of Reclaimed Water for Irrigation and Impoundments". All program elements must comply with requirements for storage and use of recycled water in Title 22 adopted in 2000, not in the previously mentioned Guidelines which came out in 1988.

City of San Juan Bautista Response

The reference that "the City will develop procedures, restrictions and other requirements for the storage and use of recycled water..." was referring to the later parts of the engineering report that discusses in greater detail the proposed procedures to be followed. The primary document yet to be created will be a "Rules of Service" or "Guidelines for the Use of Recycled Water" that specifically addresses all required issues such as, but not limited to, conditions of service, training of personnel, emergency procedures, recycled water distribution system construction requirements, etc. This document will be based on the requirements for storage and use of recycled water in title 22 adopted in 2000 and will be submitted to DPH for approval and before any recycled water will be delivered for use at any site. Already drafted is a Recycled Water Utilities Ordinance to be adopted by the City Council once the Water Board issues a recycled water permit to the City. A copy of this draft ordinance is attached review and approval by DPH.

Regional Water Quality Control Board Response

The Water Board addresses the requirement for an approved recycled water distribution system and enforcement of rules and regulations established through ordinances and implementation procedures on pages G-5 Section C.1, G-10 Section C.39, and G-17 Section D.34 in NPDES Order No. R3-2009-0019. The Supplier and Distributor shall submit the rules, regulations, and implementation procedures to the Department of Public Health and Central Coast Water Board by November 30, 2009, for review and approval.

2. ENGINEERING REPORT - FIGURE 3 AND DISCUSSION ON PAGES 5, 6, AND 11:

DPH Comment

Why is UV used as the primary disinfectant to meet the 2.2 mpn coliform count, but for Title 22 treatment compliance purposes, chlorination is used to meet the 450 mg/l-min CT? Also, on Page 11, the report states that the chlorine contact chamber will provide 110 minutes of "calculated" detention time and will satisfy a 99 (did they mean 90?) minute modal detention. Was this verified through a tracer test pursuant to Section 60301.600?

City of San Juan Bautista Response

UV is used as the primary disinfection process as it has been for the last 16 years so that all effluent not used for reclamation will not have been chlorinated and therefore will not have to be

dechlorinated before discharge to surface water. This also eliminates the possibility of a discharge violation due to a chlorine residual in the plant discharge. However, the existing UV disinfection system was not designed for compliance with T22 and so chlorine has to be used to disinfect the effluent to be recycled in order to meet the T22 450 mg/L-min CT requirement.

The chlorine contact detention system consists of 24 inch diameter pipes in a serpentine configuration with a volume of 11,000 gallons. At the recycled effluent pumping rate of 100 gpm, the nominal detention time in the contact piping system would be 110 minutes but I assumed the pipe would be derated by 10% or 99 minutes as was done at Rancho Larios for a similar recycled water disinfection system. No dye tracer study was required there as DPH determined that a plug flow derating factor of 90% was all that was required for this type of chlorine contact piping configuration. I have attached the Engineering Report Amendment by Fuog Water Resources from 2003 which makes reference to this on page 2 in the paragraph just below the "Disinfection" title. The original letter to Mr. Fuog from the Health Department is not available to me but I had discussed this issue with Jan Sweigert around 2005 and she confirmed there had been a study on plug flow in piping systems and that was where the 10% derating factor had come from. I had assumed the same plug flow derating factor would apply to San Juan Bautista. If DPH still feels that a dye tracer study is required then we shall do so but it would seem to be overkill since the effluent is already disinfected using UV before it even reaches the chlorine contact piping system.

RWQCB Response

The Water Board addresses the requirement for an approved tracer study on page G-20 Section E.2 in NPDES Order No. R3-2009-0019.

E.2 The Producer shall conduct a tracer study under four different flow rates (the maximum, the minimum, and two points in between) to determine the respective modal contact times for the chlorine contact basin. A final report of the tracer study will be submitted to the DPH and Water Board within 30 days after the completion of the studies and prior to the initial delivery of recycled water to each use site.

Use of a UV disinfection system requires the use of a challenge microbe to assess the ability of the UV reactor to meet a disinfection objective and deliver a required "UV dose." The City of San Juan Bautista has not proposed to perform this type of UV performance test in order to include it as part of the reclamation treatment system. The Water Board considers a chlorine contact chamber tracer study appropriate and necessary to establish required disinfection under a variety of operating conditions expected over the useful life of the chlorine contact chamber.

3. ENGINEERING REPORT - PAGE 16 (2ND TO LAST PARAGRAPH)

DPH Comment

This section states that landscaping staff will be trained in the use of recycled water and will be responsible for adhering to "regulations in the Water Reclamation Requirements that will be issued by the RWQCB". Generally, these requirements are outlined in the utility's Rules of Service, Ordinance or use-site agreements which are reviewed and approved as part of the permitting process. The report did not provide details of their overall program elements.

City of San Juan Bautista Response

The City is required to comply with the conditions in the Water Board reclamation part of the discharge permit regarding discharge standards and monitoring requirements. The reference by DPH to "Rules of Service..." refers to the "Guidelines for the Use of Recycled Water" that has yet to be created because we have been waiting to see what conditions were going to be in the Water Board's reclamation part of the discharge permit. This Guidelines document will be submitted to DPH once it is prepared. As noted earlier, the City already has a draft Recycled Water Utilities Ordinance that is being submitted with this letter for review and approval by DPH.

RWQCB Response

The Water Board addresses the requirement for Individual Recycled Water Use Permits on pages G-17 to G-18, Sections D.34 through D.37 in NPDES Order No. R3-2009-0019. The Supplier and Distributor, as defined in Order No. R3-2009-0019, must issue Recycled Water Use permits to individual recycled water users, which must specify self-monitoring and reporting requirements for each individual user, and require compliance with all applicable requirements of Order No. R3-2009-0019.

4. ENGINEERING REPORT - PAGE 15, SECTION 4.1

DPH Comment

This section states that irrigation piping drawings for Creekbridge (a residential development in which "common areas" will be irrigated) are included in the Appendix. The report does not include an Appendix. No information was included regarding how the irrigation piping is laid out, what exactly the "common areas" are, and what control measures will be in place to ensure against unauthorized connections/uses by individual property owners.

City of San Juan Bautista Response

According to our records, the irrigation piping drawings for Creekbridge were to have been included in the submittal in August 2008 and why they were missing is unclear. Nevertheless, when the copy of this letter and the revised Engineering Report is mailed to DPH, a set of those drawings will be included. The "common areas" referred to are the strip of grass between the sidewalk and the street curb and the small park. There is no public access to the purple pipe irrigation system as there are no hose bibs anywhere and all piping is buried.

RWQCB Response

The Water Board received a copy of the Creekbridge Development piping diagrams on January 20, 2008, and March 24, 2009. As mentioned in the previous response to comments (No. 3 above — ENGINEERING REPORT - PAGE 16 (2ND TO LAST PARAGRAPH)), the Water Board addresses the requirement for Individual Recycled Water Use Permits on pages G-17 to G-18, Sections D.34 through D.37 in NPDES Order No. R3-2009-0019. If the City of San Juan Bautista defines itself as the "User" for the recycled water use within the Creekbridge development then, it must adhere to the User Requirements as defined on pages G-10 to G-12, Sections D.1 through D.12, with section D.11 being specific to hose bibs in areas accessible by the public. Section D.11 states:

D.11. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

5. ENGINEERING REPORT - PAGE 16, 1ST PARAGRAPH

DPH Comment

This paragraph states that design drawings for the new recycled water irrigation distribution system at the cemetery will be submitted to CDPH for review and approval prior to construction. Submittal of these plans to CDPH should be included as a condition of the permit issued by RWQCB for this project.

City of San Juan Bautista Response

The Cemetery has decided to do their own recycled water irrigation piping system. They do not want the City to do it because of concerns about disturbing grave sites. We do not know when they will undertake this project but they will not be allowed to connect to the purple pipe we installed at their

property line until their design drawings have been submitted to DPH for approval and they have obtained a Recycled Water Use permit from the City per the City's to be adopted Recycled Water Utilities Ordinance.

RWQCB Response

The Water Board requires piping plans and an addendum to the Engineering Report submitted to DPH prior to delivery of recycled water to each use site. The Figure 7 submitted with the August Engineering Report is insufficient to approve use of recycled water at the cemetery. The Water Board addresses the requirement for piping plans and amended Engineering Reports on page G-20, Sections E.6 and E.7 in NPDES Order No. R3-2009-0019.

6. ENGINEERING REPORT - PAGE 16, 2ND PARAGRAPH

DPH Comment

This paragraph indicates that any faucets will have signage, yet the last paragraph on Page 17 states that no hose bibs will be installed in areas accessible to the public unless they have keyed access. This seems to be conflicting. An explanation of how the project will comply with Title 22 Section 60310 (i) should be provided.

City of San Juan Bautista Response

The reference to faucets meant that if any faucets were left in areas of public access using recycled water they would have both keyed access and signage. I don't see a conflict in this requirement and I am not aware that faucets using recycled water are not allowed.

RWQCB Response

See RWQCB response to comment No. 4. Page G-12 Section D.11 of Order No. R3-2009-0019 restates Title 22 Section 60310 (i). Section D.11 states:

22 CCR § 60310 (i) Use Area Requirements.

The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

7. ENGINEERING REPORT - SECTION 4.1

DPH Comment

A thorough assessment of abandonment of the existing cemetery irrigation system should be made and verification of cross connection control measures to be employed if any potable water piping remains on-site (e.g. for drinking fountains, urn filling stations).

City of San Juan Bautista Response

Issues associated with abandonment of the existing cemetery irrigation and cross-connection prevention will be dealt with sometime in the future when the Cemetery applies to the City to connect to the recycled water system. At that time their application and documentation will be submitted to DPH for approval.

The City has recently been installing new sewer pipes at the west end of the City and taken the opportunity to also install purple pipe. This will make it possible to extend the use of recycled effluent for landscape irrigation at two City properties within several blocks of the treatment plant within the next few years as soon as funding permits to finish extending the purple piping system to reach these properties.

RWQCB Response

See RWQCB response to comment No. 5. Additionally, page G-13 Section D.15 requires the City of San Juan Bautista to establish and enforce a Cross Connection Ordinance to prevent cross connection between recycled water and potable water systems. Page G-10 Section C.39 of Order No. R3-2009-0019 requires the City of San Juan Bautista to ensure that the end User inspects and tests the recycled water use area for possible cross connections with the potable water system. The end User will perform inspections and testing by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. The City of San Juan Bautista will submit a written report documenting the result of the inspection or testing for the prior year to DPH and Water Board within 30 days following completion of the inspection or testing.

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