

PETITION FOR CHANGE
ATTACHMENT 6
DESCRIPTION OF CHANGES TO PROJECT

The purpose of Attachment 6 is to provide a detailed project description of the Project for submittal to the State Water Resources Control Board (SWRCB) Division of Water Rights as part of the Petition for Change application.

Project Overview

The Town of Windsor proposes to construct and operate the Windsor Geysers Recharge Pipeline Connection Project (the Proposed Project), which consists of a pump station and connection pipeline to deliver recycled water to the City of Santa Rosa's Geysers Pipeline to substitute for Santa Rosa recycled water already committed for reuse at the steamfield.

Purpose and Need for Project

In May 2001, the Town of Windsor Certified the Final EIR for their Water Reclamation Master Plan EIR. As a result of the evaluation of impacts presented in the EIR, the Town selected Alternative 4X, which included directing flows of up to 0.75 million gallons per day (MGD) to the Geysers Pipeline. The EIR also evaluated, at an equal level of detail, Alternative 4I, which included diverting from 0.75 to 1.25 MGD to the Geysers Pipeline. The Town has now completed negotiations with the City of Santa Rosa to allow delivery of recycled water to the Geysers Pipeline and has approved a project to construct facilities necessary to convey recycled water from the Town's Water Reclamation Treatment Plant (WRTP) to the Geysers Pipeline.

The Proposed Project includes construction of a pump station and approximately 1,000 feet of 12-inch diameter pipeline connecting the WRTP to the Geysers Pipeline. These facilities were evaluated in the 2001 EIR. An Addendum to the EIR was prepared in 2008 to ensure that no new or greater environmental impacts would occur that were not previously disclosed in the 2001 EIR.

The purpose of the Windsor Geysers Recharge Pipeline Connection Project is diversion of 0.75 to 1.25 MGD annual average flow (initially 0.53 MGD average annual flow) of recycled water from the WRTP to the City of Santa Rosa's Geysers Pipeline to substitute for Santa Rosa recycled water already committed for reuse at the steamfield.

Existing Facilities

Wastewater system management for the Town currently includes treatment of effluent to advanced (tertiary) standards, disinfection, and storage in ponds until reuse for irrigation or discharge to Mark West Creek. The Town's WRTP is located on a 74-acre parcel, approximately one-half mile south of downtown Windsor. Current average dry weather flows (2008) are approximately 1.6 MGD. Flows are comprised of approximately 90 percent residential uses and 10 percent commercial/industrial uses. The

Town has implemented improvements, identified as Phase II improvements, to upgrade treatment plant capacity to 2.25 MGD (Town of Windsor 2000).

Following treatment, the disinfected tertiary effluent is routed to the effluent storage ponds. Two storage ponds are located on the WRTP site, and three storage ponds are located at the Windsor Golf Course. The system's existing storage capacity for tertiary treated water is 165 million gallons (MG). During summer, the treated effluent is used to irrigate approximately 562 equivalent acres. An equivalent acre is an acre of land that uses 30 inches of irrigation water per year. Of the 562 equivalent acres, 112 are within the golf course, 272 acres consist of pasture land, 77 acres are vineyards, 99 acres are comprised of landscaping areas (including athletic fields and residential yards), and 2 acres are orchard.

From October 1 through May 14, the final effluent may be discharged to Mark West Creek at a maximum daily rate of 1% of the natural stream flow. The Town discharges treated effluent in compliance with seasonal limitations established under its existing National Pollution Discharge Elimination System (NPDES) Permit.

Geysers Recharge Project

At the outset of the Geysers Recharge Project (in November 2003), the City of Santa Rosa entered into a 30-year agreement with a consortium of geothermal companies to supply advanced treated effluent from the Laguna Regional Wastewater Treatment Facility (LRWTF) for injection at the Geysers. The Geysers Recharge Project involved the construction of an approximately 41-mile pipeline, and corresponding pump stations, for transfer of approximately 11 MGD (initial flows) of effluent to the Geysers steamfield, located in the Mayacamas Mountains northeast of Healdsburg. This project provides for the reclamation of effluent without either an increase in Santa Rosa's permitted Russian River discharge allowance or construction of additional storage ponds to retain winter flows for dry season irrigation. The 11 MGD of effluent injection was anticipated to increase the net power output of the Geysers by 85 megawatts. The pipeline route for the Geysers Recharge Project passes through Windsor west of US Highway 101.

In August 2007, The City of Santa Rosa and current Geysers Steamfield owner/operator, Calpine Corporation, negotiated an amended 30-year agreement (to December 31, 2037) providing for delivery of up to 20 mgd of tertiary-treated recycled water from Santa Rosa to the Geysers, a project known as the Geysers Expansion Project. With the completion of the renegotiated agreement, the City of Santa Rosa indicated that up to 1.25 MGD annual average flow of pipeline capacity would be made available should the Town elect to participate in the project.

The City of Santa Rosa has been operating the Geysers Recharge Project since 2003 and has been operating the Geysers Expansion Project since its approval in August 2007. CEQA documentation for both of the projects has already been completed. The Proposed Project would merely replace Santa Rosa recycled water in the Geysers Pipeline with Windsor recycled water. Because Windsor recycled water quality is the same as or better than Santa Rosa's recycled water quality, no changes to the Geysers Recharge Project or the Geysers Expansion Project would result.

Proposed Project

Under Alternatives 4X and 4I, the Town would deliver from 0.75 to 1.25 MGD to the Geysers Pipeline. Table 1 describes the typical monthly delivery schedule.

Table 1. Town of Windsor recycled water inputs to Geysers Pipeline production for initial, future and maximum production levels.

Month	Initial (mgd)	Future (mgd)	Maximum (mgd)
January	0.70	0.92	1.53
February	0.70	0.92	1.53
March	0.70	0.92	1.53
April	0.70	0.92	1.53
May	0.70	0.92	1.53
June	0.20	0.42	0.70
July	0.20	0.42	0.70
August	0.20	0.42	0.70
September	0.20	0.42	0.70
October	0.70	0.92	1.53
November	0.70	0.92	1.53
December	0.70	0.92	1.53
Average (mgd)	0.53	0.75	1.25
Total (mgy)	195	274	455
Notes: mgd – millions of gallons per day mgy – millions of gallons per year Averages and totals may not add up due to rounding.			

Recycled water would be held in effluent storage ponds during periods of limited discharge and/or irrigation. The Town would construct a pump station at the treatment plant and a connecting main to the Geysers Recharge pipeline, allowing conveyance of Town flows to the Geysers Pipeline for injection.

The Proposed Project includes the following components:

- A pump station to be located at the existing WRTP; and
- Approximately 1,000 feet of 12-inch diameter pipeline traveling through the WRTP and along the west side of Pond 7 to connect to the Geysers Pipeline at Windsor Road.

For Town flows averaging up to 0.75 mgd on an average annual basis, there would be no interruption of recycled water deliveries to Santa Rosa. At average annual flows exceeding 0.75 mgd, in order to ensure

that the City of Santa Rosa's Russian River discharge remains at or below the volume contemplated in its most recent environmental documentation, interruption of the Town's recycled water delivery to the Geysers Pipeline for up to 10 days each year (see discussion in Hydrology & Water Quality section below) may occur. Interruption would only be necessary when the Town is delivering more than 0.75 MGD (on an average annual basis) to the Geysers Pipeline.

Construction Activities

Construction of the Proposed Project would involve the following general types of activities: site clearing; limited grading; excavation and establishment of foundations; underground construction, and construction of facility structures. The pump station would be above ground and enclosed in a structure, consisting of a three pump array of multiple vertical turbine or horizontal split case pumps. Depending upon final design, surge tanks or other surge facilities may be located adjacent to the pump station. The pump station would be constructed of concrete block with metal or tile roofing. To the extent feasible, design and construction materials would use earthtones or other features to provide consistency with the surrounding area, including the WRTP and the adjacent Public Works facility.

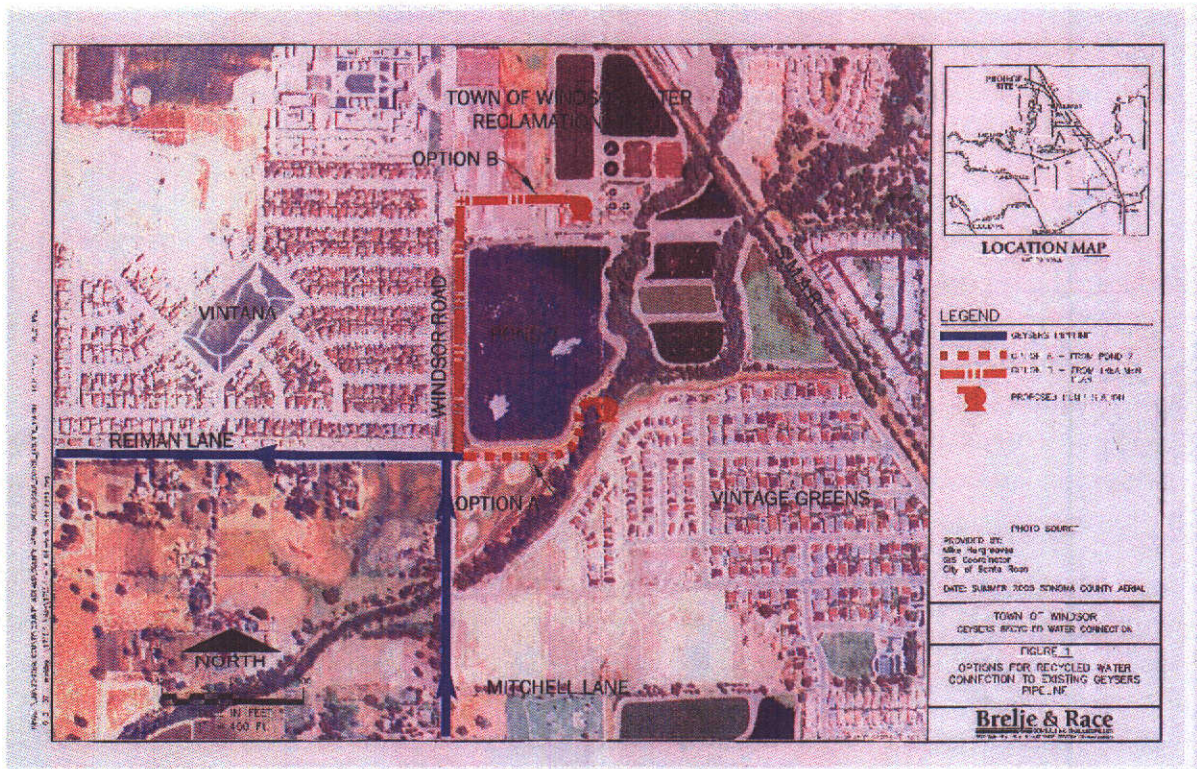
The connection pipeline would be located within existing roadway rights-of-way along the WRTP northern access road. The pipeline would be 12-inch diameter PVC plastic pipe, and would be installed in open trenches, using conventional cut and cover construction techniques. Pipeline installation would use standard open-cut trenching techniques using speed shoring or trench box bracing. Trench width would be approximately 3 feet, with active work areas of about 5 feet on one side of the trench and 10- to 12-feet on the other side for access by trucks and loaders, resulting in a construction zone approximately 25 feet wide. The pace of work is estimated at 100 feet per day along the entire route, and the overall active work zone on any given work day would average 300 to 600 feet in length.

Excavated trench materials would be sidecast within approved work areas and reused as appropriate for backfill. After project construction and installation is complete, restoration of disturbed areas to preconstruction conditions would be completed.

Construction Schedule

Construction of the Proposed Project is anticipated to start at the soonest, by late 2009 and to have the new connection pipeline in place and operational between early 2010 and late 2010. The active construction period would be about 3 to 6 months, occurring sometime between September 2009 and December 2010. If applicable, construction activities would occur from start of construction continuously throughout the construction period or at least through the nesting season (August 15) to prevent bird species from establishing nests within the work area.

Figure 1: Project Location Map



Equipment / Staging

Construction of the pump station and pipeline would require, but would not be limited to, use of the following equipment: excavator, crane, backhoe, front-end loaders, dump trucks, diesel generator, water truck, flat-bed truck, compactors, double transfer trucks for soil hauling, and concrete trucks. A staging area would occur at the WRTP for storage of pipe, construction equipment, and other materials.

Operation and Maintenance

The operation and maintenance of the pump station and connection pipeline would include a hydro-flushing operation conducted periodically—approximately once every 5 years. This process would involve a truck parked adjacent to the outlet structure for approximately one hour to conduct the operation. Water would be drained back into the Town’s recycled water ponds.

Right-of-Way Issues / Permits Required

The Proposed Project facilities would be sited within existing roadway rights-of-way along the WRTP northern access road. No permits from other agencies are expected to be required.