
CHAPTER 6. MUNICIPAL FACILITIES

Government

The City of Waterville operates under a charter which provides for a Mayor/Council form of government. The seven-member City Council serves as the community's legislative body. All Council members are elected by wards. The Charter grants to the City Council all powers to enact, amend, or repeal rules, ordinances and resolutions relating to the City's property, affairs and government, to preserve the public peace, health and safety, to establish personnel policies, to authorize the issuance of debt, and to undertake an annual audit of the City's accounts.

Public Works Department

The Public Works Department is staffed by 35 employees including the Public Works Director, the City Engineer, the Highway Superintendent, the Central Garage Foreman and 31 other employees. The Department operates on a yearly budget of about \$2.5 million and is responsible for: maintaining the City's roads and sidewalks; fleet repair and management; solid waste collection, recycling and disposal; maintaining traffic lights, signs, and various buildings; and the management and maintenance of the City-owned Robert Lafleur Airport, a general aviation airport. The Waterville Sewerage District is responsible for maintaining catch basins, but the Public Works Department has the responsibility of keeping covers free from leaves and debris. The Department also has the responsibility of coordinating infrastructure repair with the water and sewer districts and other utilities.

Public Works Compound. The Public Works Department is headquartered at the Public Works compound, a 3-acre site located on Wentworth Court off Main Street just north of the downtown. The compound includes five buildings as well as parking areas for vehicles and other equipment. Buildings within the compound include the office and maintenance garage, a salt shed, and three storage buildings. The office and maintenance building needs a new roof and a ventilation system (vehicle exhaust gases are currently drawn into the building), and the boiler needs to be upgraded. The salt shed is in poor condition and needs to be replaced. The Maine Department of Transportation has matching funds available for the construction of salt sheds; Waterville is projected to receive matching funds in 1998/99.

Fleet. The Public Works Department owns and maintains 54 vehicles and over 100 other pieces of equipment. Major pieces of equipment include nine dump trucks which are used for hauling, as well as plowing and sanding, two waste collection trucks, two recycling trucks, a roll-off vehicle, two loaders (one that is also used to plow snow), a grader, two sweepers, one tractor trailer, and three large snow loaders (one is used at the Airport, one is used in the snow dump, and one is used to load trucks). The Department has prepared a capital improvements plan for

vehicles and equipment, as well as a second plan for traffic signal replacement, but these have not been included in the City's capital improvement plan.

Snow Removal. The Department utilizes 11 plow routes to clear snow from 187 lane miles of public roads. The Department also removes snow from 20 of the City's 40 miles of sidewalks. The first priority is to remove snowbanks from the downtown area and Concourse, then remove snowbanks from heavily travelled areas to improve safety. Because of personnel cutbacks in the early 1990s, the same personnel who plow streets have to plow sidewalks and remove snow banks in the heavily traveled areas to improve safety. This creates scheduling problems during large storms because drivers have to be sent home for rest before undertaking sidewalk snow removal and snow hauling.

Public Ways. The Department is responsible for maintaining 187 lane miles of streets (approximately 93 miles), 40 miles of sidewalks, the concourse, four municipal parking lots and four school parking lots. In the fall of 1993, the Department conducted a complete road surface survey of the City and used the results to develop a 5-Year Strategic Plan for Pavement Maintenance. During 1994, the City spent \$1.5 million for the first year of the program for 14 miles of street improvements. A similar effort was undertaken during 1995 at a cost of \$750,000, but planned road reconstruction efforts were delayed to 1996.

Other Maintenance. The Department is responsible for cleaning the City's catch basins, as well as maintaining approximately 5,000 signs, and maintaining street and traffic lights. The 1995 budget for street/traffic lights was \$307,500. The city pays the Waterville Sewerage District approximately \$415,000 for storm water management which includes maintenance of the catch basins.

Solid Waste. The Public Works Department provides curbside collection of solid waste (approximately 16 tons per day) to about 4,100 City households. The City also operates a curbside recycling program with Winslow, and provides recycling services to Fairfield for a fee.

Curbside collection is provided to dwellings and apartment buildings with 6 or fewer units. Solid waste is collected weekly and recyclables are collected bi-weekly.

The Department oversees the operation of the transfer station which is located on the site of the former landfill on Webb Road. Wastes which are not recyclable are hauled under contract to the Penobscot Energy Recovery Company (PERC) waste-to-energy plant in Orrington. The City's roll-off vehicle collects recyclables from Waterville, and by contract from Augusta, Vassalboro and China.

Airport. The Director of the Public Works Department is also the manager of the Airport. The Department is responsible for maintenance of the terminal building, for plowing the airport drives, parking lots and runways, and for undertaking various runway improvements.

5-Year Vision Statement. In October of 1995, the City prepared a 5-year vision statement. Elements of the Vision Statement that directly affect the Public Works Department include:

Economic Development - upgrade City traffic signals; redesign and reconstruct the Concourse.

Facility Safety/Compliance - make sure there are proper locker room and shower facilities for public works employees.

Planning - continue capital improvement programming process; improve the airport; establish a fleet replacement program.

Cooperative Services - complete street renaming and renumbering; begin a hazardous materials dump day; institute fleet management with other departments and organizations; combine police, fire and public works departments with Winslow; purchase a system that will enable emergency vehicles to control traffic lights.

Employee Development - get Public Works to participate in hazardous materials training.

Beautification - Institute a City-wide sign standardization policy and practice; eliminate weeds in most visible public places; start a Main Street beautification program; erect new entrance signs to the City; continue the tree-planting program; launch a City beautification program.

Issues. Issues facing the Public Works Department include the following:

- 1. Buildings.** The office/maintenance building needs to be replaced. The Department needs more storage facilities for its equipment and vehicles, many of which sit outside. The salt shed needs to be replaced.
- 2. Regional Service Delivery.** Economies of scale may be achieved by delivering public works services on a regional basis. However, staff levels would probably have to be expanded to accommodate any additional service deliveries.
- 3. Pavement Plan.** There is a need to continue the 5-year pavement management plan so that overall pavement conditions do not continue to deteriorate.
- 4. Fleet Replacement.** There is a need to adopt a fleet and equipment replacement program and include it in a 5-year capital improvements program. There is also a need for a similar effort relative to traffic signs and signals.

5. **Five-Year Vision Statement.** Many of the initiatives contained in the proposed 5-Year Vision Statement (1995) which impact the Department of Public Works would require additional staff or funds to put into practice.
6. **Sidewalks.** The City's 40 miles of sidewalks are not being maintained/upgraded on a regular basis. Moreover, there is no long-range plan to address the question of which streets will have sidewalks on both sides, which streets will have sidewalks on one side and which streets will have no sidewalks.

Police Protection

Staff. The Waterville Police Department is headquartered in the basement of City Hall and is staffed by 30 officers, including a chief, a deputy chief, four detectives, five sergeants, 18 patrol officers and a school resource officer. The Department also employs 14 school crossing guards on a part-time basis. The Department has 11 vehicles which are replaced on a rotating basis. The Department has mutual aid agreements with Fairfield, Oakland, and Winslow.

Budget. The annual budget has remained relatively constant for the past five fiscal years and was \$1.15 million in FY 1995. About 86% of the budget is devoted to personnel costs. The Department has been successful in obtaining a number of federal and state grants including \$71,000 under the provisions of the crime bill, \$20,000 for OUI enforcement, \$7,600 for camcorders, \$3,800 for cop collectible cards, and \$6,000 for a citizens and priorities survey.

Dispatch Services. The City's Communications Center, which falls under the jurisdiction of the Police Department, employs six people who provide 24-hour coverage. The Communications Center provides dispatch services to the police departments, fire departments, (including emergency medical services) and public works departments in Waterville, Oakland and Winslow, as well as emergency medical dispatching services for Fairfield, Sidney, Vassalboro, Belgrade and Benton. As such, it is a regional service center for the greater Waterville area, and perhaps the best example of successful regionalism. In 1995, the Center handled 26,060 incidents.

Crime. Waterville had a crime rate of 44.7 per 1,000 population in 1995, according to the Uniform Crime Reporting Program of the Maine State Police. According to the Police Chief, Waterville's rate reflects the fact that many crimes are committed by people coming into Waterville from surrounding areas, but crime statistics are calculated using only the City's population. Crime rates for other communities include: Winslow 14.5; Oakland 23.3; Fairfield 28.1; Augusta 54.4; Auburn 34.9; Lewiston 62.8; Brunswick 29.8.

The Department utilizes the Kennebec County jail in Augusta for arrests. Crimes committed in 1995 include:

Homicide	0
Rape	7
Robbery	5
Burglary	102
Larceny/Theft	625
Assault	<u>267</u>
Total	1,036

Campus Security. The Police Department has full jurisdiction on the campuses of Colby and Thomas Colleges, although each college also maintains its own security force. The emergency rooms at the hospitals generate many calls for assistance, particularly when there is a need to take into custody a person who is mentally challenged.

Outreach. The Department operates many public awareness and outreach programs including the DARE Program through the schools, a reading program in the schools, and a cop card program for kids.

Issues, Needs. Major issues and needs facing the Department include the following:

- 1. Work Environment.** The Department's office space in the basement of City Hall is cramped and inadequate. Security and safety are virtually non-existent, there is no juvenile space, and there are no storage files. The proposed public safety building would have addressed these problems.
- 2. Regionalism.** To a certain extent, the Police Department provides regional services through the Dispatch Center. However, there may be opportunities to combine policing functions with other communities, with a net increase in service and a net savings to participating communities. City officials are currently exploring opportunities for regional services with officials from Winslow.
- 3. Staffing.** Staffing levels are generally adequate, although there is no animal control officer (the Department utilizes the services of a person from Oakland on a part-time basis). If Waterville becomes a 911 provider under the State's enhanced 911 program, there may be a need for additional staff. One concern is that Waterville invests in training for its officers at the Criminal Justice Academy, and many of these officers subsequently move on to serve other communities.
- 4. Parity in Pay.** The employees of the Waterville Police Department are paid less than their counterparts in other parts of the State. As of July 1, 1996, employees are able to transfer

their retirement plans to other communities. This may result in an exodus of capable employees who find better paying positions elsewhere.

Fire Protection

Staff. The City's Fire Department operates out of the Central Fire Station building which is located at College and Main Streets (in 1981, the South End, North End and West End fire stations were consolidated into the Central Fire Station). The Department is operated by a full-time staff of 18, including the Fire Chief, one Assistant Fire Chief, three Captains, three emergency medical technicians, 12 fire fighters, and four companies of call personnel headed by a Captain and a Lieutenant. There are 45 call personnel, including a number from surrounding communities, who are paid on a per hour basis. The Department's full-time staff also includes two code enforcement officers. The Waterville Fire Department has mutual aid agreements with Oakland, Fairfield, Winslow and Sidney.

The City's ISO (Insurance Services Office) rating is 3 for the entire community. ISO ratings range from 1 (the highest) to 10 (no protection). Most Maine communities with a full-time fire department and a central water system have an ISO rating of 3 or 4 for the urban area, and a 9 for the rural area. Winslow's rate is 4/9; Augusta's is 4/9; Auburn's is 3/9; and Brunswick's is 4/9. A low ISO translates into reduced insurance rates for property owners.

Equipment. The Department has five major vehicles including four engines and one ladder truck. Other vehicles include a pick-up, a rescue vehicle, a crash vehicle, a command unit, and a vehicle for the chief and assistant chief. Scheduled vehicle replacements include the ladder truck in 1996, the rescue vehicle in 1997, and one of the engines in 1998.

Budget. The current budget for the Fire Department includes \$972,174 for fire-fighting, and \$75,450 for code enforcement. Hydrant rental, which is funded separately by the City, amounts to about \$200,000/year.

Calls. Approximately 80% of the Department's calls are EMS-related. The number of calls since 1980 has increased somewhat, as summarized below:

Year Calls

1990	1,566
1991	1,673
1992	1,782
1993	2,111
1994	1,834
1995	1,780

Programs. The Fire Department's programs and activities include a fire prevention program through the schools, inspection of businesses and apartments, a technical rescue squad for water

rescues, high angle rescue, a hazardous materials response team, a fire investigation team, and code enforcement and permitting.

Issues, Needs. Major issues and needs facing the Department include the following:

- 1. Inadequate Facility.** The current Fire Station is inadequate. The building is not large enough to house all of the Department's vehicles. As a result, one of the engines is stored at the Parks and Recreation Department, and a number of the smaller vehicles are stored outside. When trucks are parked on the apron in front of the building for cleaning, the sidewalk is blocked and pedestrians have to walk in the street. When trucks are moved around, traffic has to be shut down on Main, Elm and College. The building fails to meet a number of codes. Fire Department officials estimate that it would be very expensive to address all of the deficiencies. Any investment in the building should be contingent upon whether or not the City decides to build a substation near the Airport. The proposed \$2.5 million public safety building would have resolved these problems. A new fire station without space for the Police Department would probably range in cost between \$1.5 million and \$1.8 million.
- 2. Regionalism.** Officials from Waterville and Winslow have been exploring the possibility of having a single fire department serve both communities. A regional fire department could result in greater service as well as cost savings. A regional service would also have a bearing on whether or not a substation should be built at the Airport (it might make more sense to invest in a new regional facility, rather than a substation).
- 3. Enhanced 911.** The City will have to take a number of steps to prepare for the implementation of the enhanced 911 system which is currently scheduled to go into effect in July of 1997. This may include re-numbering residences on some streets.

Waterville Public Library

The Waterville Public Library, located at 73 Elm Street, was first established in 1896 as "The Waterville Free Public Library Association." Between 1896 and 1905, the Library Association's collection was housed in private office buildings. In 1905, the City constructed the Waterville Public Library building at its current location with financial help from Andrew Carnegie. The building was renovated and expanded following a fire in 1960, and a second expansion was completed in 1976.

The Maine Legislature chartered the Waterville Public Library as a public corporation in 1935. It has functioned since that time as a quasi-municipal entity that is governed by a 17-member Board of Trustees, each of whom serves a staggered four-year term. Board members are nominated by the Mayor and are subject to confirmation by the Council. The Library is staffed by a full-time director, a cataloger, a children's librarian, a technical service coordinator, one person who serves as head of circulation control and as the adult services advisor, a typist/bookkeeper who also serves as loan coordinator, a janitor and 11 part-time personnel.

The Library's current collection consists of approximately 96,000 volumes and subscriptions to over 125 periodicals. In 1995, the Library circulated over 155,000 books and other items including magazines, pamphlets, audio-cassettes, and video-cassettes.

Issues/Needs

- 1. More Parking.** Parking is a serious problem at the Library, especially during the day. The Library staff has identified a need for more parking space for patrons of the Library. The provision of more parking space adjoining Library grounds would probably require the acquisition of some adjoining property.
- 2. More Space.** The Library staff has identified a need for more space for the storage of Library materials and for Library-related activities, as well as a climate-controlled computer room. These space needs would require expansion of the current building or construction of a new one. Expansion could be accommodated almost entirely on City-owned property.

Schools

The Waterville Department of Education operates its own school system. It is a department of the City, and is governed by a Board of Education comprised of seven members, all elected by wards. The Department is administered on a day-to-day basis by a Superintendent, an Assistant Superintendent, four full-time principals, three full-time assistant principals, 174.3 full-time equivalent teachers of which 166.8 are locally funded and 7.5 are federally or State funded, and various other professional and non-professional staff.

Facilities. The City's school facilities have been well maintained over the years and generally are in good condition. They include the following:

- 1. Gilman Street School.** The Gilman Street School, which was constructed in 1922, houses the Central Office, the Waterville Kindergarten Center, the Alternative School and the Area Resource Center. Between 1985 and 1995, October 1 kindergarten enrollment ranged from a low of 145 (1985) to a high of 199 (1990). The 1995 enrollment (162) was well below the building's capacity of 200 students. Problems with this building include the following: the roof needs to be repaired, bricks need repointing, windows need to be made energy efficient, the heating system needs to be upgraded, insulation needs to be added, and the weathered appearance of the building needs to be rehabilitated.
- 2. George J. Mitchell School.** The George J. Mitchell School (formerly Brookside Elementary until 1995) was constructed in 1969 and is located on a 28.1 acre parcel on Drummond Avenue. It serves grades 1-3 on a City-wide basis. Between 1985 and 1995, October 1 enrollment varied between a low of 482 (1995) and a high of 621 (1991). The 1995 enrollment (482) was well below capacity (700).

3. **Albert S. Hall School.** The Albert Hall School, which was also constructed in 1922, is located on a 1.3-acre site at the corner of Pleasant and School Streets. Formerly known as the Pleasant Street School, it serves grades 4-5 City-wide. Between 1985 and 1995, enrollment ranged from a low of 270 (1986) to a high of 376 (1992). The 1995 enrollment (369) was below the building's capacity (400).
4. **Waterville Junior High.** Waterville Junior High is located on a 44-acre parcel on West River Road. The building was constructed in 1978 and serves grades 6 through 8 City-wide. Between 1985 and 1995, enrollment ranged from a low of 455 (1988) to a high of 548 (1994). The 1995 enrollment (540) was just below the capacity of the building (550).
5. **Waterville High.** Waterville High is located on a 29.5 acre parcel on Brooklyn avenue and serves grades 9 through 12. The building was constructed in 1962, with major additions in 1966 and 1970. Between 1985 and 1995, enrollment ranged from a low of 677 (1994) to a high of 890 (1985). The 1995 enrollment (699) was well short of capacity (1000+). Major departments within the High School include Applied and Fine Arts, Business Education, English, Mathematics, Modern and Classical Language, Physical Education, Science, Social Studies, and Special Education. The High School sponsors athletics in 14 sports, as well as numerous clubs and groups. In 1995, 57% of the graduating class enrolled in 4-year colleges/universities.

Programs. In addition to classroom instruction, sports, and extra-curricular activities, the Waterville Education Department offers a number of programs including:

Title 1 services for grades K-5 (federal funds for programs to give special assistance to educationally disadvantaged students);

Libraries and media centers including the Regional Area Resource Center, located at 21 Gilman Street, elementary libraries, the Junior High School Media Center, and the Senior High Media Center;

Guidance Services for all grade levels;

Special Education Program, which offers programs in speech, education for the deaf, homebound tutoring, learning disabilities, pre-vocational, resource services, and self-contained services;

Unified Arts Programs including health, industrial arts, computer science, home economics, band, music, choral, general music, orchestra/strings, physical education, art, and drama; and

Waterville Adult Community Education, which offers programs in high school completion, literacy and adult basic education, vocational, community education, counseling, and business partnerships.

Technology. The Waterville Education Department has just completed a major computer technology upgrade under which each classroom in each school has been wired for computers and computer networks, computers have been installed in each classroom and in computer labs, and the five schools have been networked to each other. The project, which cost about \$1 million, involved:

1. The creation of an Ethernet Network (computer network) in each school;
2. A Wide Area Network to tie each building together;
3. Software;
4. A department-wide E-mail system,
5. Networked printers;
6. C-D ROM networking technology;
7. File servers; and
8. Approximately 200 work stations.

Enrollment. As shown in the following tables, total school enrollment has been remarkably stable over the past 10 years, and is not expected to change much through the year 2000. Overall, projected enrollments will not exceed the capacity of the system. However, enrollments at the Junior High will be about 22-29 students over capacity between 1996 and 1998, after which enrollments are expected to drop below the capacity of the building. School officials indicate that this enrollment bulge can be accommodated within the existing building, and will not require the use of a portable classroom. Enrollment in all of the other school buildings will remain below capacity. Assuming that the school buildings continue to receive proper upkeep and maintenance, Waterville will not have to replace any school facilities within the time frame envisioned by this Plan.

TABLE 6-1
WATERVILLE PUBLIC SCHOOLS
ENROLLMENT HISTORY - OCTOBER 1

	K	1-3	4-5	6-8	9-12*	Other	Total Enrollment
1985	145	520	280	520	896	14	2,375
1986	160	500	270	503	863	10	2,296
1987	163	518	314	482	802	18	2,279
1988	176	561	315	455	787	-	2,294
1989	173	578	305	475	762	16	2,309
1990	199	616	318	484	729	9	2,371
1991	176	621	355	481	701	18	2,352
1992	162	597	376	492	701	32	2,360
1993	157	581	357	503	669	16	2,283
1994	149	518	358	548	667	16	2,256
1995	162	482	369	540	699	16	2,268
PROJECTED ENROLLMENTS							
1996	157	495	333	579	716	-	2,280
1997	163	517	297	572	758	-	2,307
1998	149	532	278	574	782	-	2,315
1999	143	516	305	508	824	-	2,296
2000	121	485	306	471	823	-	2,206

* Enrollment includes about 100 tuition students.

Source: Superintendent's Office

Assessment Scores. Waterville High School compares favorably to Statewide averages on the Maine Educational Assessments tests, as well as to averages of nearby systems, as shown for 1995 in the Table 6-2.

TABLE 6-2
SUMMARY OF 3-YEAR
HIGH SCHOOL AVERAGES

	State				China	
	Average	Waterville	Oakland	Fairfield	Erskine	Winslow
Reading	295	315	350	255	290	320
Writing	275	290	315	230	275	255
Math	290	320	305	255	280	345
Science	295	320	310	260	295	325
Social Studies	275	285	295	250	245	325
Arts & Humanities	275	305	285	230	265	325

Source: Superintendent's Office.

On the College Board Scholastic Aptitude Tests, Waterville High School's average is 436 on Verbal (the State average is 427), and 466 on Math (the State average is 469).

State Aid. The State educational subsidy has declined for the Waterville school system, as it has for many other communities. In FY 1991, the State subsidy accounted for about 60% of the City's education budget. By FY 1995, this had declined to about 55%, primarily because the State reduced its financial support for education statewide.

Year	School Subsidy
FY 1991	\$5,524,847
FY 1992	\$5,352,622
FY 1993	\$5,353,421
FY 1994	\$5,261,015
FY 1995	\$5,085,808

Issues

- 1. State Aid.** The State's declining financial commitment to schools, not only in Waterville but throughout the State, means that an increasingly larger percentage of the school budget will have to be supported by the local property tax.
- 2. Enrollment.** Enrollments have declined over the past several decades as families have moved from the City. Over the long run, Waterville faces additional enrollment declines. The loss of tuition students to other schools such as Messalonskee in Oakland may also cause additional declines.
- 3. High Turnover.** Despite stability in the overall numbers, there is a high turnover of students (30-40%) as families move in and out of the City. This detracts from the teaching process because new students need to be brought up to speed. Other urban school districts face high turnover rates.
- 4. Facility Consolidation.** There may be opportunities for facility consolidation and subsequent tax savings as enrollments continue to decline.

Water Supply

District. The Kennebec Water District was established in 1899 as a wholly separate, quasi-municipal entity, to provide water to the residents of Waterville and the towns of Benton, Fairfield, Vassalboro and Winslow. The District is governed by an 8-member Board of Trustees, and is operated on a day-to-day basis by a General Manager who supervises the work of 24 employees. Five employees work at the treatment plant, and the rest work out of the main office building on South Street in Waterville. According to the 1990 Census, the water system serves 97% of the City's housing units (6,797 units out of a total of 6,975). Within Waterville, there are currently 4,687 active services in the system, including 4,089 residential services, 490 commercial services, and 108 other services.

Source. The District's water flows from China Lake and is pumped into a water filtration facility in Vassalboro approximately one mile north of China Lake. From the plant, water travels by gravity flow through 36-inch and 20-inch parallel, 8.75 mile transmission lines to the pumping station off Western Avenue at the Water District's main office building. The pumping station distributes water through water mains to customers throughout the City. The pumping station is served by two 4,500 GPM (gallon per minute) pumps and one 9,000 GPM pump.

The Water District draws an average of 8.5 MGD (million gallons per day) from China Lake, far below the estimated safe yield of 20 MGD in a period of prolonged drought. A pumping station in North Vassalboro serves as a standby pumping facility for Waterville. The water rate for a typical residential customer is \$36.10 per quarter for 300 cubic feet of water plus 65.7 cents per 100 cubic feet beyond the 300 cubic feet.

Filtration Plant. In 1993, the Water District completed construction of an \$11.5 million water filtration plant. The plant was constructed to comply with the Federal Safe Drinking Water Act, which requires that public utilities using an open water surface source for potable water shall filter such water by December 31, 1993. The decision to build the filtration plant was made only after engineering studies determined that drilling wells (the alternative to an open water source) would not be as economical as building a filtration plant.

Treatment consists of coagulation, clarification, and filtration utilizing the Trident Microfloc System. In addition to filtration, the District undertakes corrosion control at the plant to comply with EPA requirements for lead and copper: a blended phosphate is added to the water to coat the distribution system, and sodium hydroxide is added to maintain the proper PH. The water is fluoridated and disinfected with chlorine.

Water Storage. The purpose of a water storage facility is to supply the system when the pumps are off, to provide constant and uniform pressure, and to supply extra water in case of fire or other emergencies. Prior to 1993, the water storage facility for Waterville consisted of an open, 40 million gallon reservoir located in Fairfield just over the Waterville/Fairfield line (a small portion of the reservoir is in Waterville). In 1993, in direct response to the requirements of the Federal Safe Drinking Water Act, the District constructed and brought on line two 6-million gallon, covered storage tanks on the Waterville/ Fairfield line. Water from the distribution system is pumped into the tanks until they are full, at which time the pumps automatically shut off. The tanks then supply water to the system until a low water switch signals the pumps to resume pumping.

When the covered storage tanks were completed in 1993, the walls of the open reservoir were lowered and the area was informally designated by the Water District as a wildlife habitat area. The Water District owns approximately 200 acres of land around the reservoir and storage tanks (approximately 20 acres in Waterville), a portion of which is used as a tree farm.

Distribution System. Altogether, the Water District owns 150 miles of water mains throughout the five communities it serves. Roughly half of the water mains are in Waterville. The distribution system in Waterville consists of two pressure zones; a high lift area and the remainder of the system. Some of Waterville's lines date back to the late 1800s and consist of unlined, cast iron mains. In the early 1970s, ductile iron was used to replace existing lines and to extend lines to new areas. Concrete lined ductile iron is now used for the same purposes. There are 314 fire hydrants in the Waterville portion of the system which are maintained by the Water District.

The Water District is planning to spend about \$300,000 to \$350,000 per year on its system-wide water main replacement program, in accordance with a 5-year plan. The 5-year plan is developed and revised yearly in consultation with the public works directors in each of the respective communities so as to coordinate the work with local public works projects. In Waterville, the District's water main replacement program is tied into the City's 5-year street reconstruction program.

Issues, Needs. Major issues and needs facing the Water District include the following:

- 1. Service limitations.** Land areas with an elevation greater than 270 feet above sea level cannot be served without a separate pumping station. This means that any additional development of the City towards Fairfield Center would require a pumping station.
- 2. Distribution system.** There will be an ongoing need to upgrade the distribution system.
- 3. Water Quality.** The Water District is concerned about maintaining the quality of China Lake, and has conducted numerous water quality tests and studies. The District is working with the China Lake Association and the China Region Lake Alliance on water quality monitoring and watershed control protection. To date, Waterville has not been significantly involved with this effort.

Waterville Sewerage District

Introduction. Water pollution, public health, and sanitary waste disposal have been issues in Waterville for a long time. In 1902, a typhoid epidemic was caused by the discharge of raw sewage into the Messalonskee and Kennebec Rivers, both of which were the City's source of drinking water. Following the epidemic, Waterville ceased using these water bodies as a water supply. The seriousness of water pollution problems in both rivers prompted several sanitary surveys in the 1930s and 40s. In 1948, the City hired Camp Dresser & McKee to prepare a report on sewerage and sewage disposal. The report was the impetus for the formation of the Waterville Sewerage District.

The District. In 1949, the Waterville Sewerage District was established as a quasi-municipal entity for the purpose of controlling, managing and operating all of the sewers serving the people and industries within Waterville. The District is responsible for constructing and maintaining storm water and sanitary sewers, billing for wastewater collection, and, since 1976, transmission of sewage to the Kennebec Sanitary Treatment District's wastewater treatment plant. The District owns the sanitary sewer lines, the storm drains, and 1,760 catch basins.

The District operates on a budget of about \$1.8 million per year, and is in compliance with all Federal and State mandates. The District is operated by a staff of eight, including a Superintendent, an Office Manager, a Foreman, a Billing Clerk, and two 2-person crews. The sewer rate is \$1.61/100 cubic feet and a minimum quarterly bill of \$28.98. The average quarterly bill is about \$32. Average use is about 180 gallons per day.

Collection System. The Waterville Sewerage District maintains approximately 94 miles of sanitary sewers within the City, as well as three District-owned pump stations, a number of privately owned pump stations, and about 2,000 manholes. Sewer sizes range from 6 inches to 54 inches. Prior to 1980, the system consisted of combined storm water and sanitary waste sewers. In addition, there were 26 CSOs (combined sewer overflows), which discharged storm

water and raw sewage to various water bodies during periods of heavy rainfall. Since 1982, the District has eliminated all 26 CSOs, and has upgraded/installed storm and sanitary sewers to such an extent that about 85%-90% of the system now consists of separate storm and sanitary sewers. District officials estimate that within the next five years, approximately 99% of the system will be separated. Following the separation work, the District plans to replace/repair about 1,000 manholes that need work at an approximate cost of \$200 to \$600 per manhole.

When the Kennebec Sanitary Treatment District's wastewater treatment plant was built, Waterville purchased 43% of the treatment plant's capacity. At that time, sewage flows from the City averaged about 6.1 MGD (million gallons per day). The City's average flow is now about 3.1 MGD, or about 24% of the design capacity of the treatment plant.

Issues, Needs. Major issues and needs facing the Sewerage District include the following:

- 1. Sewerage District Rules and City Ordinances.** The Sewerage District has enacted a number of regulations aimed at making the system operate effectively. Unfortunately, the District does not have the police powers to enforce the regulations, and the City does not have similar requirements in its ordinances. Examples include:
 - A. Roof, cellar and foundation drains.** Roof and cellar drains contribute substantial amounts of surface and ground water to the system. The District's rules and regulations prohibit the discharge of these drains into the sanitary sewers. However, these drains continue to be installed in violation of the District's rules and regulations, resulting in excess flows.
 - B. Outside grease traps.** The District's regulations require outside grease traps for all restaurants and food processing facilities. The failure of certain businesses to comply with this requirement results in periodic sewer blockages.
- 2. Lack of Easements.** During the first part of the century, portions of the sanitary sewer system were installed on private property without easements.
- 3. Regionalism.** In November of 1995, the Kimball Chase Company of Bath completed a study entitled, "Waterville Area Sewage Collection Strategy," for the City of Waterville. The study examined five options for improving the operation and maintenance of sewer systems in Waterville, Winslow, Fairfield, Benton and Oakland. The study recommended that each community maintain control over its own sewer system, but contract with the Waterville Sewerage District for maintenance and operations. One issue that would have to be addressed under the recommended scenario is the condition of Fairfield's system, especially the combined sewer overflows. Very little has been invested in the Fairfield system, and there is little information available on its condition.
- 4. Long-Range Coordination.** There is a need for utility providers and City officials to work closely with one another on future development plans involving utilities.

5. **Future Upgrading.** The District is considering upgrading and replacing old sewers that were installed in the 1800s. These old sewers tend to be in the older and more populated areas of the City, where traffic disruptions from sewer work could adversely impact area businesses. In order to repair these older sewers without the extensive traffic disruptions often associated with sewer projects, the District must use newer, more expensive repair methods such as installing liners through existing access points.

Kennebec Sanitary Treatment District

Introduction. Until 1976, sewage from the City of Waterville was discharged without treatment to Messalonskee Stream and the Kennebec River. In 1968, Camp Dresser & McKee evaluated Waterville's lack of sewage treatment in light of the reclassification of the Kennebec River and Messalonskee Stream to "C" quality by the Maine Legislature. The report recommended the construction of a region-wide, 13 MGD (million gallons per day) treatment plant, nearly 12 miles of interceptors, and three major pump stations and force mains. The report provided the foundation on which the Kennebec Sanitary Treatment District (KSTD) was established.

The District. The Kennebec Sanitary Treatment District was established in 1971 as a wholly separate, quasi-municipal entity to provide wastewater treatment on a regional basis to Waterville, Benton, Fairfield and Winslow, as well as the Chinet Company (formerly Keyes Fiber). The District is served by a staff of 21 people and has an annual budget of just over \$2 million. Within the area served by the KSTD, the first sewer was installed in 1870, the average age of sewers is 50-60 years, and there is a total of 152 miles of sewers as well as 22 pumping stations and the treatment plant.

Treatment Plant. The District received Federal and State funds amounting to 85% of total costs for the construction of the wastewater treatment plant, interceptors and pump stations. Construction of the waste treatment system began in 1973 and was completed in November of 1976 at a cost of about \$21.9 million.

The plant, located on lower Water Street, receives sanitary wastes from Waterville, Winslow, Benton, Fairfield and the Chinet Company through three major interceptors: the Fairfield-Benton Interceptor, the North Interceptor, and the Abram Brook Interceptor. The system includes three CSOs (combined sewer overflows) which periodically discharge untreated storm/sanitary flows during some storm events. The KSTD began a program to monitor these discharges in 1995.

The treatment plant has a design capacity of 12.7 MGD (million gallons per day) of sewage and 25.5 MGD of flow. The average flow in 1995 was 10.3 MGD, or about 79% of design capacity. The plant, which utilizes the activated sludge treatment process, includes two primary treatment tanks, two aeration tanks, and four clarifiers. The plant generates approximately 16,000 to 17,000 cubic yards of sludge per year which is distributed to area farmers and/or the District's land in Fairfield.

KSTD is in the process of preparing the final design for a \$6.6 million upgrade to prepare the facilities for the next 20 years of operation. The mechanical aerators will be replaced with a fine bubble system in one basin. Modifications will be made to the clarifiers and the clarifier feed system to improve operation. The heating and ventilating systems will be brought up to code throughout the facilities. The return sludge pumps will be replaced along with their controls. The plant control system will be converted to a SCADA system with improved monitoring of the pumping stations.

Financial Arrangements. The District's \$2.2 million budget is supported by assessing the four communities and the Chinet Company according to a complex formula that takes into account three-year flows, biological oxygen demand (BOD) and suspended solids. Flows, as well as BOD levels and suspended solids are determined by sampling flows at strategic locations. The assessments for the 1996 budget are as follows:

Waterville Sewerage District	26.7%	\$567,046
Fairfield	11.5%	243,569
Winslow	8.4	178,890
Benton	1.6%	33,231
Chinet Company	51.9%	<u>1,102,572</u>
		\$2,125,308

Issues, Needs. Major issues and needs facing KSTD include the following:

1. **Treatment Plant Upgrade.** The treatment plant upgrade represents a major capital investment in the system. However, the \$6 million project will be financed by bonds following retirement in 1996 of bonds for construction of the original system. KSTD has scheduled the upgrade to minimize the impact on the sewer rates.
2. **Combined Sewer Overflows.** The District is under pressure from the Department of Environmental Protection to prepare a CSO facilities plan for eventually eliminating CSOs from the system. Options for addressing the problem include expensive storage facilities so that excess flows can be treated after a storm. The KSTD has done some preliminary design work that shows that for an investment of under \$600,000, the treatment plant could be modified to treat an additional 15 million gallons per day of stormwater. Another option would be to reduce flows by eliminating combined sewers in the respective communities. The latter course of action would require that the respective communities work closely with KSTD to identify cost effective means of reducing combined flows. There is a concern, however, that Waterville should not have to pay for problems which are created by another community, particularly since the City and the Waterville Sewerage District have been diligent about separating storm and sanitary sewers.
3. **Sludge Disposal.** Sludge disposal could become a problem in the future if public opposition continues to grow or if Federal/State requirements change (KSTD's sludge is relatively "clean" in terms of heavy metals). If spreading is foreclosed as an option in the

future, KSTD would have to consider building a relatively expensive composting facility. Other options include contracting with private composting facilities or landfills.

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