

SECTION 8.0 DELTA DIABLO SANITATION DISTRICT WASTEWATER SERVICE

8.1 Overview

The Delta Diablo Sanitation District (DDSD) provides wastewater collection services for the unincorporated community of Bay Point, and conveyance, treatment, and disposal services for certain unincorporated areas of eastern Contra Costa County, including the community of Bay Point and the Cities of Antioch and Pittsburg. The District also provides street sweeping within its boundaries and operates the Delta Household Hazardous Waste Collection Facility for residents in eastern Contra Costa County. Since 2001, the District has provided recycled water to the Delta Energy Center, the Los Medanos Energy Center (LMEC) and is expanding recycled water conveyance to Pittsburg and Antioch for irrigation of local public parks and median landscapes. DDSD lies south of the San Joaquin River, north of open space area that includes the Black Diamond Mines Regional Preserve, to the west of the Ironhouse Sanitary District and to the east of the Central Contra Costa Sanitary District.

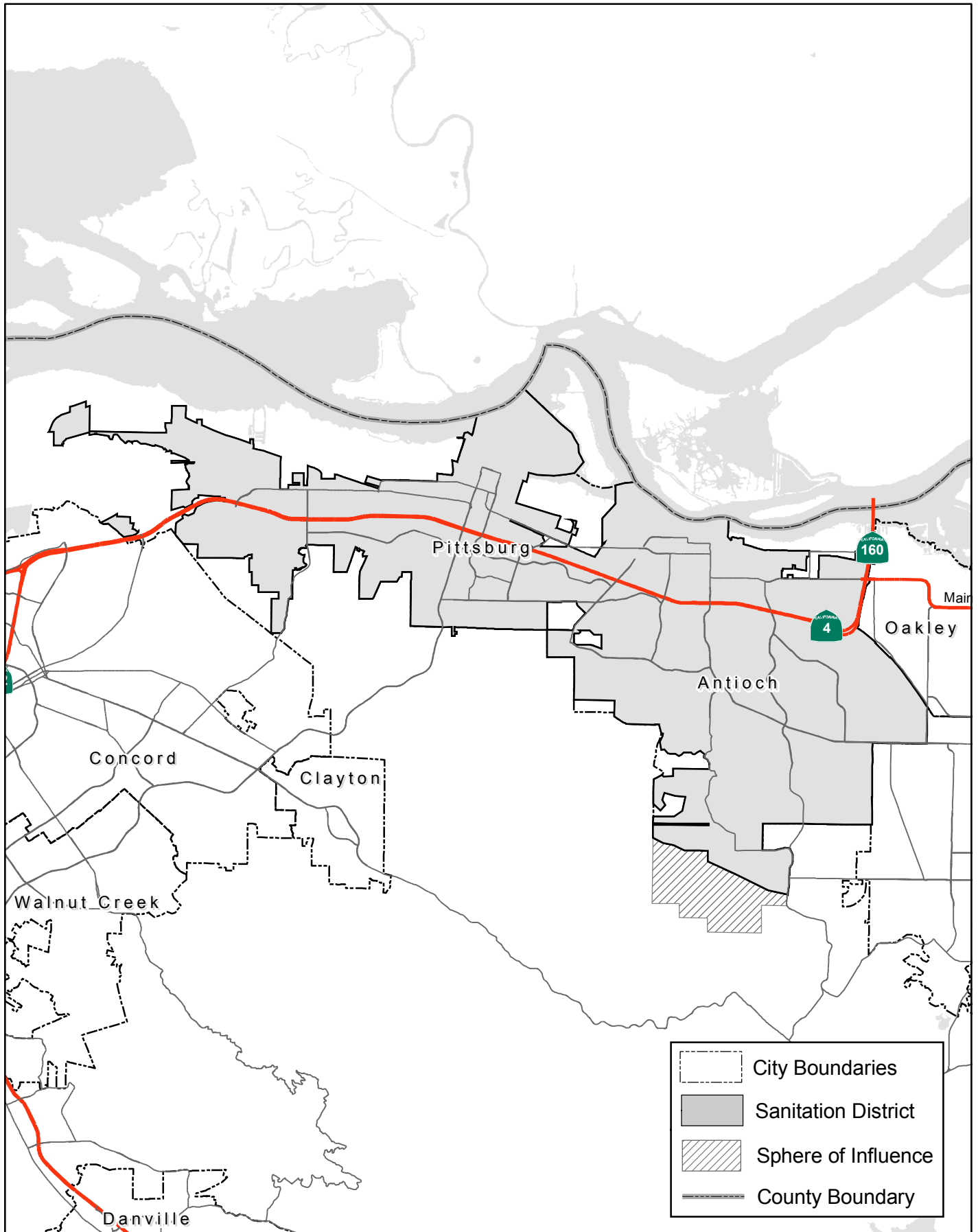
The District was originally formed in 1955 as County Sanitation District 7-A; the District's name was legally changed in 1989. In 2001 County Sanitation District 7-B, which served the United States Naval Facility at Port Chicago, was dissolved by LAFCO and annexed to DDSD. Wastewater treatment for the three communities began in 1982. DDSD now serves an estimated population of over 181,565 residents in a service area of approximately 52 square miles. DDSD's sphere of influence (SOI) is coterminous with its boundaries except for the southern portion of Roddy Ranch. The District is providing service to a few properties that are not within the District's current boundaries. The District's service area for wastewater and street sweeping services is divided into three zones: Zone 1 which includes portions of the unincorporated community of Bay Point, naval property at Port Chicago, and the Willow Pass Business Park (formerly known as Leshner Business Park); Zone 2 includes Pittsburg; and Zone 3 includes Antioch. The existing District wastewater infrastructure includes conveyance systems for each service zone, pumping stations, equalization basins, and a Wastewater Treatment Plant (WWTP) and Recycled Water Facility (RWF) located on the Pittsburg-Antioch border. Additionally, the existing wastewater infrastructure includes the Zone 1 collection system. The City of Pittsburg and the City of Antioch own and operate the collection systems for Zones 2 and 3, respectively. Treated wastewater is discharged in New York Slough through a deep water outfall. The WWTP has a permitted capacity of 16.5 million gallons per day (mgd); current average dry weather flows (ADWF) are 14.2 mgd.

The District's profile for wastewater service is shown in *Table 8.1* and a map of the District's boundary and current SOI are shown in *Figure 8.1*.

**Table 8.1
Delta Diablo Sanitation District
Wastewater Service Information**

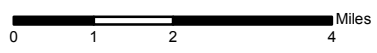
| Service Area / Financial Summary | |
|--|---|
| District Office | 2500 Pittsburg-Antioch Highway Antioch, CA 94509 (925) 756-1900 www.ddsd.org |
| Service Area: | -52 square miles |
| Population: | 181,565 (Year 2007) / 225,847 (Year 2030) Average Annual Growth Rate = 1.1% |
| Operating Budget (FY 2007/2008): <i>(includes all programs; excludes capital projects and debt service)</i> | Revenues / Expenditures: \$22,925,091 / \$18,979,868 Net Assets at June 30, 2006: \$132,729,623 |
| Wastewater Service Data | |
| Services | Wastewater Collection, Conveyance, Treatment, Disposal Recycled Water; also provides Household Hazardous Waste, Street Sweeping |
| Number of Service Accounts | |
| Collection System (Bay Point) | 7,307 |
| Conveyance/Treatment (Bay Point, cities of Pittsburg, Antioch) | 64,996 |
| Miles of Sewer Main / Number of Pump Stations | 49 miles / 5 pump stations |
| Average Age of Collection System | approximately 25 years (Bay Point) |
| Average Dry Weather Flow to Treatment Plant | 14.2 mgd |
| Wastewater Treatment Plant Capacity | Current: Design 16.5 mgd Ultimate Capacity: 22.7 mgd |
| Disposal | Discharge to New York Slough and Recycle Water |
| RWQCB Region | Region 2 – San Francisco Bay (Antioch service area in Region 5 – Central Valley) |
| Orders | Order No. R2-2003-0114 – Waste Discharge Requirements for Delta Diablo Sanitation District Order No. 2006-0003 – Statewide General Waste Discharge Requirements for Sanitary Sewer Systems |

Delta Diablo Sanitation District and Sphere of Influence



Map created 10/1/2007
by Contra Costa County Community Development, GIS Group
651 Pine Street, 4th Floor North Wing, Martinez, CA 94553-0095
37:59:48 455N 122:06:35 384W

This map was created by the Contra Costa County Community Development Department with data from the Contra Costa County GIS Program. Some base data, primarily City Limits, is derived from the CA State Board of Equalization's tax rate areas. While obligated to use this data the County assumes no responsibility for its accuracy. This map contains copyrighted information and may not be altered. It may be reproduced in its current state if the source is cited. Users of this map agree to read and accept the County of Contra Costa disclaimer of liability for geographic information.



8.2 Growth and Population Projections

DDSD's boundaries encompass the Cities of Antioch and Pittsburg, the unincorporated Bay Point community, and other unincorporated areas. This area has primarily urban uses. The current estimated population for this service area is 181,565. The population is expected to reach 225,847 by 2030 with an average annual growth rate of 1.1 percent.

In 1998, the voters in Antioch approved Measure U, an advisory measure calling for the City to phase future development. The City's Residential Development Allocation Ordinance limits the number of housing units to not more than 600 units per year, with certain exceptions. In November 2005, the Antioch voters approved Measure K, which established an Urban Limit Line (ULL). This measure also amended the City's General Plan and Zoning Ordinance to reduce the number of housing units permitted on Roddy Ranch south of the city to not more than 700 units. (Roddy Ranch was annexed to the City in November 2006.) Antioch is expected to reach a population of 124,000 by 2030¹ with an average annual growth rate of 1.0 percent.

Similarly, the Pittsburg voters approved Measure P in November 2005, establishing an Urban Limit Line (ULL) that can only be changed by a vote of the people. This measure also provided for rezoning certain lands outside the city limits in preparation for potential future annexation, which would also annex to DDSD. Growth within Pittsburg is expected to be moderate, reaching a population of 78,100 by 2030.² However, build out of the City's 2020 General Plan would result in approximately 31,690 housing units located within city limits with a population of 93,340 people.³

There currently are several reorganization proposals pending that will propose annexation to Antioch, Pittsburg, DDSD, and the Contra Costa Water District. These include a proposal to annex approximately 1,137 acres north of Pittsburg, including the Mirant Power Plant. Another proposal proposes to annex 481+/- acres to Antioch including the PG&E Power Plant. These proposals include a variety of land uses, including heavy industrial, general commercial, and two mobile home parks. It is expected that these and future proposals will result in increased growth that DDSD will serve.

Given the current urban land uses and anticipated growth, there will be an increased need for wastewater services within the DDSD service area. The majority of the growth will occur in the service zones for Antioch and Pittsburg where DDSD will be responsible for providing adequate

¹ Association of Bay Area Governments, Projections 2007.

² Ibid.

³ The number of housing units is based on the City's GIS database; population is estimated at 3.1 persons per household. The General Plan notes that approximately 11,450 housing units are proposed within City limits, including the San Marco development.

infrastructure for conveyance, treatment, and disposal. This will require that the District implement phased improvements to some pump stations, force mains, and the treatment plant as addressed in the District’s master plans for the conveyance system and wastewater treatment plant. These improvements will ensure that there are no service impacts to existing customers and will be funded through capital facility capacity fees and other capital asset replacement revenues.

8.3 Infrastructure Needs or Deficiencies

DDSD owns and operates a wastewater system for residential, commercial, and industrial wastewater. The District’s wastewater system infrastructure includes a collection system serving Bay Point; a conveyance system (including pumping stations, equalization basins, and trunk lines) serving Antioch, Pittsburg and Bay Point; and a Wastewater Treatment Plant, Recycled Water Facility and discharge facilities on the Pittsburg-Antioch border. The District is within the jurisdictional boundaries of the San Francisco Bay Regional Water Quality Control Board (RWQCB) (Region 2) and the Central Valley RWQCB (Region 5). The District’s waste discharge and NPDES permit is with Region 2. *Table 8.2* summarizes DDSD’s existing wastewater system facilities:

Table 8.2
Delta Diablo Sanitation District
Wastewater System Overview

| | Quantity |
|--|---|
| Sewer Mains | ~49 miles |
| Pump Stations | 5 (2 in Bay Point, 1 in Pittsburg, 2 in Antioch) |
| Average Age of Collection System | approximately 25 years - Bay Point |
| Average Dry Weather Flow to Treatment Plant: | 14.2 million gallons per day |
| Plant Design Capacity | Current: 16.5 mgd Ultimate: 22.7 mgd |
| Water Reclamation & Effluent Disposal | Secondary treatment discharged in New York Slough Tertiary treatment (recycled water) used for cooling towers and irrigation |

DDSD has a comprehensive five-year Capital Improvement Program (CIP) that is updated annually. The CIP is intended to provide facilities as they are needed and assist the District in meeting its goals for zero controllable violations, implementation of the Strategic Business Plan, and accurately distributing project costs to the appropriate revenue source. Capital projects are grouped by program (wastewater, recycled water, household hazardous waste and Bay Point collections), type (expansion, replacement, or rehabilitation of existing infrastructure, etc.) and funding source. The CIP for 2007/2008 – 2011/2012 includes \$21.1 million in wastewater replacement projects, \$255,000 in recycled water projects, \$535,000 in recycled water projects

within the existing system in Antioch and Pittsburg, and \$1.14 million for collection system improvements in Bay Point. It also includes \$900,000 for household hazardous waste projects.

Off-site odor control has not historically been an issue; however it has potential to become an issue as the area surrounding the District's facilities develops. To meet its odor control goals, the District is implementing phased odor control improvements. In FY 2006/2007 the District implemented nearly \$5 million for improvements, and an additional \$2.9 million is planned in the CIP for FY 2010/2011.

8.3.1 Collection and Conveyance Systems

The DDSD wastewater conveyance system carries wastewater flows to the DDSD Wastewater Treatment Plant (WWTP) through a system of gravity sewer mains, pumping stations and force mains. Most pumping stations have equalization storage basins where peak flows are diverted from the system, temporarily stored, and then gradually released back to the conveyance system. In 2004, the District completed the Conveyance System Master Plan Update and Wastewater Treatment Plant Master Plan Update. The recommendations of the two studies are included in the discussion below.

The State Water Resources Control Board (SWRCB) maintains an online database, the California Integrated Water Quality System (CIWQS), where permit violations and sewer system overflows are reported. In 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WQO No. 2006-003-DWQ) and DDSD (as part of the San Francisco Region) must begin reporting all sewer system overflows (SSOs) to the CIWQS by May 2, 2007. No SSOs are listed for 2007. Self-reported SSOs from 2005 and 2006 are discussed below. For the past three consecutive years (2004-2006), DDSD was recognized by the National Association of Clean Water Agencies (formerly the Association of Metropolitan Sewerage Agencies) with a "Gold" Peak Performance Award for achieving 100-percent compliance with national and state water quality regulations.

DDSD uses a Supervisory Control and Data Acquisition (SCADA) system to control and monitor the system. SCADA system expansion and annual system updates are included in the CIP and annual budgets.

The District has adopted service call/overflow response procedures requiring immediate response if necessary to minimize or eliminate an overflow. One vehicle is stocked with spill response supplies and is available for use at any time. Field reports from collections system service calls and overflows are distributed to key personnel so that appropriate action can be taken and documentation retained.

Bay Point System (Service Zone 1)

DDSD owns, operates, and maintains the collection system that serves Bay Point and the Willow Pass Business Park in unincorporated Contra Costa County. The system consists of 49 miles of sewer main, two pump stations, and one diversion facility.

The Shore Acres Pump Station conveys wastewater from the southwest portion of Pittsburg and Bay Point, as well as from two smaller non-District owned pump stations (Willow Pass Business Park, formerly known as Leshner, and Port Chicago), to the Broadway Diversion Structure through the Shore Acres Conveyance System. The capacity and projected flows for the pump station are shown in *Table 8.3*.

Table 8.3
Delta Diablo Sanitation District
Shore Acres Pump Station

| | |
|---|-----------------|
| | |
| Current Capacity | 4.0 mgd |
| Planned Capacity | 6.2 mgd (2012) |
| Emergency Storage Basin Capacity | 800,000 gallons |
| Projected Flows in mgd (Average Base Weather Flow ABWF) | 2005: 1.3 |
| | 2010: 1.7 |
| | 2015: 2.1 |
| | 2020: 2.6 |
| | Ultimate: 3.0 |

Source: 2004 DDSD Conveyance System Master Plan Update

The Master Plan Update includes recommended capacity upgrades for this facility at a cost of \$2.4 million (in 2003 dollars). Another \$85,000 in discretionary upgrades is also recommended.

The Triangle Pump Station serves a small mobile home park and an industrial facility. Wastewater from this pump station flows to the Broadway Diversion Facility. Improvements to the pump station listed in the Master Plan Update are minor and listed as discretionary.

The Broadway Diversion Facility diverts and stores excess wastewater flow from Bay Point and portions of Pittsburg. Inflow comes from the Shore Acres Pump Station, Triangle Pump Station, and West Pittsburg Interceptor. When flows reach 4.7 mgd, inflow from the Interceptor is diverted to a storage basin and stored until flow subsides. Recommended capacity improvements projected for 2010-2012 are estimated at \$4.55 million. The capacity and projected flows for the facility are shown in *Table 8.4*.

Table 8.4
Delta Diablo Sanitation District
Broadway Diversion Facility

| | |
|----------------------------------|---|
| Current Capacity | 6.2 mgd |
| Planned Capacity | 7.6 mgd (2012) |
| Emergency Storage Basin Capacity | 650,000 gallons |
| Projected Flows (ABWF) in mgd | 2005: 1.8 2010: 2.3 2015: 2.8 2020: 3.2 Ultimate: 3.8 |

Source: 2004 DDS D Conveyance System Master Plan Update

The District conducts periodic inspections of the Bay Point collection system; the inspections indicate that the system is deteriorating and rehabilitation is needed. Defects result in increased intrusion and infiltration, blockages and overflows, and flow bottlenecks. In 2004, the District completed an Asset Management Plan for the Bay Point system that includes assessments of capacity and condition as well as phased capital projects for sewer rehabilitation. The first priority projects included rehabilitation of 3,127 linear feet of sewers with capacity deficiencies and 3,728 linear feet of sewers with condition defects. Approximately 5,280 feet of sewers have been replaced.

DDSD reported six Sanitary Sewer Overflows (SSOs) in the Bay Point system for 2005. One event in March was caused by hairline crack in the force main; approximately 3,000 gallons spilled with 2,200 gallons returned to the system. The remaining five incidents totaled 495 gallons and were attributed primarily to grease. Five SSOs were reported for 2006; three of them were minor, totaling approximately 240 gallons, and two were major spills. The first major spill occurred in January 2006 when there was an equipment failure at the Broadway Diversion Facility, causing 35,000 gallons to spill. The District responded immediately and the overflow was stopped within one minute. The other incident occurred in March 2006 at the Port Chicago Pump Station that the District operated by contract for the US Navy. A small split occurred in a temporary discharge pipe. Approximately 30,000 gallons spilled but there was little to no sewage flow in the collection system at that time and the spillage was mostly stormwater and groundwater from intrusion and infiltration. Almost all of the flow that leaked was returned to the system.

In 1994, the District added a rate surcharge for service within Bay Point to finance rehabilitation projects. The revenues are accounted for in the Bay Point Rehabilitation Fund and are used only for collection system renewal and replacements within the Bay Point collection system. The estimated balance in the fund at June 30, 2007 is approximately \$1 million.

The District’s planned expenditures from the Bay Point Rehabilitation Fund include the second phase of rehabilitation projects (budgeted at \$400,000 in FY 2008/2009 and 2010/2011); development of an easement tracking system; \$50,000 per year budgeted for unanticipated repairs and replacement; and easement road surfacing and access gates (\$30,000 every other year).

There is a preliminary effort underway to annex most of the Bay Point community to the City of Pittsburg. Currently, a petition is being circulated to determine whether there is sufficient support for this effort. Such an annexation would not have an impact on the facilities and infrastructure that serve the area as the collection system would either be operated by Pittsburg or DDS. The conveyance system infrastructure, including Shore Acres Pump Station, flow equalization facilities and pipelines would continue to be owned and operated by the District as SCADA control is necessary to ensure proper operations coordinated with the wastewater treatment plant. Zone 1 would remain as a separate service zone for the District and the District’s fee structure would either remain the same (if DDS continued to provide collection services) or be adjusted to reflect conveyance, treatment and disposal services only (if Pittsburg is responsible for the collection system). Should the collection system transfer from the District to the City, additional studies would be needed to determine an equitable transfer of the capital assets.

Pittsburg (Service Zone 2)

The Pittsburg conveyance system includes one pump station with a flow equalization basin and the West Pittsburg Interceptor, the Range Road Bypass and the Rossmoor Bypass. The Pittsburg Pump Station receives wastewater from the Shore Acres Pump Station, the Broadway-area of Pittsburg, and flow from Pittsburg-Montezuma conveyance pipeline and City collection system and several trunk lines. Discharge flows are directed to the DDS WWTP. No SSOs were reported for this part of the conveyance system in 2005 or 2006. The capacity and projected flows for the pump station are shown in *Table 8.5*.

Table 8.5
Delta Diablo Sanitation District
Pittsburg Pump Station

| | |
|----------------------------------|-----------------|
| Current Capacity | 11.5 mgd |
| Planned Capacity | 15.0 mgd (2012) |
| Emergency Storage Basin Capacity | 800,000 gallons |
| Projected Flows (ABWF) in mgd | 2005: 4.9 |
| | 2010: 5.6 |
| | 2015: 6.3 |
| | 2020: 7.0 |
| | Ultimate: 7.7 |

Source: 2004 DDS Conveyance System Master Plan Update

The Master Plan Update recommends \$2.8 million in improvements that will increase conveyance pumping capacity required to meet projected demand in 2012. Additional recommended but discretionary projects include emergency force main bypass projects and an alarm, for a total cost of \$38,500.

Antioch (Service Zone 3)

The Bridgehead Pump Station, located at the eastern edge of Antioch, was constructed in 1991. The 2004 Master Plan Update noted that this pump station was at or over capacity. Construction is underway, slated for 2008 completion, to increase the capacity to 11.75 mgd and provide 1.3 mg flow equalization storage with a standby generator; this includes capacity to serve future development on the Ginocchio and Roddy Ranch properties to the south of Antioch. In FY 2009/2010 the District plans to extend the 24-inch force main 3,700 feet to Fulton Shipyard Road to send flows directly to the WWTP, bypassing the Antioch Pump Station. The timing of this improvement is dependent upon construction of the Wilbur Avenue Bridge. The capacity and projected flows for the pump station are shown in *Table 8.6*.

Table 8.6
Delta Diablo Sanitation District
Bridgehead Pump Station

| | |
|----------------------------------|---|
| Capacity (construction underway) | 11.75 mgd (2008) |
| Planned Capacity | 14.4 mgd (2020) |
| Emergency Storage Basin Capacity | 1.3 million gallons |
| Projected Flows (ABWF) in mgd | 2005: 2.0 2010: 2.6 2015: 3.2 2020: 4.0 Ultimate: 5.0 (does not include Southern Antioch Planning Area) |

Source: 2004 DDS D Conveyance System Master Plan Update

The Antioch Pump Station was built in 1952 and upgraded by and transferred to DDS D in the 1980s when wastewater was rerouted from the City’s Wastewater Treatment Plant to the District’s new regional treatment facilities. Wastewater flow is received from the Bridgehead Pump Station as well as other portions of Antioch. When the force main extension is completed for the Bridgehead Pump Station, flows will bypass the Antioch Pump Station so future capacity expansions are not anticipated. The capacity and projected flows for the pump station are shown in *Table 8.7*.

Table 8.7
Delta Diablo Sanitation District
Antioch Pump Station

| | |
|----------------------------------|---------------------|
| | |
| Current Capacity | 13.0 mgd |
| Planned Capacity | 13.0 mgd |
| Emergency Storage Basin Capacity | 1.4 million gallons |
| Projected Flows (PDWF) in mgd | 2005: 8.3 |
| | 2010: 5.6* |
| | 2015: 5.8 |
| | 2020: 6.0 |
| | Ultimate: 6.1 |

** In approximately 2009, flows from Bridgehead Pump Station will bypass the Antioch Pump Station reducing flows*

Source: 2004 DDS D Conveyance System Master Plan Update

Once the force main extension is in use, the existing pumping capacity of the Antioch Pump Station will be adequate to meet projected flows; no capacity improvements are needed. Improvements to the pump station listed in the 2004 Master Plan Update total \$228,000.

DDSD reported three SSOs in the Antioch conveyance system for 2005. The major event occurred when an emergency pump hose failed while the District was bypass pumping at the Bridgehead Pump Station. Approximately 6,000 gallons spilled and 5,300 gallons were returned to the system. In 2006, one SSO was reported, with 800 gallons spilled due to a failure of the force main.

8.3.2 Wastewater Treatment Plant

The DDS D Wastewater Treatment Plant (WWTP) is located in northwest Antioch at 2500 Pittsburg-Antioch Highway. The facility is currently permitted for 16.5 mgd; average dry weather flows are 14.2 mgd. The site has three storage facilities with 18.2 mg storage capacity for flow equalization and emergency use. The District's Waste Discharge Requirements (Order No. R2-2003-0114, NPDES Permit No. 0038547) allow for treated effluent to be discharged into New York Slough through a deep-water outfall, approximately 400-feet from shore. The capacity and projected flows to the WWTP are shown in *Table 8.8*.

**Table 8.8
Delta Diablo Sanitation District
Wastewater Treatment Plant**

| Current Treatment Capacity | 16.5 mgd | | |
|--|---|------------------|--------------|
| Planned Treatment Capacity | 22.7 mgd (2015) | | |
| Outfall Capacity | 27.0 mgd | | |
| Storage and Flow Equalization Facilities | 2.2 mg Flow Equalization Basin 1.0 mg Emergency Storage Basin 15.0 mg Emergency Retention Basin | | |
| Projected Flows (ADWF) in mgd | From East | From West | Total |
| 2005 | 8.8 | 6.7 | 15.6 |
| 2010 | 10.6 | 7.7 | 18.3 |
| 2015 | 11.6 | 8.7 | 20.3 |
| 2020 | 12.2 | 9.7 | 21.9 |
| Ultimate (2025) | 12.8 | 10.8 | 23.6 |

Source: 2004 DDS D Conveyance System Master Plan Update

The 2004 Wastewater Treatment Plant Master Plan Update includes recommendations for phased improvements to accommodate future demand. Projects include adding additional clarifiers, new pumping stations, and mixing basins. The overall projected cost is \$17.9 million (in 2003 dollars). No improvements or expansion to the outfall are required to accommodate future flows.

In 2007, DDS D staff reviewed the Master Plan Update recommendations for several expansion-related projects and evaluated alternatives for the next phase of planned expansion. In order to optimize capital expenditures, an alternative involving the use of a chemically enhanced primary treatment system was recommended during peak loading periods. This treatment system will be initiated in FY 2007/2008, where a study will be performed to determine the optimal dosage, chemical and dosage point. Other budgeted capital projects for FY 2007/2008 include the following:

- \$3.8 million to update the clarifier mechanisms to achieve better solids removal at higher flow rates
- \$7.7 million to rehabilitate three digesters
- \$5.9 million for improvements to the aeration system.

Water quality regulations are becoming increasingly stringent; the District anticipates that future process improvements will be required to remain in compliance with changing wastewater and biosolids treatment regulations. The District has budgeted \$2 million through FY2008/2009 to

assess alternatives and potentially purchase land adjacent to the District's existing property for future treatment or other needs.

During the period of August 21, 2003 to May 31, 2006 the District had four violations of its discharge limits. Three were related to coliform bacteria and one was related to the level of cyanide. The bacteria violations were due to an issue with the disinfection system that has been corrected to the satisfaction of the RWQCB. The cyanide issue was an isolated incident likely due to a laboratory testing error.

8.3.3 Recycled Water Facility

The District began its recycled water program in 2001. The Recycled Water Facility (RWF) provides water for the cooling towers at the Delta Energy Center (DEC) and Los Medanos Energy Center (LMEC) as well as irrigation for three City of Pittsburg parks adjacent to the existing pipeline. The facility is located at the WWTP. DEC is adjacent to the facility; LMEC is located approximately three miles west of the WWTP at the USS-Posco site. The RWF is sized to deliver a peak flow of 12.8 mgd to the power plants. Average demand has been approximately 7 mgd, and there is significant reserve capacity in the facility to deliver more recycled water.

In 2006, DDSD completed the CEQA review for the Antioch/DDSD Recycled Water Project. The proposed project will provide recycled water to the City of Antioch for irrigation purposes that currently use potable water. A new pipeline will be constructed to deliver water to city parks, playing fields, and the city-owned Lone Tree Golf Course. Eventually other users, such as Deer Valley High School and Contra Loma Regional Park, could be served from the pipeline.

In FY 2005/2006, the District cooperated with the City of Pittsburg on preparing the construction documents and grant application to extend recycled water service to the Delta View Golf Course. The project went out to bid in July 2007 and is currently under construction with completion planned for late 2008.

The District is also working with the Mirant Corporation, PG&E, and GWF Power Systems to potentially extend recycled water service for use in cooling towers. GWF Power Systems operates five power plants in Contra Costa County:

- 895 East Third and 1600 Loveridge Road, Pittsburg
- 3400 Wilbur Avenue and 1900 Wilbur Avenue, Antioch
- 555 Nichols Road, Bay Point

Prior to service being extended, LAFCO would need to approve a boundary change for the District. The Mirant Power Plant is included in an annexation application from the City of Pittsburg and the PG&E Power Plant is included in the application from the City of Antioch.

8.3.4 Summary

DDSD has updated its Master Plans for the Conveyance System and Wastewater Treatment Plant and has an asset management plan for the Bay Point collection system. The District has identified infrastructure needs based on growth as well as aging infrastructure for all three service zones: Bay Point, Pittsburg, and Antioch. The District plans for these needs through its five year CIP and rate structure to ensure costs are appropriately allocated and financial resources are available to implement the improvements as needed. The District is providing adequate service and no infrastructure needs or deficiencies were noted that are not being addressed in the District's master plans and CIP.

8.4 Financing Constraints and Opportunities

DDSD's primary sources of operating revenue are service charges and contract services provided to other entities. The District also receives a portion of the one-percent property tax levied by Contra Costa County. Capital facilities capacity charges and interest income provide significant revenues as well. In FY 2004/2005 the District received \$7.8 million in capital facilities connection charges revenue; \$3.1 million was received in FY 2005/2006 and \$3.7 million was received in FY 2006/2007. The CIP estimates 1,000 connections (equivalent residential units) per year and uses a projection of \$4,364,500 per year on average through FY 2011/2012 for this revenue class. This estimate may be higher than actual if growth slows in a given year due to economic conditions. Capital facilities connection fees are used to fund wastewater expansion projects under a "growth pays for growth facilities" funding approach.

For FY 2005/2006, total operating revenues for the District were \$19.4 million and total operating expenses (including \$4.2 million in depreciation) were \$20.9 million. The District strives to use a pay-as-you-go approach to fund capital projects so it is appropriate to consider depreciation when evaluating trends in net operating income. The District has had net operating losses since FY 2002/2003 partially due to a decrease in service charge revenue, particularly for recycled water and Capital Asset Replacement Fund revenues. Recycled water revenues decreased in FY 2005/2006 due to lower service charges to Delta Energy and Los Medanos Energy Center as a result of operations and planned reduction in the Recycled Water Operating Fund reserves. The District's allocation of general property taxes has historically been deposited in the Wastewater Capital Asset Replacement fund. For FY 2005/2006, operating expenses increased by approximately 7.9 percent over the prior year. This was primarily due to energy related costs and health insurance premium increases.

The District adopted a three-year budget in 2000, 2003 and 2006; the budget is reviewed and updated annually. In its July 2006 budget, the District notes that significant issues to be addressed over the next three years include increased personnel costs due to phased staffing changes and cost of living increases and increased costs for chemicals, utilities, and contracted services.

Table 8.9 summarizes the financial history of the District.

Table 8.9
Delta Diablo Sanitation District
Financial Summary

| | FY 2004/2005 Actual | FY 2005/2006 Actual | FY 2006/2007 Projected | FY 2007/2008 Budgeted |
|--|------------------------|------------------------|---------------------------|--------------------------|
| Operating Revenues | \$18,177,918 | \$19,422,749 | \$19,583,778 | \$20,408,572 |
| Operating Expenses | \$19,395,126 | \$20,917,731 | \$21,023,140 | \$21,945,208 |
| Net Non-operating Revenues / (Expenses) | \$7,667,058 | \$3,688,443 | \$8,845,922 | \$8,466,244 |
| Change in Net Assets | \$6,449,850 | \$2,193,461 | \$7,406,559 | \$6,929,608 |
| Net Assets, Beginning of Year | \$124,086,312 | \$130,536,162 | \$132,729,623 | \$140,136,122 |
| Net Assets, End of Year | \$130,536,162 | \$132,729,623 | \$140,136,122 | \$147,065,730 |

At June 30, 2006, the District had \$34.6 million in unrestricted net assets, with \$2.2 million in cash on hand. As a comparison, the District had \$34.0 million in unrestricted net assets at June 30, 2005 with \$1.5 million in cash on hand. The District does not have reserve policies other than maintaining five months of operating reserves, but does maintain separate funds to be used for capital appropriations. These are summarized below in *Table 8.10*.

Table 8.10
Delta Diablo Sanitation District
Summary of Capital Funds

| Fund | Use | Funding Source | Fund Balance June 30, 2007 estimated |
|--------------------------------------|--|--|--|
| Wastewater Expansion Fund | New assets funded with Capital Facility Fees | Capital Facilities Capital Charges | \$2,980,680 |
| Wastewater Asset Fund | New assets benefiting existing rate payers | Capital Asset component of Sewer Service Charge | \$529,180 |
| Wastewater Asset Replacement Fund | replacement of existing assets | Capital Asset Replacement component of Sewer Service Charge; interest on reserves; property tax revenue | \$11,967,200 |
| Bay Point Collection Program | replacement of existing assets in Bay Point system | Surcharge on Zone 1 Sewer Service Chgs | \$908,700 |

Table 8.10
Delta Diablo Sanitation District
Summary of Capital Funds

| Fund | Use | Funding Source | Fund Balance June 30, 2007 estimated |
|--|---------------------------------------|--------------------------------|--|
| 4 Recycled Water Funds | Improvements to recycled water system | Recycled water fees | \$2,129,800 |
| Household Hazardous Waste Program Fund | Facility needs | Agency payments, grant funding | \$40,000 |

The District funded \$18.1 million in improvements through the Wastewater Expansion Fund in FY 2006/2007. This fund's primary source of revenue is Capital Facility Capacity Charges; as noted above the District has budgeted \$4.4 million per year in revenue from this source based on 1,000 equivalent residential units being added each year. This fund also has debt service requirements of \$2.8 million per year. The projected fund balance for unrestricted funds will remain in a negative position through FY 2011/2012 because assets must be in place to serve growth in advance. The District is developing a financial plan to address this near-term negative balance.

The District's Rehabilitation and Replacement program is structured such that a portion of the annual payments made by the users are designated for capital asset replacement. The funds are invested over the life of the asset, and the associated interest income reduces the costs for replacement. In addition, the District's practice has been to use general property tax revenues and associated interest earnings for replacement and rehabilitation projects.

The District has financed projects in the past and currently has several long-term debt commitments with a combined outstanding balance of \$25.1 million at June 30, 2006. These include 1991 Certificates of Participation, 2000 Refunding Revenue Bonds, 2001 Wastewater Revenue Certificates of Participation, and a State Revolving Fund loan that was used to finance the Pittsburg Conveyance System Improvement project in 1997. Annual debt service requirements are approximately \$3.4 million.

The District has the structure in place to assign the cost of capital improvements to new development and existing use based on who benefits. The wastewater expansion projects are funded through capital facility capacity charges which are derived from residential, commercial, and industrial development.

The District has some financing constraints in its Wastewater Expansion Fund due to major improvements completed recently at the Bridgehead Pump Station. As discussed in *Section 8.3*, the District reevaluated the recommendations in the two Master Plan Updates and identified cost-effective alternatives to address expansion needs, such as chemical enhanced primary treatment,

that will delay the need for major infrastructure expansion at the WWTP. In addition, the District has the planning tools and rate structure in place to address infrastructure needs for each service zone.

8.5 Cost Avoidance Opportunities

The District is containing costs for system maintenance and capital improvements through its management practices. As noted in *Section 8.3*, the District identified cost-effective alternatives to improve system capacity. In addition, the District is preparing a Sewer System Management Plan and has a Fats, Oils and Grease program that will improve system performance and reduce the number of overflows. The District has prepared an Asset Management Plan for the Bay Point Collection System to prioritize projects and uses a SCADA system to monitor system functions and maximize system performance.

DDSD has identified the potential for regional wastewater programs to provide cost savings and efficiency improvements. Over the past few years DDSD and the Ironhouse Sanitary District (ISD) had several communications on regional approaches for treatment and disposal. In its *Ironhouse Sanitary District Wastewater Facilities Expansion Plan Update May 2005* and the *Supplemental Environmental Impact Report (SEIR) for Ironhouse Sanitary District Wastewater Treatment Plant Expansion*, ISD considered alternatives that would include shared facilities with DDSD and Brentwood. DDSD developed a cost analysis that indicated this would be cost-effective. However, ISD developed its own cost analysis that reached a different conclusion based on site constraints, the complexity of extending a pipeline through a developed corridor, and available outfall capacity. Based on the detailed cost analysis prepared in-house, ISD selected the alternative that will construct a new wastewater treatment plant and outfall to the San Joaquin River.

The projected growth in eastern Contra Costa County, increasingly stringent water quality regulations and related treatment requirements, and impacts of increasing amounts of effluent discharging to the waters of the Delta present opportunities for cost avoidance through regional programs. The agencies providing wastewater treatment and disposal within this region should partner on evaluating regional alternatives for programs, such as recycled water, where appropriate to ensure that adequate due diligence is performed and the benefits to ratepayers of avoided costs and shared facilities are fully evaluated.

8.6 Opportunities for Rate Restructuring

In June 2007, DDSD adopted an ordinance for rates that includes a clause limiting future year rate increases to not more than 9.83 percent above FY 2007/2008 rates. FY 2007/2008 rates were increased by 4.8 percent under the previous cap adopted in June, 2003. The wastewater

service rate structure includes an annual flat rate service charge by zone for residential accounts. Rates for commercial and industrial accounts are based on type of use and larger customers are charged according to actual water use. The service charges include fees for regional treatment and conveyance, capital asset upgrades, capital asset replacement, collection system rehabilitation (for Bay Point only), and street sweeping. Residential and commercial sewer charges are collected through the annual property tax bill; large industrial accounts are billed monthly by the District based on water use. As noted above, DDS D’s service area is divided into three zones and service rates vary by zone. Current rates are shown in *Table 8.11*.

Table 8.11
Delta Diablo Sanitation District
Annual Sewer Rates - eff. Fiscal Year 2007/2008

| Residential | Regional Treatment & Conveyance | Capital Asset | Capital Asset Replacement | Bay Point Collection Rehabilitation | Bay Point Collection System Operations | Street Sweeping | Total Residential User Charge (per ERU*) |
|--------------------|---------------------------------|---------------|---------------------------|-------------------------------------|--|-----------------|--|
| Zone 1 – Bay Point | \$165.72 | \$7.63 | \$19.75 | \$36.18 | \$61.14 | \$4.58 | \$295.00 |
| Zone 2 – Pittsburg | \$165.72 | \$7.63 | \$19.75 | -- | -- | \$10.26 | \$203.36 |
| Zone 3 - Antioch | \$165.72 | \$7.63 | \$19.75 | -- | -- | \$5.60 | \$217.84 |

* ERU – Equivalent Residential Unit

DDS D charges Capital Facilities Capacity charges for new development based on equivalent residential units (ERU). Current rates per ERU are as follows: Bay Point (Zone 1) \$3,940; Pittsburg (Zone 2) \$4,358; and Antioch (Zone 3) \$5,033.

8.7 Opportunities for Shared Facilities

As noted in *Section 8.5* above, a regional approach to wastewater programs, including recycled water, may have benefits for the ratepayers in eastern Contra Costa County. Opportunities and constraints within each of the wastewater treatment systems should be evaluated by the wastewater agencies within this region to ensure that adequate due diligence is performed and the benefits to ratepayers from avoided costs and shared facilities are fully evaluated.

DDS D shares facilities through the District’s Delta Household Hazardous Waste (HHW) Collection Facility, a free drop-off service for most HHW open to all East County residents. The District also provides street sweeping services within its service area; this benefits the Cities and County with meeting stormwater quality and non-point source regulations as well as controls potential pollutants that could enter the wastewater system.

The District is expanding recycled water service to include two golf courses and ten city parks in the Cities of Pittsburg and Antioch. The District is participating in the regional effort to study

the feasibility of building a desalination plant to supply potable water to agencies throughout the San Francisco Bay Area. One of the most feasible locations is adjacent to the District's current facilities, and there may be opportunities to share some of the District's resources should the participating agencies decide to move forward. Similarly, a regional biosolids facility is being considered that could be located at the DDS D site.

8.8 Evaluation of Management Efficiencies

The District periodically plans and evaluates their sewer system and financial capacity for providing service, maintenance, and improvements to the system. In 2004, the District adopted a five year Strategic Business Plan that provides policy guidance and a framework for programs and specific service elements. It includes initiatives to be undertaken over a five-year period to help achieve the District's vision. Annual updates on progress toward achieving the goals are provided to the District's Board of Directors.

8.9 Government Structure Options

DDS D provides wastewater collection services for the unincorporated community of Bay Point; wastewater conveyance, treatment, and disposal services for Bay Point, Pittsburg, and Antioch; street sweeping within its service area; and household hazardous waste services for all residents in eastern Contra Costa County. The District is serving some parcels that are outside its current boundaries. Due to urbanization and projected growth, there will be an increased need within this area for the services provided by the District, and the District has planned for service needs through its conveyance system and wastewater treatment plant master plans and the annually updated five-year CIP. The District's western boundary is contiguous to the boundary for Central Contra Costa Sanitary District and its eastern boundary is contiguous to the boundary for the Ironhouse Sanitary District. The District has a long standing practice with the Cities of Antioch and Pittsburg under which the District consents to a concurrent change in its boundary in order to be consistent with any changes to the Cities' boundaries. Four government structure options were identified:

- Maintain the status quo
- Annex areas receiving service into the District boundaries
- Consolidate sewer collection service with City of Antioch and/or City of Pittsburg
- Consolidate with the Ironhouse Sanitary District or the Central Contra Costa Sanitary District.

Maintain the status quo: The District is currently providing wastewater services for residents and businesses within its boundaries, as well as to a few parcels outside its boundaries. The District is also providing approximately 7.5 mgd of recycled water for use in regional power

plants and irrigation of municipal parks. The District is providing adequate service, maintains its infrastructure, and is financially sound. The benefits of this option are continuation of service and economies that benefit ratepayers for wastewater service and water service. The disadvantage to this option is that it does not clean up boundary issues for areas where service has already been extended.

Annex areas receiving service into the District boundaries: The District is providing service to a few properties outside its current boundaries. DDS D could annex these parcels into the District. The advantages of this option are to clean up boundary issues associated with service areas. The parcels need to be evaluated to determine their location with respect to current boundaries and the adopted Urban Limit Lines for the County and the Cities of Antioch and Pittsburg.

Consolidate sewer collection service: Antioch and Pittsburg provide wastewater collection services, while DDS D provides conveyance, treatment and disposal services. The advantages of this option are potential economies of scale and other efficiencies that might be available due to the single-purpose focus of DDS D. However disadvantages such as administrative costs, political opposition, and loss of local control over the sewer system within each city could outweigh the benefits. Further study would be needed to determine the merits of this option and benefit/costs which would affect ratepayers for both the District and each city.

Consolidate with the Ironhouse Sanitary District or the Central Contra Costa Sanitary District: DDS D is providing services similar to those provided by the Ironhouse Sanitary District (ISD) and Central Contra Costa Sanitary District (CCCS D). DDS D's principal act is the County Sanitation District Act (Health and Safety Code §4700 et seq.) while the principal act for both ISD and CCCS D is the Sanitary District Act of 1923 (Health and Safety Code §6400 et seq.). Government Code §56826.5 includes provisions for the consolidation of two or more special districts formed under different principal acts.

The advantages of this option may include economies of scale due to operational efficiencies. However, the wastewater collection and conveyance systems of the three agencies are designed to leverage the use of gravity and proximity to permitted discharge facilities. The Districts are focused on serving the needs of the communities within their service area. A consolidation could result in increased costs, loss of efficiency, and loss of local control regarding capital improvements. As noted above in *Sections 8.5 and 8.7*, there may be opportunities to effectively avoid costs and share facilities through a regional approach to recycled water; this could be accomplished through a joint powers authority that would not affect the government structure. This could alleviate concern over loss of local control or political opposition. Consolidation would require further study to determine whether there would be real operational efficiencies as well as the potential benefits and costs.

8.10 Local Accountability and Governance

DDSD is governed by a Board of Directors that includes three voting members. The Directors are the presiding officers, or their designees, of the elected bodies of the communities served by the district: the City of Antioch, the City of Pittsburg, and the Contra Costa County Supervisor for District V. The governance is summarized in *Table 8.12*.

Table 8.12
Delta Diablo Sanitation District Governance

| Date Formed: | 1955 (as County Sanitation District No. 7A) Name legally changed to Delta Diablo Sanitation District in 1989 | | |
|--|---|----------------------------------|---------------|
| Statutory Authorization: | County Sanitation District Act (California Health and Safety Code §4700) | | |
| Board Meetings: | District Office, 2 nd Wednesday of each month at 5:30 pm | | |
| Member** | Title | Term Expires | Compensation* |
| Mayor, City of Antioch** | Director | Concurrent with City office | \$196/mtg |
| Mayor, City of Pittsburg** | Director | Concurrent with City office | \$196/mtg |
| Contra Costa County Supervisor for District V | Director | Concurrent with County office | \$196/mtg |

* Directors are also eligible to receive health, vision, and life insurance.

** City Mayors may designate another City Council member

District Board meetings are open to the public. Meeting notices and agendas are posted at least 72 hours in advance at the District office and on the District’s website (www.ddsd.org). The District’s website includes comprehensive information on the District, including its Strategic Business Plan, budget, and Capital Improvement Plan.

DDSD provides three year educational and outreach programs including classroom presentations and trips on the Delta via a 90-foot research ship for fifth grade students. The focus of these programs is pollution prevention and learning research practices. The fifth grade program served over 5,000 students, teachers, and parents in the 2006-2007 school year.

8.11 Sphere of Influence Recommendations

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the sphere of influence (SOI) for each of the special districts and cities within the county.⁴

DDSD provides wastewater collection services for the unincorporated community of Bay Point; wastewater conveyance, treatment, and disposal services for Bay Point, Pittsburg, and Antioch;

⁴ State of California Government Code Section 56425 et seq.

street sweeping within its service area; and household hazardous waste services for all residents in eastern Contra Costa County. Due to urbanization and projected growth, there will be an increased need within this area for the services provided by the District. The District has a long standing practice with the Cities of Antioch and Pittsburg under which the District consents to a concurrent change in its boundary in order to be consistent with any changes to the Cities' boundaries. Conversely, annexation to DDS D does not necessarily necessitate annexation to the cities.

Two ~~Three~~ potential options are identified for the DDS D SOI:

- **Retain the existing SOI:** If LAFCO determines that the existing government structure is appropriate, then the existing SOI should be retained.
- **Adjust the SOI to be consistent with the voter approved Urban Limit Lines for Antioch and Pittsburg:** If LAFCO determines that DDS D has the capacity to continue to serve this area as supported by this MSR and further determines that it would benefit the region, then adjusting the District's SOI would be appropriate.

As discussed in *Section 8.9*, further study would be needed to determine whether operational efficiencies, costs savings, and other benefits would be achieved through consolidating DDS D with either CCCSD or ISD. The systems are separate and are designed to meet local conditions and use gravity flow where possible. Each district has planned for treatment capacity and disposal methods that are efficient and cost effective for their service area. An in-depth evaluation of efficiencies and cost savings would be necessary before determining if this is a viable alternative.

SOI Recommendation

It is recommended that LAFCO adjust DDS D's sphere of influence to be consistent with the voter approved Urban Limit Lines for the Cities of Antioch and Pittsburg. The District provides the wastewater conveyance, treatment, and disposal for these cities and uses their wastewater collection system plans, General Plans, and other planning efforts to plan for the future service needs of the area. In addition, the District and the Cities have a practice such that annexations to the cities will be processed concurrently with annexations to the District to ensure that their boundaries remain consistent. This would establish common planning area boundaries for the two cities and DDS D.

The analysis of SOI issues is included in *Table 8.13* below.

**8.0 Delta Diablo Sanitation District
Wastewater Service**

**Table 8.13
Delta Diablo Sanitation District
SOI Issue Analysis**

| Issue | Comments |
|--|--|
| SOI Update Recommendation | Adjust the DDSO SOI to be consistent with the voter approved Urban Limit Lines for Antioch and Pittsburg |
| Services authorized to provide | Wastewater collection (in Bay Point), conveyance, treatment, disposal, recycled water, street sweeping, household hazardous waste collection |
| Existing and Planned Land Uses and Policies | The District has no land use authority. County and city plans include land uses and population growth that will need increased wastewater services and recycled water supplies. In November 2005, Antioch voters approved Measure K, which established an Urban Limit Line (ULL) and amended the City's General Plan and Zoning Ordinance to reduce the number of housing units permitted on Roddy Ranch south of the city to not more than 700 units. Roddy Ranch will include a golf course. In November 2005, the Pittsburg voters approved Measure P, establishing an Urban Limit Line (ULL) that can only be changed by a vote of the people. County and city policies support the provision of adequate wastewater service for residents and businesses. |
| Potential effects on agricultural and open space lands | Although there are agricultural and open space lands within the District's SOI and boundaries, wastewater services do not by themselves induce or encourage growth on agricultural or open space lands. No Williamson Act contracts would be affected. |
| Opportunity for Infill Development rather than SOI expansion | The District has no land use authority and has no control over the location of infill development. |
| Projected Growth in the Affected Area | Population is expected to increase by 24% over the next 23 years to 225,847 residents. There will be an increased need for comprehensive wastewater services, including a reliable recycled water supply. |
| Services to be Provided to any areas added to the SOI | Wastewater conveyance, treatment, disposal, recycled water, street sweeping, household hazardous waste collection |
| Service Capacity and Adequacy | The District is providing adequate service, is financially stable, and has the capacity to continue to provide services within its boundaries. The District has planned for capital needs based on projected growth and is implementing projects to extend the life of existing infrastructure and increase capacity where necessary. |
| Location of Facilities, Infrastructure and Natural Features like rivers and ridgelines | The District provides services within the Bay Point community, Pittsburg and Antioch. DDSO is bounded to the north by the San Joaquin River and to the south by open space that includes the Black Diamond Mines Regional Preserve. The District's offices and treatment plant are located on the Pittsburg-Antioch border. The District discharges to New York Slough through a deep-water outfall. |

**Table 8.13
Delta Diablo Sanitation District
SOI Issue Analysis**

| Issue | Comments |
|--|--|
| Effects on Other Agencies | The District has a long-standing practice with Antioch and Pittsburg such that areas annexed to the cities would be annexed concurrently to the District. Changing the District's SOI to be consistent with the approved Urban Limit Line for each city would create a planning area that is consistent with the cities' planning areas. |
| Potential for Consolidations or other Reorganizations when Boundaries Divide communities | The District's current boundaries do not divide any communities. Consolidation with an adjacent sanitary district would require additional study. |
| Social or economic communities of interest in the area | The District was formed in 1955 as County Sanitation District No. 7A and began treating wastewater from the three communities in 1982. In 2001 County Sanitation District No. 7B (Concord Naval Air Station/Port Chicago) was dissolved and the area annexed to DDS. The District collects service charges within its three service zones and receives a portion of the 1% property tax. The service charges include fees for capital asset upgrades, replacement, and rehabilitation. Capital expansion is funded by new connection charges. Property owners within the area and ratepayers have an economic interest in receiving services from this investment. |
| Willingness to serve | The District wishes to continue to provide services within its boundary and the areas that are within the boundaries of Antioch and Pittsburg. |

8.12 Determinations

8.12.1 Growth and Population

Purpose: To evaluate service needs based upon existing and anticipated growth patterns and population projections.

DDSD serves an area that includes the unincorporated community of Bay Point and the Cities of Pittsburg and Antioch, as well as some other unincorporated areas. The current estimated population for this service area is 181,565. The population is expected to reach 225,847 by 2030 with an average annual growth rate of 1.1 percent.

The District provides wastewater collection in Bay Point, and wastewater conveyance, treatment and disposal for Bay Point, Pittsburg, and Antioch. The District also provides street sweeping and a household hazardous waste collection drop-off service for all residents in eastern Contra Costa County. Given the current level of urbanization and expected growth within the District's boundaries, there will be an increased need for the services provided by the District in the future.

To serve this growth the District will need to continue to maintain the existing infrastructure and implement phased improvements to some pump stations, force mains, and the treatment plant as addressed in the District's master plans for the conveyance system and wastewater treatment plant. These improvements will ensure that there are no service impacts to existing customers.

8.12.2 Infrastructure Needs or Deficiencies

Purpose: To evaluate the infrastructure needs and deficiencies in terms of supply, capacity, condition of facilities, and service quality.

DDSD owns and operates a wastewater system for domestic, commercial, and industrial wastewater. The District's wastewater system infrastructure includes a collection system serving Bay Point; a series of pumping stations, equalization basins, and conveyance systems serving Antioch, Pittsburg and Bay Point; and a Wastewater Treatment Plant, Recycled Water Facility and discharge facilities on the Pittsburg-Antioch border. The Wastewater Treatment Plant has a current permitted capacity of 16.5 mgd; average daily flows are 14.2 mgd. The outfall has a permitted capacity of 27 mgd.

The Bay Point collection system is deteriorating and the District is implementing a phased, prioritized rehabilitation program to repair or replace sewer lines. No other infrastructure needs or deficiencies were identified that are not being addressed in the District's Wastewater Conveyance System Master Plan, Wastewater Treatment Plant Master Plan, capital improvement plans and operations and maintenance plans.

8.12.3 Financing Constraints and Opportunities

Purpose: To evaluate a jurisdiction's capacity to finance needed improvements and services.

DDSD's primary sources of revenue are sewer service charges, capital facility capacity charges, recycled water charges, and interest. The District's receives a portion of the one-percent property tax collected by Contra Costa County. Slower growth will reduce the capital facility capacity charge revenue that is used to fund capital projects for system expansion. Slower growth would also impact the time frame for needed expansion.

The District strives for a pay-as-you-go approach to funding capital projects but in the past has financed some capital improvements with long-term debt. The District has adequate financial resources for debt service. The District is financially stable and has adequate reserves.

8.12.4 Cost Avoidance Opportunities

Purpose: To identify practices or opportunities that may help eliminate unnecessary costs.

DDSD is controlling costs by using effective alternatives that improve system treatment capacity while delaying infrastructure costs.

There may be opportunities to avoid costs through a regional approach to wastewater programs, including recycled water. The agencies providing wastewater treatment and disposal within this region should partner on evaluating regional alternatives where appropriate to ensure that adequate due diligence is performed and the benefits to ratepayers from avoided costs and shared facilities are fully evaluated.

8.12.5 Opportunities for Rate Restructuring

Purpose: To identify opportunities to impact rates positively without decreasing service levels.

DDSD's service rates are based on service zone and the underlying costs to operate the system and provide for capital improvements. The District increased its rates in July 2007 with a 4.8 percent rate increase. The District also established a new maximum cap on rates that provides for future additional increases of up to 9.8 percent through the 2009/2010 fiscal year.

8.12.6 Opportunities for Shared Facilities

Purpose: To evaluate the opportunities for a jurisdiction to share facilities and resources to develop more efficient service delivery systems.

Opportunities for shared facilities may be available through a regional approach to wastewater programs, including recycled water. The wastewater agencies within this region should partner on evaluating regional alternatives where appropriate to ensure that adequate due diligence is performed and the benefits to ratepayers from avoided costs and shared facilities are fully evaluated.

The District is expanding recycled water service to include two golf courses and ten city parks in the Cities of Pittsburg and Antioch. DDSD is participating in the regional effort to study the feasibility of building a desalination plant to supply potable water to agencies throughout the San Francisco Bay Area. The District is also participating in a regional effort to evaluate alternatives for biosolids management.

8.12.7 Evaluation of Management Efficiencies

Purpose: To evaluate management efficiencies of the jurisdiction.

DDSD periodically plans and evaluates its sewer system and financial capacity for providing service and maintenance for the system. In 2004, the District adopted a five year Strategic Business Plan that provides policy guidance and a framework for programs and specific service elements.

8.12.8 Government Structure Options

Purpose: To consider the advantages and disadvantages of various government structures to provide public services.

DDSD provides wastewater collection services for Zone 1, which includes portions of the unincorporated community of Bay Point, Willow Pass Business Park, and the Port Chicago area; wastewater conveyance, treatment, and disposal services for Bay Point, Pittsburg, and Antioch; street sweeping within its service area; and household hazardous waste services for all residents in eastern Contra Costa County. Four government structure options were identified:

Maintain the status quo: The District is currently providing wastewater services for residents and businesses within its boundaries, as well as to a few parcels outside its boundaries. The District is providing adequate service, maintains its infrastructure, and is financially sound. The benefits of this option are continuation of service and economies that benefit ratepayers for wastewater service and water service. The disadvantage to this option is that it does not clean up boundary issues for areas where service has already been extended.

Annex areas receiving service into the District boundaries: The District is providing service to a few properties outside its current boundaries. The advantage of this option is to clean up boundary issues associated with service areas.

Consolidate sewer collection service: The Cities provide wastewater collection services, while DDSD provides conveyance, treatment and disposal services for the cities and collection services for certain unincorporated areas. The advantages of this option are potential economies of scale and other efficiencies that might be available due to the single-purpose focus of DDSD. However disadvantages such as administrative costs, political opposition, and loss of local control over the sewer system within each city could outweigh the benefits. Further study would be needed to determine the merits of this option and benefit/costs.

Consolidate with the Ironhouse Sanitary District or the Central Contra Costa Sanitary District: DDSD is providing services similar to those provided by the Ironhouse Sanitary District (ISD) and Central Contra Costa Sanitary District (CCCSD). The advantages of this option may include economies of scale due to operational efficiencies. A consolidation could

result in increased costs, loss of efficiency, and loss of local control regarding capital improvements. This option would require further study to determine the potential benefits and costs.

8.12.9 Local Accountability and Governance

Purpose: To evaluate the accessibility and levels of public participation associated with the agency's decision-making and management process.

DDSD is governed by a three-member Board of Directors comprised of elected officials representing the Cities of Antioch and Pittsburg and the Contra Costa County District V. The Board meets monthly at the District offices in Antioch. Meetings are open to the public, and information on the District and its Board meetings is available on its website.

DDSD provides educational and outreach programs including classroom presentations and trips. The focus of these programs is pollution prevention and learning research practices.