

CITY OF WOODLAND RECYCLED WATER PROJECT

Project Description

The City of Woodland (City) Water Pollution Control Facilities (WPCF) provides disinfected tertiary effluent treatment, which is suitable for unrestricted non-potable reuse from a regulatory standpoint and is the highest level of treatment defined in the CCR Title 22 regulations. The WPCF is presently upgrading its secondary treatment process to Modified Lutzak-Ettinger (MLE) fine bubble diffuser aeration with an anoxic zone for denitrification and improved process control. The planned changes to the treatment process will allow the WPCF to meet Title 22 requirements for use of recycled water.

The WPCF operates under a National Pollutant Discharge Elimination System (NPDES) permit adopted on October 9, 2014. The permit specifies that the WPCF can discharge up to an average daily flow of 10.4 million gallons per day (mgd). Historically, effluent flows from the WPCF are in the range of 5 to 6 mgd. Currently, average effluent flows are around 4 mgd because of the impact of the drought. It is expected that average flows will again increase to 5 to 6 mgd in normal wet weather conditions. Treated wastewater from the WPCF is currently conveyed through a pipeline and a series of ditches for year round discharge to Tule Canal approximately 4 miles east of the treatment plant. Tule Canal flows upstream of the WPCF discharge point were estimated at 8 to 66 mgd (average 39 mgd), based on measurements taken in April – October 2013. On average, effluent flow represents about 8.5% of total flow in Tule canal. Initially, the City of Woodland Industrial Park Recycled Water Project (Recycled Water Project) will only divert up to 0.5 mgd of effluent flow.

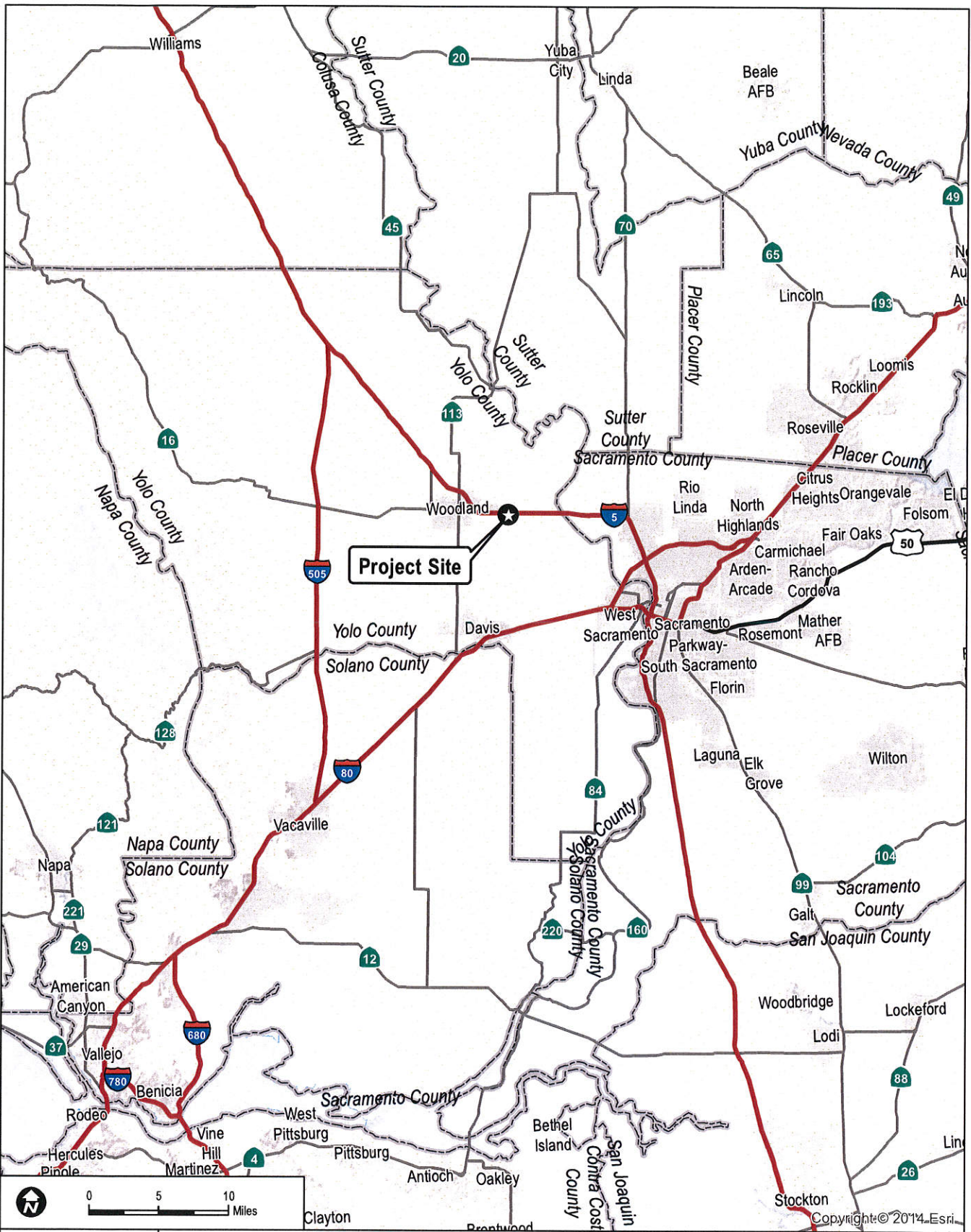
Initially, the sole user of recycled water will be Woodland Biomass Power Inc. (Woodland Biomass), a green waste-to-energy power plant (see Figure 2). Woodland Biomass intends to use the recycled water primarily for its cooling towers. The currently planned pipeline route was selected because it could serve Woodland Biomass as well as two City parks and a number of other industrial and commercial users in the future. The City Parks Department has expressed interest in using recycled water for landscaping and while a letter of intent has not yet been submitted, it is anticipated to be forthcoming in the next few months. No change of land use is proposed as part of the Recycled Water Project.

The proposed Recycled Water Project includes a pump station, a chlorine injection system, and a pipeline heading generally northwest from the WPCF. The existing effluent pump station is sized to accommodate two additional 6-inch vertical turbine booster pumps. These pumps will be installed along with a new forcemain to route flow from the new pumps to the new recycled water pipeline. A chlorine injection system will be provided for biofilm control. The preliminary

layout of the existing pump station and the chlorine injection system are shown in Figure 3, below

Delivery of the recycled water to the users would require the installation of a separate recycled water pipeline and booster pumps. The recycled water pipeline alignment would head west from the WPCF along the Gibson Road ROW, northwest through the Gibson Ranch development along Farnham Avenue, and north along the City limits line to Kentucky Avenue (see Figure 2). The 12-inch pipeline would be installed primarily within existing street and public utility ROWs, or in easements located between properties with two exceptions. These include the crossings at I-5, which will require coordination with Caltrans, and the Union Pacific Railroad (UPRR) tracks. The project does not include any new lighting.

The length of pipeline installation is approximately 17,400 feet. Installation will require, trenching, recompaction, and repaving of some existing streets. The rate of installation is estimated at 100 feet per day, approximately 174 days. The anticipated start of construction is July 2015, with substantial completion in March 2016. The minor improvements to the WPCF would be constructed during this timeframe (July 2015 – March 2016). Installation of pipeline across major roadways, including I-5, would likely be done by horizontal drilling (which could be done simultaneously with open trench installation elsewhere along the alignment).



Project Site

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**FIGURE 1
Regional Map**

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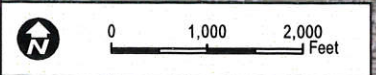
SOURCE: Bing 2014
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FIGURE 1
Project Map - Petition for Change



Western Alignment

- Pipeline
- WPCF Discharge
- Open Canal
- Pipeline



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SOURCE: Bing 2014
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FIGURE 2
Recycled Water Project

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