

SECTION VIII

PREFERRED ALTERNATIVE

WWTP IMPROVEMENTS

As discussed in Section VII of this report, there are numerous recommended improvements to the Woodland WWTP. These improvements are required to comply with current treatment and water quality standards and to provide adequate capacity and redundancy for the identified planning period. All of the recommended improvements for Phase I should be completed within the next 2-3 years. A cost summary for the recommended improvements is included in Appendix I of this report. The following is a list of the recommended Phase I improvements:

1. Construction of a new headworks facility. The new headworks would re-utilize the existing Hycor screening equipment and would have new grit removal equipment.
2. Construction of two SBR basins with associated aeration, mixing, decanting and sludge wasting equipment to provide secondary treatment of influent wastewater.
3. Construction of a new disinfection system consisting of two 2.6 MGD closed conduit units.
4. Construction of a new covered aerobic digestion facility consisting of two aerobic digester basins, a pre-mix basin and a gravity thickener.
5. Upgrade the existing effluent pump station and the gravity discharge pipeline.
6. Installation of new influent and effluent flow meters.
7. Demolition of existing RBC, SBC and secondary clarifier basins to make room for new aerobic digestion facility.
8. Demolition of existing headworks and existing primary clarifier.
9. Construction of a new laboratory facility.
10. Required modifications to existing blower/control building to house new electrical control equipment and blower equipment for the SBR and aerobic digesters.

11. Demolition of the existing lab/control/chlorination building.
12. Site work required to incorporate additional land needed to construct recommended treatment units.
13. Yard piping and electrical improvements required to construct recommended treatment units.
14. Upgrade the existing Pump Station No. 4 and tie the forcemain from Pump Station No. 3 directly into the forcemain to the WWTP.

PROCESS SCHEMATIC AND HYDRAULIC PROFILE

A process schematic for the recommended upgrades is shown in Figure VIII-1. The preliminary hydraulic profile is shown in Figure VIII-2. Adjustments to both the process schematic and the hydraulic profile could occur during final design, however, the attached figures show how the plant is intended to be designed and constructed.

RECOMMENDED WWTP IMPROVEMENTS

Major components of the recommended WWTP improvements are discussed in the following paragraphs. All WWTP improvements will be designed in accordance with applicable DOE design criteria included in the new *“Criteria for Sewage Works Design”* published in January 1999, and with nationally recognized design references such as *“Third Edition Wastewater Engineering: Treatment, Disposal, Reuse”* by Metcalf & Eddy, Inc. and *“Manual of Practice No. 8 – Design of Municipal Wastewater Treatment Plants”* published jointly by the Water Environment Federation (WEF) and the American Society of Civil Engineers (ASCE) in 1998.

Headworks

A new headworks facility must be provided to assure proper operation of the secondary treatment process equipment. The existing Hycor self cleaning fine screen unit will be incorporated into the new headworks facility. This unit removes large debris and stringy material from the influent flow. It has operated well since its installation at the existing plant in 1996.