

PUBLIC FACILITIES & SERVICES

INTRODUCTION

Public facilities and services are of great importance to the general welfare of a community. Various levels of government or private institutions either own or operate these facilities for the benefit of the community. Some of the services provided are necessities of life, such as sewer, storm sewer and water, whereas others substantially enhance the quality of life, such as schools, park and recreation facilities. Considering the continued population growth, rising living standards, increased leisure time and educational expectations, the City anticipates an increased demand for various types of public services within the planning period. Advance and systematic planning of these public facilities is essential to assuring that the City meets future demands.

WATER SYSTEM

SYSTEM PLANNING

The 2000 City of Monmouth Water System Master Plan guides the governing body in the development of the water system. The Water System Master Plan for the City of Monmouth outlines the water system improvements and expansions necessary to accommodate anticipated growth and current deficiencies. The plan outlines the projected needs of the water system from Year 2000 through 2020. The city is currently in the process of completing an update to the 2000 Water System Master Plan and anticipates completion of the update in June 2007.

The 2007 Public Facilities Element, Water System Section, includes excerpts and summary information from the 2000 Water System Master Plan, prepared by Steller Company, and information collected from City Public Works staff and the consultant assisting the city with the 2007 Water Master Plan update.

WATER SUPPLY SOURCES

The city currently derives all source water from groundwater sources. Although surface water rights for the Willamette River are available, future planning has been performed using additional groundwater sources exclusively. This will avoid the high cost and complexity associated with treatment of surface water supplies. The city's future water supplies will be derived primarily from Marion County Well #1 and a second well in Marion County (Marion County #2) that would serve as a supplementary and backup source to Marion County Well #1. The City of Monmouth is also pursuing the development of a shallow wellfield on the west side of the Willamette River. This project is a joint developmental project with the City of Independence referred to as the Willamette River Wellfield.

Groundwater Sources

The city currently has access to three (3) wells from two (2) wellfields: the Marion County Well, located at the approach ramp at the east end of the Willamette River (Independence) Bridge, and the Independence Fourth Street well field. The Marion County well is a 1100-1200 GPM production source. The Independence Fourth Street Wellfield consists of two (2) separate wells with a combined capacity of approximately 350-400 GPM. Total current maximum production from all sources is 1500 GPM (2.16 MGD).

Water Rights

The City of Monmouth currently (2000) has approved and active permits or certificates for the following groundwater sources with the Oregon Water Resources Department.

**Public Facilities Element - Table 1
Water Rights**

Application Number	Permit Number	Certificate Number	Well Number	Priority Date	Permitted Flow
G-8926	G-8579	NA	Well #1 (Marion County Well)	August 14, 1978	5 CFS (2 Wells)
G-5106	G-4818	62436	Well #4 (Fourth Street Well)	February 17, 1970	55 CFS
G-5106	G-4818	62436	Well #5 (Fourth Street Well)	February 17, 1970	33 CFS
G-13521	G-12976	NA	Wells #6 and #7 (Buena Vista Wells)	October 1, 1993	6 CFS
Total Permitted Flow (with new well field): 11.88 CFS (5,328 GPM)					

WATER DISTRIBUTION SYSTEM

The city's distribution system consists of primarily older asbestos-cement (AC) pipe and newer Polyvinyl Chloride (PVC) pipe with a minor amount of steel and cast iron. Most of the distribution system was installed during the period between 1950-1975. The city currently utilizes PVC (American Water Works Association (AWWA) class C-900) pipe as the standard pipe of choice. The approximate distribution of pipe sizes is shown in Table 2.

**Public Facilities Element - Table 2
Distribution System**

Size	Total Length and Type	Total
14"	4,480' (AC)	4,480'
12"	15,590' (AC) + 2,963' (PVC)	18,553'
10"	393' (CI) + 1,482' (AC)	1,875'
8"	21,649' (AC) + 16,039' (PVC)	37,688'
6"	1,423' (CI) + 21,056' (PVC) + 53,918' (AC)	76,397'
4"	4,703' (AC) + 1,783' (CI) + 705' (DI) + 575' (STL) + 520' (PVC)	8,286'
2"	6,965' (PVC) + 2,879' (Galvanized Steel)	9,844'
Total length: 157,123' – Miles: 29.75		

The system has adequate isolation valving and good fire hydrant distribution throughout the system. Most of the fire hydrants in the city were manufactured by Waterous, which is the city's primary brand. Hydrants manufactured by Kennedy or Clow are also present. New services are exclusively made from 200 pounds per square inch (psi) polyethylene tubing installed from the main to service meter. Most of the distribution system is looped and intertied, where possible, to improve delivery and lessen water quality impacts to customers.

TREATMENT FACILITIES

All of the current treatment facilities are located at the Marion County Well #1. The city operates an air stripping facility (installed in 1994-1995) at the Marion County Well site for removal of Carbon Dioxide gas. This stripper consists of a 7' diameter structural grade aluminum tower. The tower has an overall height of 23' and is equipped with an 8' layer of 3.5" Lanpac packing material. The system utilizes a 1.5 horsepower blower capable of 3,200 cubic feet per minute of air to assist in the stripping process. Water is introduced from the well to the top of the tower where it is forced to trickle down through the packing. This action, combined with an upward draft of air from the blower, removes approximately 95% of the Carbon Dioxide present in the raw water. The water pH is elevated from a level of 5.5-6 to 7.0-7.5 following this procedure. Additional control for pipeline corrosion is obtained through the injection of zinc orthophosphate (ZnPO₄). Chlorination is performed using gaseous chlorine at the Marion County well. Sodium Fluoride is also introduced into the water at Well #1.

BOOSTER PUMP STATIONS

Because the city operates only one pressure zone, there are no booster pump stations within the system. A booster pump is used at the Marion County Well to transfer water from the air stripper. This pump is a Cornell model 5YBCC-100-2, 100 HP close coupled end-suction centrifugal pump. The pump's design flow rate is 1300 Gallons Per Minute (GPM). Due to the differential in reservoir levels at Cupids Knoll, two 10 horsepower booster pumps, each capable of 400 GPM, are used to transfer water from the lower one million gallon buried reservoir to the two upper reservoirs. These pumps are capable of either manual or automatic operation.

STORAGE FACILITIES

The city operates three ground-level reservoirs, all located on Cupids Knoll. Two reservoirs are located at grade while one is partially buried. The present available water storage of 5,000,000 gallons represents a surplus over current water demands and population by 1,400,000 gallons.

**Public Facilities Element - Table 3
Existing Storage Facilities**

Water Storage Reservoir Number and Year Constructed	Diameter	Rates Water Storage (Gallons)	Material of Construction	Reservoir Floor Elevation (Ft-MSL)	Maximum Water Surface Elevation (Ft-MSL)	Maximum Water Depth (Ft.)
1) 1980	104 ft.	3,000,000	Concrete	314 ft.	361.25 ft.	47.25 ft.
2) 1949	82 ft.	1,000,000	Reinforced Concrete	295 ft.	320'±	25 ft.
3) 1969	60ft.	1,000,000	Steel	314 ft.	361.25 ft.	47.25 ft.

The reservoirs are mostly in good condition, however, reservoir number two is in need of inspection and may possibly need pressure grouting of several cracks.

CURRENT WATER REQUIREMENTS

The City's current average daily demand of water is approximately 985,000 gallons per day which equates to a per person usage of 119 gallons per day and includes all water lost through system leakage. This value of water consumption is typical for a city of this size and population distribution. Current maximum day water demand is approximately 2,341,000 gallons, an increase of 2.4 times the average day. The maximum day typically occurs in July or August. System leakage and non-revenue water is currently averaging between 10 percent to 12 percent. The distribution of water usage within the city is comprised of 82 percent for residential (all types) usage, 11 to 15 percent for institutional uses (Western Oregon University), and 4 to 5 percent of commercial/industrial use. The currently available water sources can provide water for all current daily uses within 24 hour pumping but as the city continues to grow, additional wells will be required to accommodate the increased demands.

FUTURE WATER REQUIREMENTS

Average daily water demand is projected to rise to 1,950,000 gallons per day (GPD) with maximum day demands as high as 4,950,000 gallons, by the year 2020, an increase of 50 percent over 2000 values. This value reflects total volume of unaccounted for water (water lost to system leakage) to 10 percent and limiting well operation to 20 hours per day. **Table 4** shows projected water demands through 2020.

**Public Facilities Element - Table 4
Projected Water Demands: 2000-2020**

	2000	2005 ¹	2010 ¹	2015 ¹	2020 ¹
Design Population	8,376	9,710	11,256	13,049	15,128
Average Daily Demand ²	1,047,000 GPD	1,253,750 GPD	1,457,000 GPD	1,691,125 GPD	1,954,000 GPD
Average Summer Demand	1,570,500 GPD	1,900,625 GPD	2,300,500 GPD	2,644,688 GPD	3,039,500 GPD
Maximum Daily Demand ³	2,621,688 GPD	3,116,730 GPD	3,713,128 GPD	4,282,337 GPD	4,938,064 GPD
Peak Hour ⁴	4,500 GPM	5,413 GPM	6,450 GPM	7,400 GPM	8,600 GPM

¹ Years 2005-2020 reflect increased daily demand to accommodate projected Western Oregon University (WOU) and city growth

² Average Daily Demand is based on 125 gallons per capita/day

³ Maximum Daily Demand is based on 313 gallons per capita/day plus the WOU growth factor

⁴ Peak Hour Demand is assumed to be 2.5 x Maximum Day Demands

WATER STORAGE REQUIREMENTS

Water storage is provided for several reasons including: to equalize supply and demand for daily flow variations, maximum day and peak hour requirements; to provide emergency reserve supply during pipeline breaks, mechanical failures and power outages; and to provide water for fire protection.

Table 5 shows the estimated future average day, maximum day and peak hour demands for the period through 2020.

**Public Facilities Element - Table 5
Water System Demand**

Year	Population	Average Day (GPD)	Maximum Day (GPD)	Peak Hour (GPM)
2000	8,376	1,047,000	2,621,688	4,500
2005	9,710	1,253,750	3,116,730	5,413
2010	11,256	1,457,000	3,713,128	6,450
2015	13,049	1,691,125	4,282,337	7,400
2020	15,128	1,954,000	4,938,064	8,600

Table 6 shows the city's water storage requirements through 2020.

**Public Facilities Element - Table 6
Storage Requirements
Years 2000, 2005, 2010, 2015, 2020**

Storage	2000	2005	2010	2015	2020 ²
Operational Storage (25% of Max. Day)	655,500 Gal	780,000 Gal	930,000 Gal	1,070,600 Gal	1,235,000 Gal
Fire Reserve Storage ¹	840,000 Gal	840,000 Gal	1,000,000 Gal	1,000,000 Gal	1,000,000 Gal
Reserve Emergency Storage (2 days x average day)	2,094,000 Gal	2,507,000 Gal	2,914,000 Gal	3,382,250 Gal	3,908,000 Gal
Total Required Storage	3,589,500 Gal	4,127,500 Gal	4,844,000 Gal	5,452,850 Gal	6,143,000 Gal
Less Available Storage ³	5,000,000 Gal	5,000,000 Gal	5,000,000 Gal	6,000,000 Gal	6,000,000 Gal
Total (Deficit), Surplus (+)	+1,410,500 Gal	+872,500 Gal	+156,000 Gal	+547,000 Gal	(143,000 Gal)

¹ Fire Storage Requirement: 2000: 3,500 GPM x 60 mins/hr x 4 hrs duration = 840,000 gallons

² 2020 Fire Flow: 4,000 GPM x 240 mins = 1,000,000 gallons

³ After addition of proposed additional storage at incremental year of study period.

Table 7 shows the city's planned schedule for improvements to the city's water storage capacity.

**Public Facilities Element - Table 7
Proposed Water Storage Addition Schedule**

Site	2000 (existing)	2005	2010	2015	2020
Cupids Knoll 3MG (1980) Res. #1	3,000,000 Gal	3,000,000 Gal	3,000,000 Gal	3,000,000 Gal	3,000,000 Gal
Cupids Knoll 1MG (1949) Res. #2	1,000,000 Gal	1,000,000 Gal	1,000,000 Gal	Abandoned	Abandoned
New Cupids Knoll 2 MG (Replace Res. #2)	---	---	---	2,000,000 Gal	2,000,000 Gal
Cupids Knoll 1MG (1969) Res. #3	1,000,000 Gal	1,000,000 Gal	1,000,000 Gal	1,000,000 Gal	1,000,000 Gal
Total	5,000,000 Gal	5,000,000 Gal	5,000,000 Gal	6,000,000 Gal	6,000,000 Gal

Source: City of Monmouth Water System Master Plan Update, 2007.

The proposed water storage addition schedule includes a new 2,000,000-gallon reservoir to be placed at the existing Cupids Knoll Reservoir site. This reservoir will replace the existing partially buried reservoir during 2010-2015. The existing buried reservoir is approaching the end of its service life (66 years) around 2010 and is slated for abandonment during this period. The new reservoir will be placed in the corner of the existing reservoir site.

HYDRAULIC ANALYSIS SUMMARY

Computer modeling indicates that the water distribution system can accommodate current average and maximum day demands. Fire flow for specific locations such as Western Oregon University, however, is severally limited due to present pipeline and hydraulic limitations. The 2000 Water System Master Plan identifies improvements recommended to alleviate this situation. The city recently completed water system improvements identified in Phase I of the 2000 Water System Plan. These improvements have greatly increased the delivery capacity of water to and from the city's service reservoirs on Cupids Knoll, particularly fire flow to the area around Western Oregon State University.

Year 2000 Hydraulic Analysis Summary

The following conclusions are drawn in the 2000 Water Master Plan regarding the Year 2000 Hydraulic Analysis:

1. The existing distribution system can accommodate current average and maximum day demands with minimal pressure loss within the city. All residual pressures were above the minimum desired pressure level of 50 psi.
2. A maximum day demand combined with a high intensity (3,500 GPM) fire flow results in significant and severe pressure drops throughout the city. Residual pressures at several locations drop into negative values, a potentially dangerous and hazardous condition.
3. The distribution system is not currently capable of accepting more than 1,600 GPM of total source capacity due to pressure increases seen in the grid.
4. Distribution system improvements (Phase 1- Priority 1) greatly improve water delivery throughout the city under all flow conditions.
5. After Phase 1, Priority 1 improvements are complete, the distribution system is capable of accommodating Year 2000 average day, maximum day, maximum day with coincidental fire flow (3,500 GPM) and peak hour demands.

Year 2020 Hydraulic Analysis Summary

The following conclusions are drawn in the 2000 Water Master Plan regarding the Year 2020 Hydraulic Analysis:

1. The distribution system, after completion of all proposed improvements, can accommodate all projected average day, maximum day and peak hour demands for the Year 2020. System-wide residual pressures are acceptable and pipeline velocities are within normal limits.
2. Fire flow availability throughout the city is greatly enhanced following the incorporation of the phased improvements. Fire flows as high as 4,000 GPM are available in most locations within the city. Fire flows up to 2,000 GPM are available in the extreme northeastern area of the city.
3. A substantial increase in system-wide pressure may be developed during simultaneous operation of all wells at flows less than maximum day demands. Eventual extension of the transmission main to the 12-inch reservoir connection at Falls City Highway, before activation of all Year 2020 sources, is recommended to prevent this occurrence.

4. Investment in a dedicated north-south transmission main is not warranted or recommended. Extension and inter-connection of existing 12-inch mains on Main Street and Pacific Avenue are recommended, however, to optimize water delivery to all major quadrants within the city.
5. An additional Highway 99W crossing is recommended at the northern end of the distribution system. This crossing will provide needed redundancy, looping, and reinforcement for the northern end of the city on both sides of the highway.

CAPITAL IMPROVEMENT PROGRAM

The 2000 Water Master Plan established future system improvements and estimated costs through the year 2020. Since the adoption of the Water Master Plan in 2000, the City completed an updated review of future water system improvements through the year 2026 in conjunction with the 2007 Water Master Plan update. The updated future water system improvements would be completed in four phases described as follows.

Phase I: 2006-2010

Table 8 shows Phase I improvements and preliminary cost estimates. Major improvements included in Phase I include construction of a groundwater treatment facility for nitrate removal and construction of a new well.

**Public Facilities Element - Table 8
Phase I Water System Improvements
2006-2010**

Priority #	Projected Fiscal Year	Description	Estimated Cost
1	2006/07	Breyman Test Well Construction/Testing	\$ 36,000.00
2	2006/07	Ranney Collector Pilot Testing/Drilling (I/M Joint Project-50% of Total)	\$ 32,000.00
3	2006/07	Nitrate Plant Pilot Testing	\$ 18,600.00
4	2006/07	Breyman Production Well Construction/Testing/Site Development	\$ 146,000.00
5	2007/08	Breyman Pump Station Construction/Transmission Line	\$ 315,000.00
6	2007/08	Groundwater Treatment Facility (Nitrate Removal) with provisions to add Breyman Well and future surface water treatment	\$ 1,425,000.00
7	2008/09	Construction of Ranney Collector Well (I/M Joint Project--50% of Total)	\$ 1,110,000.00
8	2009/10	Install a radio based Scada system at City Shops (Master Unit), New Treatment Plant, Cupids Knoll Reservoir, and 3 Remote well sites	\$ 106,000.00
		<i>Sub-Total Phase I</i>	<i>\$ 3,188,600.00</i>
		(+) 20% Engineering, Legal, Administration, and Inspection	\$637,720.00
		(+) 20% Contingency/Inflation Factor	\$637,720.00
		Total Phase I	\$ 4,464,040.00

Source: City of Monmouth Water System Master Plan Update, 2007.

Table 9 shows Phase II improvements and preliminary cost estimates. Phase II includes the construction of a 10 million gallons per day (MGD) surface water treatment plant and the installation of a transmission pipeline from Corvallis Road to the city distribution system.

**Public Facilities Element - Table 9
Phase II Water System Improvements
2010-2015**

Priority #	Projected Fiscal Year	Description	Estimated Cost
1	2012/13	Construct 10 MGD (5MGD to Monmouth) Surface Water Treatment Plant (I/M Joint Project-50% of Total)	\$ 3,860,000.00
2	2012/13	Perform a hydrogeologic study on the Marion County well fields for proper operation of existing wells, selection of new well sites, and Nitrate control recommendations.	\$52,000.00
3	2012/13	Purchase land for future Cupids Knoll 2 MG Reservoir	\$80,000.00
4	2013/14	Clean and inspect Reservoirs	\$25,000.00
5	2014/15	Install 14,700'± 16" and 12" AWWA C-905, class 165 psi Transmission pipeline from Corvallis Road to the city distribution system and intertie to water system (South Transmission Waterline)-Phase II-Priority 5	\$ 1,116,000.00
		<i>Sub-Total Phase II</i>	\$ 5,133,000.00
		(+) 20% Engineering, Legal, Administration, and Inspection	\$ 1,026,600.00
		(+) 20% Contingency/Inflation Factor	\$ 1,026,600.00
		Total Phase II	\$ 7,186,200.00

Source: City of Monmouth Water System Master Plan Update, 2007.

Table 10 shows Phase III improvements and preliminary cost estimates. Phase III consists of replacements to existing waterlines located throughout the city. The proposed replacements will help lower lost water, reinforce existing undersized piping, and increase the distribution system capacity.

**Public Facilities Element - Table 10
Phase III Water System Improvements
2015-2020**

Priority #	Projected Fiscal Year	Description	Estimated Cost
1	2015/16	Phase III, Priority 1-Waterline improvements	\$355,000.00
		<i>Sub-Total Phase III</i>	\$355,000.00
		(+) 20% Engineering, Legal, Administration, and Inspection	\$71,000.00
		(+) 20% Contingency/Inflation Factor	\$71,000.00
		Total Phase III	\$497,000.00

Source: City of Monmouth Water System Master Plan Update, 2007.

Table 11 shows Phase IV improvements and preliminary cost estimates. Major improvements included in Phase IV consist of constructing a two million gallon reservoir at Cupids Knoll to replace Reservoir #2 and installing a transmission pipeline in the northern region of the city.

Public Facilities Element - Table 11
Phase IV Water System Improvements
2020-2026

Priority #	Projected Fiscal Year	Description	Estimated Cost
1	2020/21	Construct 2 MG Reservoir at Cupids Knoll (To replace Reservoir #2)	\$725,000.00
2	2022/23	Phase IV, Priority 1-waterline replacement—See Table 1	\$600,000.00
3	2022/23	Phase IV, Priority 2-Waterline improvements-See Table 1	\$450,000.00
4	2025/26	Install 15,000' of 16"/12" AWWA C-905 PVC Transmission Pipeline in Northern region (North Transmission Waterline)-Phase IV-Priority 4	\$ 1,325,000.00
		<i>Sub-Total Phase IV</i>	\$ 3,100,000.00
		(+) 20% Engineering, Legal, Administration, and Inspection	\$620,000.00
		(+) 20% Contingency/Inflation Factor	\$620,000.00
		Total Phase IV	\$ 4,340,000.00

Source: City of Monmouth Water System Master Plan Update, 2007.

WATER QUALITY CONSIDERATIONS

The 2000 Water System Master Plan notes that since the City of Monmouth uses groundwater exclusively, modifications to the Safe Water Drinking Act (SWDA) that affect surface water supplies have little or no impact to Monmouth. Recent water quality regulations enacted since 2000 that pertain to the City of Monmouth's water supply include new regulations for ground water and arsenic. Since Monmouth routinely chlorinates water delivered to customers, these new regulations do not represent a substantial concern to the city. The greatest water quality concerns for Monmouth include control of nitrates at the Marion County well, and monitoring of synthetic organics at the Fourth Street field. Future water quality concerns affecting the City of Monmouth include continued monitoring of synthetic and volatile organic contaminants at all wells, nitrate monitoring at the Marion County wells, coliform bacteria monitoring at all wells, and possible surface water influence at the Willamette River Wellfield and/or Marion County #2.

WELLHEAD PROTECTION PROGRAM

The City of Monmouth, in conjunction with the City of Independence, has adopted a Joint Wellhead Protection Program. This is believed to be a very important venture and the City is encouraged to proceed to completion of this project. Many of the proposed monitoring and regulatory components of the 1996 SDWA are tied to implementation of a Wellhead Protection Program.

A properly prepared Wellhead Protection Program includes many elements such as, delineation of the aquifer recharge zone, control and protection agreements with local sources of possible contaminants, and specific wellhead protection criteria.

TOTAL MAXIMUM DAILY LOADS (TMDL) IMPLEMENTATION PLAN

The Department of Environmental Quality (DEQ) recently signed the Willamette Basin TMDL Order, which requires pollution sources to implement actions to improve water quality. Total Maximum Daily Loads (TMDLs) describe the amount of each pollutant a waterway can receive and still not violate water quality standards. The parameters addressed in the TMDL's include temperature, bacteria and mercury.

DEQ has named certain federal, state and local governments and agencies, including cities, counties, and special districts, as Designated Management Agencies (DMAs) because these agencies and governments

have authority to manage and regulate sources of pollutants that are listed in the Willamette TMDL. DMAs are required to develop and submit TMDL implementation plans that address the TMDL pollutants and additional requirements to DEQ within 18 months following issuance of the TMDL order (by May 2008). The City of Monmouth is listed as one of the DMAs in the Willamette Basin required to submit a TMDL implementation plan. A TMDL implementation plan identifies plans or strategies the DMA is completing to improve water quality and help meet the pollutant reduction goals of the TMDL.

SEWER SYSTEM

SYSTEM PLANNING

The 1999 City of Monmouth Sewer Master Plan guides the governing body in the development of the sewer system. This plan continues to be the design plan for Monmouth. The Sewer Master Plan is supplemented by a report titled, "Evaluation of Hydraulic Capacity at the Monmouth Wastewater Treatment Facility," prepared by Whitaker Engineering with CH2M Hill in 1998. The purpose of the 1998 report was to evaluate alternatives to improve the dry weather storage capacity of the existing facultative lagoons at the City of Monmouth wastewater treatment facility. The 1998 report included a comprehensive treatment plant analysis. Copies of these plans are available for review through City Hall or for purchase based upon the cost of reproduction. The city is currently in the process of completing a Sewer System Facility Plan and anticipates completion of the plan in Fall 2007.

The 2007 update to the Public Facilities Element, Sewer System, includes excerpts and summary information from the Sewer Master Plan prepared by HBH Consulting Engineers and information collected from City Public Works staff.

EXISTING SYSTEM

The City of Monmouth owns and operates its own wastewater collection and treatment system. The collection system transports sanitary sewage to the wastewater treatment plant located in the northeast part of the city. After treatment, the wastewater effluent is discharged to the Willamette River via gravity pipeline shared with the City of Independence.

WASTEWATER COLLECTION SYSTEM

The original Monmouth sanitary sewer system was constructed in 1925, in the city's central and western parts of town and around the Western Oregon University campus. The system was constructed with clay pipe in two-foot sections. In 1962, a 12-inch concrete interceptor was constructed down Edwards Road to serve the eastern and southern sections of Monmouth. Over the years, the system has been expanded to serve the entire city limits. In general, wastewater flows north and east through 12-inch through 24-inch interceptors to the city's wastewater treatment plant. Trunk and lateral sewers 6-inches through 10-inches in diameter transport wastewater from individual services to the interceptors. The existing collection system is shown in Table 12 below.

Monmouth's collection system consists of approximately 105,000 feet, or nearly 20 miles, of public sanitary sewer lines. Pipe sizes range from six inches up to 30 inches just upstream of the treatment plant headworks. **Table 12** summarizes the total lengths of the various pipe diameters within the primary basins of the collection system.

**Public Facilities Element - Table 12
Collection System Inventory**

Sewer Basin	Pipe Diameter								Total
	6-inch	8-inch	10-inch	12-inch	15-inch	18-inch	21-inch	24-inch	
Basin I	--	7,400 ft.	440 ft.	1,230 ft.	1,400 ft.	660 ft.	--	2,580 ft.	13,710 ft.
Basin II	2,290 ft.	18,980 ft.	440 ft.	6,200 ft.	80 ft.	400 ft.	--	--	28,390 ft.
Basin III	2,090 ft.	30,760 ft.	1,810 ft.	870 ft.	1,930 ft.	--	640 ft.	--	38,100 ft.
Basin IV	--	1,790 ft.	850 ft.	--	--	--	--	--	2,640 ft.
Basin V	790 ft.	17,800 ft.	570 ft.	2,750 ft.	220 ft.	--	--	--	22,210 ft.
Total	5,170 ft.	76,810 ft.	4,100 ft.	11,050 ft.	3,630 ft.	1,060 ft.	640 ft.	2,580 ft.	105,050 ft.

Source: City of Monmouth Sewer System Master Plan, 1999.

Condition of Collection System

The collection system as a whole is considered sound, with no major defects found due to a number of successful rehabilitation projects completed in 1991 and 1997. Inflow and infiltration in the system is still a problem in some areas of town, with leaks apparent in some manholes. Concrete sewer pipe, even if grouted, can be a significant source of inflow and infiltration. In addition, private service laterals are likely a major contributor to inflow and infiltration. However, efforts to fix service laterals must involve the private property owner.

PUMP STATIONS

Two wastewater pump stations are currently owned and operated by the City of Monmouth. The first, referred to as the SE Pump Station, serves the farthest southeast parts of the city limits. The pump station is located at the intersection of Teton Drive and Yellowstone Drive. It was constructed in 1996 and currently serves approximately 20 acres of single-family land in Basin II. Peak capacity of the pump station is 1.25 MGD, and is designed to serve a total of 200 acres of land zoned for single-family residential use. A 15-inch gravity line conveys wastewater into an 8-foot wet well. The pump station uses two submersible pumps to pump wastewater via an 8-inch force main, 1,000 feet long, into the 12-inch interceptor of Edwards Road and Ballard Drive. The pump station also has a diesel generator for backup electrical power.

The second pump station, referred to as the SW Pump Station, was constructed in 1998, at the intersection of Helmick Road and Ash Creek Drive, near the southern edge of the urban growth boundary. The pump station was constructed to initially serve an 18-acre residential development to the north. Total build-out capacity of the pump station is 2.72 MGD, with a design service area of 315 residentially and industrially zoned acres. There are currently two 20-hp, 475-gpm submersible pumps, with a current peak capacity of 1.5 MGD. The pump station has an 18-inch influent line, 12-foot wet well, and was designed for a maximum of four pumps. Wastewater is pumped into MH III-44 in Basin III/IV through two 8-inch force mains approximately 1,100 feet long. A diesel generator is provided for backup power.

WASTEWATER TREATMENT

The City of Monmouth owns and operates a facultative lagoon-type wastewater treatment facility that was originally constructed in 1963. The original treatment plant consisted of two cells. A third lagoon was added in 1980. The facility is located in the northeast corner of the city. The lagoons have areas of 17.6, 21.6, and 15.2 acres. **Table 13** summarizes the original design criteria for the treatment facilities.

**Public Facilities Element - Table 13
Wastewater Treatment Plan Design Criteria**

Design Parameter	Design Value
Hydraulic Design	
Average Dry-Weather Flow	0.55 MGD
Average Wet-Weather Flow	1.25 MGD
Peak Wet-Weather Flow	3.5 MGD
Outfall Pipe Capacity	3.53 MGD
Chlorine Contact Time (as Average Wet-Weather Flow)	91 min
Areas and Volumes	
Pond 1 Area	17.66 acres
Pond 1 Storage Volume	85.3 acre-feet - 27.7 MG
Pond 2 Area	21.6 acres
Pond 2 Storage Volume	104.4 acre-feet - 34.0 MG
Pond 3 Area	15.2 acres
Pond 3 Storage Volume	100.6 acre-feet - 32.8 MG
Total Area	54.4 acres
Total Storage Volume	290.3 acre-feet - 94.5 MG
Organic Loading	
Influent BOD ₅	1,646 lb/day
Primary Ponds Unit Loading of BOD ₅	42 lb/acre day
Overall Unit Loading of BOD ₅	30 lb/acre day

Source: City of Monmouth Sewer System Master Plan, 1999.

The City of Monmouth discharges treated effluent into the Willamette River during the wet season and stored in the lagoons during the dry season. The city's National Pollutant Discharge Elimination System (NPDES) Permit only allows effluent discharge from November 1 to May 31. During the dry-weather months, the City holds effluent in the treatment lagoons. Evaporation provides for some effluent disposal during summer months.

Treatment Plant Capacity

Capacity of a wastewater treatment lagoon system is measured based on hydraulic and organic capacity. Hydraulic capacity is the ability of the treatment system to hold both influent during the No-Discharge Period and to handle high flows without washing out. Organic capacity is the ability of the system to treat biochemical oxygen demand, 5-day (BOD₅) and total suspended solids (TSS) loadings without exceeding the NPDES limits for discharge.

The 1999 Sewer Master Plan identifies improvements needed to expand the capacity of the treatment system for both hydraulic and organic capacity within the 20-year planning period. In the summer of 1997, the lagoon levels reached unacceptable levels due to a wetter than average season. This indicates that the hydraulic capacity of the lagoons is reaching a critical point. The organic treatment capacity is also reaching a critical point as the 1999 Sewer Master Plan indicates that the treatment capacity of the primary lagoons would be exceed by the year 2006.

SEWER SYSTEM IMPROVEMENTS

The 1999 Sewer Master Plan recommended completion of an Effluent Reuse Project to increase the capacity of the current sewage treatment system. The Effluent Reuse Project would reduce the need for summer effluent holding through the irrigation of a poplar plantation with the treated effluent from the

sewer lagoons. To increase treatment capacity within the system, mechanical aerators would be added to speed the processing of organic waste.

The Effluent Reuse Project includes two phases. **Table 14** lists the recommended improvements for each phase. Since completion of the 1999 Sewer Master Plan, the first phase of the Effluent Reuse Project has been completed.

Public Facilities Element - Table 14
Effluent Reuse Project Costs
 (from the *Evaluation of Hydraulic Capacity*)

Description	Unit	Unit Price	Quantity	Cost
Phase I Improvements				
Poplar Plantation	LS	\$1,627,899	1	\$1,627,899
Influent Screen	EA	\$65,000	1	\$65,000
Mechanical Aerators	EA	\$12,000	6	\$72,000
Aerator Anchors	EA	\$5,000	12	\$60,000
Building	SF	\$200	240	\$48,000
Sitework Allowance		5%		\$12,250
Instrumentation, Controls and Electrical Allowance		8%		\$19,600
Mechanical Allowance		10%		\$24,500
Subtotal				\$1,929,249
Contingency @ 30%				\$402,589
Engineering @ 10%				\$174,455
Division 1 Requirements, Overhead and Profit @ 20%				\$348,910
Phase I Construction Costs				\$2,855,203
Phase II Improvements				
Influent Screen	EA	\$65,000	1	\$65,000
Mechanical Aerators	EA	\$12,000	7	\$84,000
Aerator Anchors	EA	\$5,000	14	\$70,000
Sitework Allowance		5%		\$10,950
Instrumentation, Controls and Electrical Allowance		8%		\$17,520
Mechanical Allowance		10%		\$21,900
Subtotal				\$269,370
Contingency @ 30%				\$80,811
Engineering @ 10%				\$35,018
Division 1 Requirements, Overhead and Profit @ 20%				\$70,036
Phase II Construction Costs				\$455,235

Source: City of Monmouth Sewer System Master Plan, 1999.

CAPITAL IMPROVEMENTS PLAN

The 1999 Sewer Master Plan identified and prioritized improvement projects through the year 2020. **Table 15** lists the recommended sewer system improvement projects by implementation date.

**Public Facilities Element - Table 15
Sewer System Projects**

Implementation Date	Project	Project Cost
2000	WWTP Phase 1 - Improvements - Poplar Plantation and Mechanical Aerators	\$2,855,203
	Edwards Interceptor Phase 1 - Replace Existing Sewer Line in Edwards Street (21", 24" and 27" pipes)	\$699,400
2005	Edwards Interceptor Phase 1 - Extend Interceptor to Southwest Pump Station (18" pipes)	\$390,000
	Basin V Phase 1 - Improvements to Meet Existing Needs	\$165,200
	Basin V Phase 2 - Improvements to Meet UBO Needs	\$88,500
	North Pump Station	\$684,531
2010	WWTP Phase 2 Improvements - Mechanical Aerators and Influent Screen	\$455,235
	Middle Fork Interceptor	\$735,143
2015-2020	Northern Interceptor	\$567,412

Source: City of Monmouth Sewer System Master Plan, 1999.

STORM DRAINAGE SYSTEM

The City of Monmouth is generally divided into two drainage basins. The first is located to the extreme west and flows north and northeast to and through the university grounds to the swale that eventually empties into the North and Middle Forks of Ash Creek. The North and Middle Forks of Ash Creek above Gun Club Road in Independence drain some 13,400 acres, or about 21 square miles. The second drainage course runs through the south and southeast quarter of the city generally flowing due east to the city limits and eventually discharging into the South Fork of Ash Creek as it enters the City of Independence. The South Fork carries smaller flows with a drainage area of 4,300 acres (6.7 square miles) above Helmick Road.

In 2001, Whitaker Engineering prepared a preliminary stormwater master plan for the cities of Independence and Monmouth. The focus of the plan is on areas of potential new development of those portions of existing systems that may be affected by future development. The preliminary master plan describes the hydrologic and hydraulic analyses of portions of the stormwater management systems of both Monmouth and Independence, identifies pipe segments that may be inadequate for conveyance of estimated stormwater flows, and provides guidance for establishing policies related to stormwater detention strategies and development of stormwater systems.

The City of Monmouth is currently in the process of completing a storm water master plan. The estimated completion date is in the summer of 2007. The storm water master plan will identify needed improvements to the city's storm water system.

Within the City, the storm drain collection system is generally made up of small (less than 36-inch diameter) pipelines, catch basins and open drainage ditches. Present drainage problems include minor flooding during very heavy rainfall due to undersized piping and lack of storm improvements. The northwest part of town receives heavy sheet flow from the adjacent hillside. A formal storm system is needed to mitigate the minor flooding that occurs below the hill. New developments are required to provide storm drainage system compatible with the city system by detaining the storm water and releasing it at pre-development rates.

The Ash Creek Water Control District, which includes Monmouth, is responsible for improvement of the Ash Creek channel to prevent damage to property located near or adjacent to the Creek. Planned improvements to Ash Creek include:

- Channel clearing;
- Erosion control;
- Channel widening; and
- Channel alignment.

The District also conducts vegetation control and debris removal along Ash Creek. The City of Monmouth participates with the District in areas of mutual concern.

POLICE SERVICES

The Monmouth Police Department includes a Police Chief, three sergeants, one uniform detective, eight officers, two administrative assistants and five reserve officers.

Emergency services are provided by Salem 911 through the Willamette Valley Communication Center.

Police Department equipment includes: nine marked patrol cars, two unmarked cars, four automatic electronic defibrillators, one speed reader board trailer, and two patrol bicycles. Communications equipment includes: 19 two-way radios, and 15 cellular/mobile phones.

FIRE SERVICES

The Polk County Fire Protection District No. 1 provides fire protection for the City of Monmouth. The mission of the Polk County Fire Protection District No. 1 is to “Serve, Train, Educate and Protect our Community.” Its service area is approximately 185 square miles and service population is approximately 20,500 people. The rural district has a staff of 80-90 volunteers and 14 paid positions. Emergency communications services are provided by the Willamette Valley Communications Center. The District has mutual aid agreements with the surrounding fire service districts in case additional fire service is needed.

The Insurance Service Office (ISO) review fire districts/departments and applies a fire suppression-rating schedule. Before assigning the rate, the ISO evaluates fire protection services based upon the available water supply, ability to transport water, the number and type of trained personnel, type of available equipment, and handling emergency alarms. Rating ranges from one to ten with number one being the best and number 10 being the worst. In 1998, the city's fire ISO rating was three.

The Fire Protection District has 15,000 gallons of water in storage, plus the capacity of the pumpers and tankers. The pumpers have the ability to draft from streams or ponds for additional water.

Apparatus available to the district in 2006 includes the following:

- Two 1993 and one 1992 International H&W Pumpers.
- One 1970 Ford Western States Engine.
- One 1987 Ford Pierce Mini-Pumper.
- One 2002 Sutphen Telescopic Aerial Ladder truck.
- One 1983 Ford 1800 Gallon Tanker.
- One 1988 Kenworth 3000 Gallon Tanker.

- Two 1997 Peterbuilt 3000 Gallon Tankers.
- One 1977 Chevrolet Brush Truck.
- One 1989 Ford Brush/Rescue Truck.
- One 1998 Freightliner Rescue Engine.
- One 2002 and One 1996 Medtech Ambulances.
- One 1992 Road Rescue Ambulance.
- One 1996 Stillenger Rescue Boat.
- One 1991 Kawasaki Water Rescue Jet Ski.
- One 1996 Nash 22-foot Rehab Trailer.
- One 1984 Ford Pick-up for Staff use.

The Fire District is scheduled to purchase a new medic unit and fire engine within the budget year ending in August 2007.

The Fire District indicated the need to update the City of Monmouth Emergency Management Plan completed in 1995.

SCHOOL SYSTEM

PUBLIC SCHOOLS

The City of Monmouth is served by the Central School District 13J. In addition to Monmouth, the Central School District also includes Independence and Rickreall. For the 2005-06 school year, there were approximately 2,757 students in the Central School District 13J. **Table 16** shows the greatest increase in student enrollment occurred between the 2005-2006 school years. The School District's Master Plan projects 80 new students will be added per year based upon moderate growth forecasts. The School District exceeded this projection by 29 students in 2006. The School District anticipates enrollment numbers will continue to increase significantly over the next several years and eventually slow down over the long term.

In September 2002, the Ash Creek Intermediate School opened adjacent to Central High School. The new school is intended to initially serve 450 students in grades 5 and 6. The school building is designed to ultimately serve 500 students in a K-5 grade configuration by offering two shifts per classroom per kindergarten.

**Public Facilities Element - Table 16
Central School District Enrollment
1994 - 2006**

Year	Enrollment	Percent Change
1994	2,585	n/a
1995	2,606	0.8%
1996	2,667	2.3%
1997	2,634	-1.2%
1998	2,674	1.5%
1999	2,645	-1.1%
2000	2,668	0.9%
2001	2,628	-1.5%
2002	2,588	-1.5%
2003	2,588	0.0%
2004	2,649	2.4%
2005	2,648	0.0%
2006	2,757	4.1%

Source: Oregon Department of Education, 2006

Table 17 shows the October 2006 enrollment figures for schools within the Central School District. For the most part, schools within the Central School District are considered to be at or over capacity. To address capacity issues, the School District is adding portable classrooms, completing grade realignments and considering bonds requiring voter approval to expand the High School in 2008 and build a new elementary school in 2010.

**Public Facilities Element - Table 17
Central School District 13J Enrollment by School
October 2006**

School	Grades	2006 Enrollment
Central High School	9-12	858
Ash Creek Intermediate School	5-6	400
Talmadge Middle School	7-8	404
Henry Hill Elementary School	K-4	297
Independence Elementary School	K-4	308
Monmouth Elementary School	K-4	473
Poyama Day Treatment	2-7	17

Source: Oregon Department of Education, 2006

WESTERN OREGON UNIVERSITY

Monmouth is home to Western Oregon University, which offers both undergraduate and graduate degrees in a variety of liberal arts programs. The university's current student body consists of about 4,500 undergraduates and 400 graduate students. Established in 1856, the University has had several names throughout the years and although it used to be a private school, it is currently the oldest public university in Oregon and on the West Coast. The university grew to become a nationally recognized leader in teacher preparation in its early years. In the seventies, the university expanded its offerings with broad-based liberal education programs. Since then, the university has continued to emerge as a leading comprehensive public liberal arts institution, with approximately two-thirds of its students in the College of Liberal Arts and Sciences and the rest in the College of Education.

Western Oregon University is home to the nationally renowned Teaching Research Institute, the Regional Resource Center on Deafness and the Rainbow Dance Theatre. In addition to teaching, WOU's faculty members are engaged in wide-ranging scholarship as well as community-based projects, including many faculty-student collaborations. The award-winning campus includes many multimedia classrooms, extensive wireless web access and a state-of-the-art library.

LIBRARY SERVICES

The Monmouth City Library is located at 168 S Ecols Street. The building was constructed in 195 and is 14,400 square feet in size. The library has a present circulation of approximately 170,000 volumes and has 62,000 volumes at present. The library is part of the Chemeketa Cooperative Regional Library Service, which provides improved services to the 16 member libraries located in Marion and Polk Counties, parts of Yamhill and Linn Counties, and Chemeketa Community College.

Special services offered by the library includes: children story hours, a limited selection of Spanish books, records and reading materials, summer children's reading program, after school program, movies in the summer, community meeting room and an adult book club. The library also has an active Friends of the Library Association whose mission statement is to support library activities in the interests of the community through fund-raising and volunteer efforts.

PARKS AND RECREATION

The City of Monmouth completed a Park and Recreation Master Plan in 1998. The plan identifies existing park and recreation areas and makes recommendations for future park and recreation facilities. The plan also includes an implementation strategy that prioritizes projects, identifies funding sources, and provides a capital facilities plan.

Table 18 includes a summary of parks and recreation facilities located within the City of Monmouth's Urban Growth Boundary (UGB). Total city parks and recreation facilities within the city's UGB include 17 sites for a total 39.3 acres.

**Public Facilities Element - Table 18
Monmouth Parks and Recreation Facilities**

Park Recreation Areas	Planning Area Total Park/Open Space Lands (Acres)	Total Number of Sites
City of Monmouth Parks and Facilities		
Mini-Parks	2.37	5
Neighborhood Parks	9.95	3
Special Use Areas	1.76	1
Natural Open Space/Greenways	0.00	0
Undeveloped Park Land	10.93	3
Other City Facilities	14.31	5
Total City Areas	39.32	17
Other		
State of Oregon (ODOT) Areas	4.11	2
Monmouth School District Areas	76.00	3
Western Oregon University	125.00	1
Private Parks and Recreation Areas	NA	1
Total Other Areas	205.11	7
Total	244.43	24

Source: Monmouth Parks and Recreation Master Plan, 1998.

The City of Monmouth park system consists of ten developed parks with a variety of recreation facilities as shown in **Table 19** below.

**Public Facilities Element - Table 19
Summary of Monmouth Parks Facilities**

	Restrooms	Playground Equipment	Picnic Tables	Shelter	Baseball	Basketball	Horseshoe	Skate Park	Grass Area	Tennis Court	Walking Path	Dog Friendly	Rental Availability
Cherry Lane Cherry Lane & W. Ackerman		•	•						•		•		
Gentle Woods Olive Way & N. High	•	•	•	•			•		•		•		•
La Mesa Between Josephine & Heffley		•	•			•			•				
Madrona E. Madrona & Edwards		•	•	•		•			•		•	•	
Main Street E. Main & N. Warren	•	•	•						•				•
Marr Marr Ct & W. Jackson		•	•						•				
Monmouth Recreational “S” Curves on E. Main	•	•	•		•			•	•	•			
Southgate Southgate Dr. & S. High		•	•			•			•				
Whitesell Catherine Ct.		•	•			•			•				
Winegar N. Ecols & Suzana		•	•						•				

Source: City of Monmouth, 2007.

The 1998 Parks and Recreation Master Plan include a Park Layout Plan, which is a physical description of a park concept for the City of Monmouth. The plan identifies future park sites, open space areas and trails. The proposed park system centers around the concept that a multi-use park (neighborhood park) should be located within convenient walking distance of most residents. This is accomplished by upgrading and/or expanding existing parks, converting or expanding several existing mini-parks and acquiring additional land within areas designated for residential development. This core system of parks will provide the basic passive and recreational opportunities within the neighborhoods. Supplementing these parks will be specialized recreation areas, natural open space and trail systems that serve the entire community. Main Street Park will continue to be the central focus of the park system.

A major addition that does not now exist is a linear open space system formed by the various forks of Ash Creek. It is proposed that the riparian areas of these creek areas be preserved in their natural condition. Access to and within these areas will be provided by a series of paved and unpaved trails.

Ash Creek Trail

Ash Creek Trail is an example of a recent trail project that upon completion, would link the cities of Monmouth and Independence along a four-mile trail adjacent to Ash Creek. The trail would extend from the Willamette River in Riverview Park (Independence) to the western edge of Monmouth at Western Oregon University. A Master Plan for the Ash Creek Trail was completed in April 2005. The vision for

the Ash Creek Trail Master Plan is two-fold: (1) to create open space and restoration opportunities and create a trail that (2) offers all community residents and visitors a non-motorized travel alternative between Independence and Monmouth. The proposed Ash Creek Trail will travel roughly parallel to Ash Creek and provide spur trails to locations outside the greenway, protecting and enhancing the biological, cultural, and historic resources of the corridor. The Ash Creek Trail will provide a convenient, non-automotive transportation alternative to Oregon 51 and Hoffman Road for local trips within the communities of Independence and Monmouth. As the communities continue to grow, the Ash Creek Trail will serve as a major transportation connection between the cities, linking neighborhoods, schools, and parks along the corridor. The trail will also provide access to areas outside the corridor, such as commercial retail areas and neighborhoods south of OR Highway 51, as well as provide additional recreational and open space preservation opportunities.

Future Parks and Recreation Needs

The 1998 Parks and Recreation Master Plan included a summary of park and recreational facility needs through the year 2018 as shown in Table 21. The plan identifies four prevailing features lacking in the park and recreation system in Monmouth. These include a shortage of larger "neighborhood" parks; an overall lack of sports fields; a shortage of indoor facilities, such as a pool or recreation center; and a lack of off-street trails.

**Public Facilities Element - Table 21
Monmouth Park and Recreation Facility Needs (2018)**

Area or Facility	Existing Inventory	Year 2018 Demand	Additional Need
Areas			
Mini-Parks	2.37 Acres	0.80 Acres	(1.57) Acres
Neighborhood Parks	9.95 Acres	47.61 Acres	37.66 Acres
Special Use Areas	1.76 Acres	22.54 Acres	20.78 Acres
Natural Open Space	None	47.96 Acres	47.96 Acres
Undeveloped Land	10.93 Acres	None	--
Facilities			
Baseball Fields	5 Fields	9 Fields	4 Fields
Softball Fields	2 Fields	6 Fields	4 Fields
Soccer Fields	4 Fields	9 Fields	5 Fields
Tennis Courts	6 Courts	10 Courts	4 Courts
Swimming Pools	3,150 Sq. Ft.	5,589 St. Ft	1,439 St. Ft
Gymnasiums	3 Courts	6 Courts	3 Courts
Pathways and Trails	0.86 Miles	6.42 Miles	5.56 Miles

Source: Monmouth Parks and Recreation Master Plan, 1998.

SOLID WASTE

The City of Monmouth does not have a solid waste disposal facility. Local collection is handled by contract with Brandt’s Sanitary or by individuals hauling their own waste. Curbside recycling is available to citizens in the community. The company disposes waste at the Coffin Butte landfill near Corvallis.

Citizens are able to participate in a curbside recycling program similar to larger communities in the area. If the City chooses to expand the program, additional opportunities are available but do require an increase in fees.

The City's regional contact is through the Polk County Community Development Department, which administers a solid waste collection franchise ordinance. The Community Development Department also coordinates recycling, and household hazardous waste collection programs.

It is important that the City participate in a regional solid waste management program. A regional solid waste management program strives to maximize the use of existing sites, endorse energy conservation and recycling of wastes, and coordinates solid waste activities of counties in the region. The City of Monmouth supports a regional solid waste management program that includes recycling opportunities.

POWER AND LIGHT SERVICE

The City of Monmouth owns and operates its own power and light service company since 1940. The Monmouth Electric Department serves over 4,100 accounts, which includes all of Monmouth and the outlining areas to the north and west of the city limits. Approximately 3,965 of the accounts are for residential use and 135 for commercial use. Monmouth residents enjoy power service at a cost moderately less as compared to the cost of power provided by most power companies.

The City receives all of its power through the Bonneville Power Administration and has 20 mega-watts (MW) currently allocated to it under existing contracts. The City's peak power demand is approximately 16.25 MW. The City's currently has sufficient power supply to meet its current needs.

The City's power system is generally in good condition, with the exception of some local distribution taps, which need upgrading. New development is required to install power service utility lines underground. The City's power system utilizes loop feeds to provide back-up services in case of power outages. Presently, the City's power outage services are considered to be marginally adequate. Planned improvements to the City's power service system include adding a new substation within the next year to meet additional power service needs and provide increased system reliability.

The City anticipates that power needs will increase by approximately five percent each year and that the current power supply will be able to meet this projected demand. The new substation planned for construction in 2007, will help ensure adequate power service is available in the future.

TELECOMMUNICATION SERVICES

In 2004, the City of Monmouth and Independence created an intergovernmental entity, known as MINET (Monmouth-Independence Network), to operate a local network that offers high speed internet, telephone and cable services via fiber optic lines. MINET provides service to the general Monmouth-Independence area. A consortium comprised of the City of Monmouth and the City of Independence guides it cooperatively.

MINET began providing cable TV and high-speed internet services to both commercial and residential customers in May of 2006. MINET offers these services at competitive rates and a high quality. Residential households have access via a 30-megabit (mb) connection. Commercial services have access to even faster connection services measured in gigabits (gb). MINET also began providing phone service in December of 2006.

Currently approximately 1,350 households or businesses in Monmouth and Independence subscribe to MINET. MINET's office is located at 405 N Hogan in Monmouth and employs eight (8) full-time employees.

To date, the entire city of Monmouth and 70 percent of all neighborhoods in Independence are wired. MINET is required to offer provide their services to anyone who requests them inside the city limits. Possible expansion plans include providing these services to the City of Dallas.