

# Property Services

Three divisions of the Minneapolis Department of Public Works provided property services information:

The Engineering Design Division was the source of sewage discharge information.

Information on water came from the Water Works Division.

The Solid Waste Division furnished data on solid waste disposal and recycling.

Center Point Energy/Minnegasco and Xcel Energy provided energy data.

The Minneapolis Budget Office compiled data on revenue from utility company franchise fees.

## Water

The Minneapolis water system served Minneapolis, Columbia Heights, Crystal, Edina Morningside, Golden Valley, Hilltop, New Hope, Bloomington, and the Minneapolis-St. Paul Airport. The amount of water consumed in 2003 was slightly lower than consumption in 2002. In 2002, 16 billion gallons of water were delivered to the Minneapolis distribution system and used specifically in Minneapolis. About 18 billion gallons were used in Minneapolis in 2003. The following graph indicates the amount of water delivered to Minneapolis customers in recent years.

Year	Million Gallons per Year	Million Gallons per Day
1998	20,700	56.715
1999	21,155	57.959
2000	20,103	55.080
2001	22,168	60.902
2002	21,270	58.434
2003	13,423	36.377

The City began replacing all residential water meters in the City with remote reading units in 1992. The new system allowed for accurate water consumption figures for customer billing. The program was completed at the end of 2002 with 98% of the customers on automatic meters, thus achieving the goal set in 2001. Arrangements were made to install the majority of the remaining 2% of automatic water meter readers during 2002. Water rate increases have been steady due to the new Ultra-Filtration Program, the new reservoir in Fridley, the SCADA system, and ongoing capital improvement of watermain replacement. The water rate in 2002 was \$1.99 and rose to \$2.21 in 2003. With the installation of automatic meters in 1995, the City converted from quarterly to monthly billing. As of August 1, 1999, 100% of households were billed monthly.

### *Condition of Systems*

In addition to the municipal water supply, other sources of water in the City included several Park Board wells, springs and commercial wells. The State of Minnesota Health Department monitored the chemical and bacterial content of well water. If the water in any of these wells exceeded safety standards, appropriate action was taken to correct the hazard. The condition of the City's approximately 1000-mile water distribution system was generally good given its age, with watermain breaks occurring relatively infrequently with 55 in 2002 and 24 in 2003. Since the majority of the City's watermains are over 50 years old, with many over 100 years old, corrosion deposits accumulated on the walls of the watermains and were a problem. To mitigate the restricted carrying capacity of these pipes due to accumulated corrosion and to extend the service life of old unlined cast iron watermains, a program was implemented to clean and line watermains. The lining extended the expected service life of the pipes by about 50 years. The funding for these rehabilitation activities increased; in 2002, 32,000 feet of small watermains and 6,000 feet of large watermains were cleaned and lined and in 2003, 52,000 combined square feet of small and large watermains were cleaned and lined.

Many of the system components (such as hydrants and manholes) that were installed with the water mains were also in need of repair or replacement. In 1998, a major repair and replacement program was implemented to address these infrastructure needs. To accommodate development in the City and major transportation corridors, water construction crews installed new watermains at the expense of the developer or agency requesting the utility move or installation. In addition, some segments of watermain that were problematic (high incidence of watermain breaks or areas where system circulation needs to be increased) were replaced.

The average monthly combined sewer and water bill for 2002 was estimated at \$34.88 per household; in 2003, the same bill was estimated at \$32.94. In 2003, 12,000 feet of new watermain were installed, with the majority of the footage at the Heritage Park housing development.

### **Sewage Discharge and Treatment**

The total volume of sewage discharged by the City of Minneapolis remained virtually the same for several years. In 2002, water rates increased to \$1.99 per 100 cubic feet, and in 2003 to \$2.21 per 100 cubic feet. Sewer rates for 2003 were \$3.28 per 100 cubic feet. Sewage discharge remained under 71 million gallons per day since 1980. Average daily discharge for 2003 was 37 million gallons per day, well within the 78 million gallons per day limitation allowed by the Metropolitan Council's system statement for Minneapolis. The overall condition of the sanitary sewers is generally good, although the age of the sewer infrastructure is a concern. Some areas in the system are over 100 years old, with the need for repair often exceeding available resources. During 2002, six major repairs of sanitary sewer were completed and three major repairs of storm sewer were completed. In addition, 18,395 feet or 3.48 miles of sewers were re-lined. The current goal of the lining program is to completely line all cement sewers within the city. There are a total of 25 miles of cement pipe, 21.67 miles of which have been lined through 2003. The next goal will be to line those segments of clay sewers that are leaking or crumbling. It is estimated that 30 percent of the 660 miles of clay sewers will need to be lined; to date 3.06 miles of clay pipe have been lined. The following table indicates the number of miles of sanitary sewers, storm drains, sewer interceptor tunnels and storm drain tunnels in Minneapolis.

#### **Miles of:**

<b>Year</b>	<b>Sanitary Sewers</b>	<b>Storm Drains</b>	<b>Sewer Interceptor Tunnels</b>	<b>Storm Drain Tunnels</b>
1998	829.4	504.6	31.3	23.2
1999	829.5	507.4	31.3	23.2
2000	829.5	507.4	31.3	23.2
2001	829.5	508.6	31.3	23.8
2002	828.2	508.8	31.3	23.8
2003	828.2	508.8	31.3	23.8

### **Storm Water Management**

In 1990, the United States Environmental Protection Agency issued regulations that required all storm water runoff from municipalities with populations greater than 100,000 be permitted under the National Pollutant Discharge Elimination System (NPDES) program. The Minnesota Pollution Control Agency issued the first NPDES Storm Water Runoff Permit to Minneapolis on December 1, 2000. The permit required the implementation of approved storm water management activities designed to mitigate the pollution effects of urbanization on storm water runoff. Annual reporting requirements for this permit were submitted in the form of a storm water management program and annual report. Each annual report presented the activities that will be implemented for the current year, and provided documentation and analysis of the activities conducted in the previous year. Activities included the installation and proper maintenance of water quality ponds and grit chambers, street sweeping, and educational efforts to raise awareness about storm water issues. Notable accomplishments for the previous year included:

- Maintenance and cleaning programs removed 23,800 tons of material and 3,500 tons of leaves in street sweeping operations, and 790 cubic yards of sediment from storm water grit chambers.

- Information on the adverse effects of fertilizer use on water quality was distributed to 100,000 homes in the City of Minneapolis.
- Construction of four flood control projects with features designed to remove sediments, floatables, and nutrients, prevent erosion, and provide rate control.
- Water quality measures were implemented on new storm drain construction projects wherever feasible. With approximately 30,000 inlet structures and 525 outfalls in Minneapolis, storm drain design methods utilized water quality controls near the outlet. This approach provided the most cost-effective and efficient means of protecting surface waters from the adverse effects of storm water runoff. Manufactured BMPs (grit chambers) were the preferred BMP for this function in the City of Minneapolis. The greatest constraint in a fully developed city is space, making the compact nature of manufactured BMPs the only feasible choice for many storm drain projects.

### *Flood Mitigation Program*

In July of 1997, Minneapolis experienced torrential rainstorms that severely overburdened the existing storm sewer system. The rainstorms caused flooding at locations throughout the city resulting in physical damage to homes, businesses, and automobiles. In November 1997, the Minneapolis City Council adopted a nine-year flood mitigation program aimed at solving ongoing flooding caused by undersized storm drains. The specific goal the Department of Public Works has been working towards is to provide an equal level of drainage protection to all areas of the City. The approved program included the construction of six storm water retention basins (or ponds) plus 20 major storm drain construction projects. To date, two ponds and four flood control storm drain projects have been constructed.

During the summer of 2000, Public Works received several flood complaints from areas that were not documented in the 1997 Flood Report. Engineering Services completed preliminary studies for all of these additional complaint areas and identified 15 areas that have inadequate drainage systems by today's standard. Engineering Services staff conducted a more detailed analysis and rank the projects in a manner similar to that used for the 1997 Flood Mitigation Program. To complete all projects without increasing sewer rates, it was necessary to extend the original program to 2009, and begin work on the newly identified areas in 2010. Completion of all projects currently identified would then be extended to 2015.

### **Solid Waste**

The Division of Solid Waste and Recycling was created from Public Works General Services in 1991, serving 118,818 dwelling units. That year, 139,749 tons of waste were collected. By the end of 2000, the Division provided service to 107,179 residential units, 239 municipal locations and 1,275 litter containers collecting 158,485 tons of debris.

Solid waste services included collection of garbage, recyclable materials, large items, and yard waste from all single-family through four-unit dwellings. Larger residential dwellings and commercial establishments were granted City service on a case-by-case basis. Drop-off programs were provided for used motor oil, tires, household batteries, construction and building debris and large amounts of waste from spring cleaning or moveouts.

For collection purposes, the City is split roughly in half. City forces collected residences east of Interstate 35W and south of Broadway Avenue Northeast. A consortium of private haulers, Minneapolis Refuse, Inc. (MRI), collected the remaining half of the City. The type and level of services provided were identical for all city residents.

In 2002, the Division collected 115,826 tons of garbage, including tonnage from the Dirty Collection Point (DCP) Program and the Annual Neighborhood CleanSweeps. Up to two large burnable items were collected each garbage day from each serviced address. The DCP Program began on the City-serviced side of Minneapolis in June 1992 and was implemented citywide in July 1993.

## **Recycling**

The Minneapolis Recycling Program continued to be one of the most extensive in the nation. The source-separated recycling stream consisted of junk mail, newspapers, magazines and catalogs, clear, green, blue and brown glass bottles and jars, food and beverage cans, aluminum foil, household batteries, corrugated cardboard, mixed paperboard, plastic bottles and phone books, amounting to more than 21,856 tons in 2002.

### *Large Item Collection*

Due to changes in Minnesota State law and requirements at the Hennepin County incinerator, a separate weekly collection for appliances and large items was initiated in 1990. Prior to that time, large items were collected with the garbage. In 2002, the Division collected 5,323 tons. In addition, the recycling program was expanded in 1997 by instituting separate collection of televisions, computers and computer monitors for processing and recycling. In 2002, approximately 464 tons of these electronic items were collected, an increase from the previous year.

### *Yard Trimmings*

Collection of yard trimmings was seasonal and varied greatly with the weather. Spring and fall yard trimmings tonnage was usually higher than summer. In 2002, 17,639 tons of yard trimmings were collected and disposed of at private composting facilities.

### *Hazardous Waste*

The collection of unwanted garden and household hazardous wastes in Minneapolis was coordinated through the Hennepin County Department of Environmental Services. Hennepin County maintained two permanent collection sites and offered occasional mobile drop-off sites.

### *Other Solid Waste Efforts*

The Division operated the annual "Neighborhood CleanSweep Program." This program provided staff, vehicles and disposal to organized neighborhoods. Volunteers gathered debris from basements, attics and garages and disposed of any amount of general household debris. Residents were encouraged to use vouchers to haul certain non-burnable materials to the transfer station for disposal.

## **Tonnage Collected Through Neighborhood Clean Sweeps**

<b>Year</b>	<b>Tons</b>
1998	517.3
1999	382.7
2000	348.4
2001	440.0
2002	329.9

Minneapolis residents also took up to 2,000 pounds of almost any material except household hazardous waste to the transfer station without additional charge. Over the past five years, use of the transfer station through the "Voucher Program" has been encouraged. Interest in the program has grown, as shown by the number of annual voucher requests. In 2002, 21,598 vouchers were used.

**Annual Transfer Station Voucher Requests**

<b>Year</b>	<b># Vouchers Requested</b>
1997	8,771
1998	11,291
1999	13,388
2000	14,486

Other efforts in 2002 included the collection 247 tons of tires and 16 tons of household batteries. The Solid Waste Division continued to maintain 1,490 public litter containers with regular collection schedules. As of January 2000, Solid Waste and Recycling ceased to service most litter containers due to expense, increased demand for containers, and inequity of service (most litter containers were placed for the convenience of specific for-profit businesses, but were paid for by City residents). An "Adopt a Litter Container" program was put in place with 690 adoptees.

**Minneapolis Recycling and Sanitation Tonnage and Tipping Fees  
1998 to 2002**

<b>Year</b>	<b># of Customers</b>	<b>Recycling Tonnage</b>	<b>Large Items and Major Appliances Tonnage</b>	<b>Yard Waste Tonnage</b>	<b>Garbage Tonnage</b>	<b>Garbage Tipping Fees</b>	<b>Vouchers</b>
1998	107,919	21,871	3,680	20,537	109,531	\$39.00	11,291
1999	107,290	22,570	4,160	17,094	112,962	\$39.00	13,388
2000	180,693	23,054	4,148	17,704	113,580	\$39.00	14,586
2001	107,069	21,976	5,076	19,584	115,461	\$39.00	23,530
2002		21,856	5,323	17,639	115,826	\$39.00	