CHAPTER 12

CAPITAL IMPROVEMENT PLAN

Chapter Outline

12.1 INTRODUCTION

As documented in the previous sections, there is a need for water system improvements within the study area to correct existing and projected deficiencies. Some of these deficiencies are more critical than others. Some deficiencies present an immediate reduction to service level, while other deficiencies will manifest as the City expands and the existing systems continue to age.

Recommended improvements for specific components of the City's water system have been described in previous chapters. This chapter builds on that work by assigning a priority and cost to each of the improvement recommendations. The cost estimates have been developed to a conceptual level, for planning and budgeting purposes. More detailed cost estimates will be necessary as the projects are implemented.

12.2 PRIORITIZED IMPROVEMENTS

A prioritizing process is required since the scope of the proposed improvements is large. Projects that resolve immediate deficiencies should naturally have a higher priority than long term growth related improvements. The following approach is designed to provide a basis for evaluating and ranking the improvement projects.

12.2.1 Prioritization Criteria

The assignment of a particular project or capital improvement project to a priority level was made after an evaluation using the following criteria:

- Public Health Concerns—Projects targeted to resolve existing or near term regulatory compliance issues were assigned the highest priority.
- Capacity or Size Deficiencies—The severity of the deficiency was considered and compared with the service improvements provided by the replacement components. The projected 'yield' or cost-benefit ratio of a project was used to assign a priority of high, medium or low.
- Consumed Infrastructure—Projects to replace damaged or deteriorated infrastructure, particularly those facilities that have reached the end of their useful life and no longer function as designed were assigned a higher priority.
- City Priority—Projects identified by City operations and maintenance personnel to be high priority due to operational or maintenance problems.
- Demand Development—The anticipated timeframe for the development of land within the service area of proposed improvements was considered. Projects to serve approved or near term developments were given higher priority while improvements targeted to long term developments were deferred.

12.2.2 Prioritized Groups

In order to assist the City with their planning, scheduling and construction efforts each improvement project was assigned to one of three priority levels. The priority levels are:

- Priority 1—Near Term Improvements

  These projects are targeted to problem areas needing immediate attention. They have been developed to resolve existing or near term system deficiencies, resolve regulatory compliance issues or to serve known near term developments. It is recommended that Priority 1 improvements are undertaken as soon as practical.

  Priority group 1 has been further subdivided into 1A and 1B projects. Category 1B is comprised entirely of the galvanized pipe replacement program. As previously discussed, it is anticipated that a number of pipe repair projects may be required once the new elevated reservoir is commissioned and baseline water pressure in town is raised by 10 psi. It is intended that the specific projects of group 1B will be executed alongside the work of 1A on an as-needed basis.

- Priority 2—Intermediate Improvements

  These projects will be needed beyond the near term of the Priority 1 projects to provide water service to anticipated future developments. Although not critical at this time, they should be considered as improvement projects that will be upgraded to Priority 1 at the midpoint of the planning period. It is currently estimated that implementation of the Priority 2 projects will be required in 2020.

- Priority 3—Long Term Improvements/Possible Future Need

  These projects are needed to improve system reliability or to supply future demands if land develops to the zoned intensities. While important, they are not considered to be critical at the present time. If possible, improvements in this category should be incorporated into on-going citywide development and improvement projects to capture the savings associated with concurrent construction. Projects that will need to be constructed by developers in conjunction with future developments were assigned to this group.

12.2.3 Prioritized Capital Improvement Projects

To aid in the development of a water system capital improvement program (CIP), each improvement project was examined and assigned to one of the priority classes described above. Table 12-1 is a comprehensive listing of these projects and appears at the end of this chapter for formatting reasons. It should be noted that the project listing within a priority class is also ranked in order of priority. The figures are presented to the nearest $1,000 increment. The reader is referred to previous chapters of this report for more detailed descriptions of the individual projects. Table 12-2 below summarizes the information of the former table.

Table 12-2 | Capital Improvement Plan Cost Summary

Priority Group	Total Estimated Cost
Priority 1A	$ 26,946,000
Priority 1B	$ 582,000
Priority 2	$ 9,534,000
Priority 3	$ 4,181,000
TOTAL	$ 41,243,000

At a minimum, all of the Priority 1A, 1B, and Priority 2 improvements should be included in the CIP. The Priority 3 improvements are largely growth driven. In general, it is envisioned that the Priority 3 improvements will be constructed as part of future development and that the developer will pay for the improvements. Should the City desire to promote development in certain areas, selected Priority 3 improvements may also be included in the CIP. It is recommended that the City implement the Priority 1A improvements under a single funding package. Work on the Priority 1A and 1B improvements should begin immediately after agency approval and City adoption of this master plan. It is anticipated that Priority 2 projects will be required beginning in 2020; however, these projects can begin following the Priority 1 improvements, as finances become available and as the need arises.

12.2.4 Environmental Impact

It should be noted that while the improvements recommended in this report are not anticipated to have significant adverse impacts on the environment, each CIP project will need to undergo project-specific environmental review as part of the preliminary and final design process.

12.3 Basis of Costs

In order to forecast municipal capital expenditures cost estimates have been prepared for each improvement alternative. The preparation methodology and intended use of these cost estimates is summarized below.

12.3.1 Accuracy of Cost Estimates

The accuracy and precision of cost estimates is a function of the level to which improvement alternatives are developed (i.e., detail and design) and the techniques used in preparing the actual estimate. Estimates are typically divided into three basic categories as follows:

- Planning Level Estimate. These are order-of-magnitude estimates made without detailed engineering design data. They are often performed at the zero to 2 percent stage of project completion and typically range from 35 percent over, to 25 percent below the final project cost. A relatively large contingency is typically included to reduce the risk of underestimating. This is particularly important since many times the project financing must be secured before the detailed design can proceed.
- Budgetary Estimates. This level of estimate is prepared during the preliminary design phase using process flow sheets, preliminary layouts and equipment details. This type of estimate is typically accurate to +30 and –15 percent of the final project cost.
- Engineer's Estimate. This estimate is prepared on the basis of well-defined engineering data, typically when the construction plans and specifications are completed. The estimating process at this level relies on piping and instrument diagrams, electrical diagrams, equipment data sheets, structural drawings, geotechnical data and a complete set of specifications. This estimate is sometimes called a definite estimate. The engineer's estimate is expected to be accurate within +15 percent to –5 percent of the pricing secured during the bidding process.

The project costs prepared as part of this study are planning level estimates. Actual project costs will depend on the final project scope, labor and material costs, market conditions, construction

schedule, and other variables at the time the project is built. These variables are typically uncertain at the time planning level estimates are performed.

12.3.2 Adjustment of Cost Estimates over Time

A commonly used indicator to evaluate the change of construction costs over time is the Engineering News-Record (ENR) construction cost index. The index is computed from the prices for structural steel, Portland cement, lumber, and common labor, and is based on a value of 100 in the year 1913. The construction costs developed in this analysis are based on the April, 2009 ENR 20 City Construction Cost Index of 8528. As the planning period elapses, the costs presented in this study can be updated to the present, by applying the ratio of the current cost index to the index used during the preparation of the estimate.

12.3.3 Engineering and Administrative Costs and Contingencies

The cost of engineering services for major projects typically covers special investigations, pre-design reports, topographic surveying, geotechnical investigations, contract drawings and specifications, construction administration, inspection, project start-up, the preparation of O&M manual narratives, and performance certifications. Depending on the size and type of the project, engineering costs may range from 16 to 25 percent of the contract cost when all of the above services are provided. The lower percentage applies to large projects without complex mechanical systems. The higher percentage applies to smaller, more complex projects that require the integration of a complex design into an existing facility and where full time inspection is required by the funding agencies or desired by the Owner.

The City will have administrative costs associated with any construction project. These include internal planning and budgeting costs, administration of engineering and construction contracts, legal services, and coordination with regulatory and funding agencies. Typical projects as recommended in this study are expected to be 10 percent of the contract cost. The total cost for engineering and administration is assumed to be 30 percent.

12.4 Construction Cost Estimates

The planning level estimates for the water system improvements recommended in this study are based on a number of assumptions as follows. The cost estimates reflect projects bid in late winter or early spring for summer construction. The estimates are based on construction costs of similar historical projects and on current estimates solicited from material and equipment vendors. The estimates are expected to have accuracies of +35 percent and –25 percent of the actual project cost. The following sections describe the cost estimating process for the various categories of projects.

12.4.1 Pipeline Improvement Costs

The proposed pipeline improvement projects range in size from 6-inches to 24-inches in diameter. These costs were developed using the following assumptions:

- Pipe material is PVC C900 and C905
- Installation of valves and hydrants are included and shall be installed per the City's PWDS
- Standard soil cover is 3 feet and trenching costs exclude rock excavation and trench dewatering

- Reconnection of all services are included for waterline replacement projects
- Asphalt trench repair for the full length of the project for the trench width only
- Railway and highway bores must be added to the unit costs at $600 per linear foot
- Construction contingencies are 10% of estimated construction cost
- Engineering design, survey and construction administration is 20% of construction cost
- Legal, permits and administrative costs are 10% of estimated construction cost

Total project costs per foot of installed pipe appear in Table 12-3.

Table 12-3 | Pipeline Improvement Costs

Diameter	Total Cost per Foot
6-inch	$ 72
8-inch	$ 96
10-inch	$ 120
12-inch	$ 144
16-inch	$ 192
18-inch	$ 216
24-inch	$ 288

Unit costs for hydrant infill projects are estimated at $5,000 per hydrant and include a mainline tee, 15-foot lateral pipe, gate valve, thrust blocks at the mainline tee and hydrant, labor, and the percentages listed above for engineering design and administrative costs.

12.4.2 Source and Pump Station Improvement Costs

Construction costs for well improvements include electrical and instrumentation upgrades, provision of emergency power and other miscellaneous upgrades. Construction costs for new well facilities and pump stations include site preparation, well drilling, foundation, building, pumps, mechanical piping, emergency power generation, and electrical and instrumentation. Project costs have been based on historical construction cost information for similarly sized projects and discussions with local well drilling contractors. The new finished water pump station project will include the demolition of the existing fire pump station once the new facility is operational.

A construction contingency of 15%, an engineering design cost of 20% and an administrative, legal and permitting cost of 10% was assumed for these projects.

12.4.3 Water Treatment Improvement Costs

Construction costs for the water treatment plant include site preparation and foundation, building, filtration equipment for iron removal, ion exchange equipment for nitrate removal, associated mechanical piping and pumping, chemical feed equipment, backwash water recovery equipment as well as electrical and instrumentation.

A construction contingency of 15%, an engineering design cost of 20% and an administrative, legal and permitting cost of 10% was assumed for this project.

12.4.4 Water Storage Improvement Costs

Construction costs for new reservoir facilities include site preparation, foundation, yard piping and valving, reservoir structure, and electrical and instrumentation. Reservoir costs have been derived from discussions with specialty tank contractors.

Construction contingencies of 10%, engineering design costs of 20% and administrative, legal and permitting costs of 10% have been assumed for these projects.

12.4.5 Instrumentation and Control Improvement Costs

As discussed in Chapter 11, the City's SCADA and instrumentation and control system is in need of complete replacement. Costs for these upgrades have been divided into two general categories; development of a basic operational platform and the installation of facility specific I&C improvements. The provision of an overall I&C and SCADA platform will be provided as an early work item and will permit the integration of future facilities as they are completed. The cost of I&C improvements at existing and proposed facilities has been included in the overall cost of the respective projects.

Costs have been based on similarly configured historical projects. A construction contingency of 15%, an engineering design cost of 20% and an administrative, legal and permitting cost of 10% was assumed for the development of the SCADA platform.

12.5 FUNDING SOURCES

As a general rule, small communities are not able to finance major water system improvements without some form of government funding such as low interest loans or grants. It is anticipated that the funding for the recommended capital improvement plan outlined in this report will be secured from multiple sources, including system development charges (SDCs), monthly user fees, as well as state and federal grand and loan programs. The following section outlines the major local and State/Federal funding programs that may be available for these projects.

12.5.1 Local Funding Sources

To a large degree, the type and amount of local funding used for the water system improvements will depend on the amount of grant funding obtained and the requirements of any loan funding. Local revenue sources for capital improvements include ad valorem taxes (property taxes), various types of bonds, water user fees, connection fees and SDCs. Local revenue sources for operating costs include ad valorem taxes and water user fees. The following sections discuss local funding sources and financing mechanisms that are most commonly used for the type of capital improvements presented in this study.

12.5.1.1 Existing Debt Service

At the close of fiscal year 08/09, the City will have at total of approximately $66,000 in outstanding water system debt. The City has budgeted for annual payments of $22,000 and anticipates retiring the debt in fiscal year 2011/12.

12.5.1.2 User Fees

User fees are monthly charges to all residences, businesses, and other users that are connected to the water system. User fees are established by the City Council and are typically the sole source

of revenue to finance water system operation and maintenance. These fees are periodically modified to account for changes in operation and maintenance costs, and the need for new improvements. Although user fees are not sufficient to finance major capital construction projects, they can be used to repay long term financing. The City's Water Rates and Charges Ordinance #709, revised and adopted with Resolution #981 on February 10, 2009, provides the basis for assessing water user fees. A copy of the resolution and rate structure appears in Appendix D.

Residential and commercial monthly user rates are determined by the combination of a fixed base rate, and a variable rate based on the volume of water consumed. The fixed base rate is assigned on the basis of meter size with a common usage rate for the two classes. A monthly charge of $5.00 per inch-diameter of waterline riser, or a minimum of $20.00 per month, whichever is greater, is charged to each commercial account that receives service from the City for fire sprinkler service.

Assuming a typical residential meter size of 5/8-inch, an average per capita consumption of 160 gallons per day and an average household size of 2.57 residents per household, the typical monthly user charge is approximately $18.05 for a single family residence. Multi-family residential units such as apartments, condominiums, duplexes, and Public Utility Districts are billed at a higher base rate, but at the same usage rate, as residential and commercial accounts.

12.5.1.3 System Development Charge Revenues

A system development charge (SDC) is a fee collected by the City as each piece of property is developed. SDCs are used to finance necessary capital improvements and municipal services required by the development. SDCs can be used to recover the capital costs of infrastructure required as a result of the development, but cannot be used to finance either operation and maintenance, or replacement costs.

SDC fees are set by resolution of the Council. The City updated its SDC fees on April 12, 2005 by approving Resolution #851 and reviews the resolution annually. A copy appears in Appendix D.

Fees are based on the total cost of the 2005-2010 Capital Improvements Plan (CIP) and an accounting of available land for the development of single-family units. The fee per Equivalent Dwelling Unit (EDU) is derived by dividing the total cost of the CIP by the total number of single-family units that remain to be developed. Fees are currently based on meter size with a 3/4-inch meter as the base meter size. Charges for larger meters are calculated on the flow rate available through the meter and prorated based on the charges assigned to the 3/4-inch meter. There is no credit where a smaller meter might be provided. Assuming an average residential meter size of 3/4-inch the SDC for a typical residential unit is currently $1,100.

As established in ORS 223, a SDC can have two principal elements, the reimbursement fee and the improvement fee. Fees are collected at issuance of building permits. The reimbursement portion of the SDC is the fee for buying into either existing capital facilities or those that are under construction. The reimbursement fee represents a charge for utilizing excess capacity in an existing facility that was paid for by previous developers. The revenue from this fee is typically used to repay existing improvement loans. The improvement portion of the SDC is the fee designed to cover the costs of capital improvements that must be constructed to provide an

increase in capacity. Based on the infrastructure improvements and cost projections presented in this master plan, the existing SDC fee structure is insufficient to meet the planning period goals. This plan accordingly recommends that the City complete a full review of its SDC rate structure and update these fees accordingly.

12.5.1.4 Connection Fees

Many cities charge connection fees to cover the cost of connecting a new development to the municipal water system. There are two types of connection fees. The first is for newly constructed connections and is designed to cover the cost of City inspections at the time of connection to the distribution system. The second type of fee is designed to defray the City's administrative cost of setting up a new account and is charged against newly constructed connections as well as transfers of an existing service to a new owner.

12.5.1.5 Capital Construction Fund

Capital construction funds or sinking funds, are often established as a budget line item to set aside money for a particular construction purpose. A set amount from each annual budget is deposited in a sinking fund until sufficient reserves are available to complete the project. Such funds can also be developed from user fee revenues of from SDCs. It is recommended that the City begin setting aside reserves to prepare for the Phase 2 improvements that will be required beginning in the year 2020.

12.5.1.6 General Obligation Bonds

The sale of municipal general obligation bonds is a traditional method of funding municipal water improvement projects. General obligation bonds utilize the City's basic taxing authority and are retired with property taxes based on an equitable distribution of the bonded obligation across the City's assessed valuation. General obligation bonds are normally associated with the financing of facilities that benefit an entire community and must be approved by a majority vote of the City's voters.

General obligation bonds are backed by the City's full faith and credit, as the City must pledge to assess property taxes sufficient to pay the annual debt service. This portion of the property tax is outside the State constitutional limits that restrict property taxes to a fixed percentage of the assessed value. The City may use other sources of revenue, including water user fee revenues, to repay the bonds. If it uses other funding sources to repay the bonds, the amount collected as taxes is reduced commensurately.

The general procedure followed when financing water system improvements with general obligation bonds is typically as follows:

- Determination of the capital costs required for the improvement
- An election by the voters to authorize the sale of bonds
- The bonds are offered for sale
- The revenue from the bond sale is used to pay the capital cost of the project(s)

General obligation bonds can be "revenue supported", wherein a portion of the user fee is pledged toward repayment of the bond debt. The advantage of this method is that the need to collect additional property taxes to retire the bonds is reduced or eliminated. Such revenue supported

general obligation bonds have most of the advantages of revenue bonds in addition to a lower interest rate and ready marketabilty.

The primary disadvantage of general obligation debt is that it is often added to the debt ratios of the City, thereby restricting the flexibility of the municipality to issue debt for other purposes.

There are two primary disadvantages with the use of general obligation bonds. First, debt incurred by this method, is often added to the debt ratios of the City, thereby restricting the flexibility of the municipality to issue debt for other purposes. Second, the State of Oregon does not pay taxes and is therefore exempt from the equitable burden of improvements required because of the DOC/DHS facilities.

12.5.1.7 Revenue Bonds

Revenue bonds are similar to general obligation bonds, except they rely on revenue from the sales of the utility (i.e. user fees) to retire the bonded indebtedness. The primary security for the bonds is the City's pledge to charge user fees sufficient to pay all operating costs and debts service. Because the reliability of the source of revenue is relatively more speculative than for general obligation bonds, revenue bonds typically have slightly higher interest rates.

The general shift away from ad valorem property taxes makes revenue bonds a frequently used option for payment of long term debt. Many communities prefer revenue bonding, because it ensures that no additional taxes are levied. In addition, repayment of the debt obligation is limited to system users since repayment is based on user fees.

One advantage with revenue bonds is that they do not count against a City's direct debt. This feature can be a crucial advantage for a municipality near its debt limit. Rating agencies closely evaluate the amount of direct debt when assigning credit ratings. There are normally no legal limitations on the amount of revenue bonds that can be issued; however, excessive issue amounts are generally unattractive to bond buyers because they represent high investment risks.

Under ORS 288.805-288.945, Cities may elect to issue revenue bonds for revenue producing facilities without a vote of the electorate. Certain notice and posting requirements must be met and a sixty (60) day waiting period is mandatory.

The bond lender typically requires the City to provide two additional securities for revenue bonds that are not required for general obligation bonds. First, the City must set user fees such that the net projected cash flow from user fees plus interest will be at least 125% of the annual debt service (a 1.25 debt coverage ratio). Secondly, the City must establish a bond reserve fund equal to maximum annual debt service or 10% of the bond amount, whichever is less.

12.5.1.8 Improvement Bonds

Improvement (Bancroft) bonds are an intermediate form of financing that are less than full-fledged general obligation or revenue bonds. This form of bonding is typically used for Local Improvement Districts.

Improvement bonds are payable from the proceeds of special benefit assessments, not from general tax revenues or user fees. Such bonds are issued only where certain properties are recipients of water system improvements. For a specific improvement, all property within the designated improvement district is assessed on the same basis, regardless of whether the property is developed or undeveloped. The assessment is designed to divide the cost of the improvements

among the benefited property owners. The manner in which it is divided is in proportion to the direct or indirect benefits to each property. The assessment becomes a direct lien against the property, and owners have the option of either paying the assessment in cash, or applying for improvement bonds. If the improvement bond option is taken, the City sells Bancroft Improvement Bonds to finance the construction, and the assessment is paid over 20 years in 40 semiannual installments plus interest.

The assessments against the properties are usually not levied until the actual cost of the project is determined. Since the determination of actual costs cannot normally be determined until the project is completed, funds are not available from assessments for the purpose of paying costs at the time of construction. Therefore, some method of interim financing must be arranged.

The primary disadvantage to this source of revenue is that the development of an assessment district is very cumbersome and expensive when facilities for an entire City are contemplated. Therefore, this method of financing should only be considered for discrete improvements to the collection system where the benefits are localized and easily quantified.

12.5.1.9 Certificates of Participation

Certificates of Participation are a form of bond financing that is distinct from revenue bonds. While it is more complex, and typically has a higher interest rate than revenue bonds, it is a process controlled by the City Council, and it does not have to be referred to the voters. This can result in significant time savings. Current rates for Certifications of Participation range from 4.5 to 5.5%.

12.5.1.10 Ad Valorem Taxes

Ad valorem property taxes were often used in the past as a revenue source for public utility improvements. These taxes were the traditional means of obtaining revenue to support all local governmental functions. Ad valorem taxation is a financing method that applies to all property owners that benefit, or could potentially benefit from a water system improvement, whether the property is developed or not. The construction costs for the improvement project are shared proportionally among all property owners based on the assessed value of each property. Ad valorem taxation, however, is less likely to result in individual users paying their proportionate share of the costs as compared to their benefits.

12.5.2 State and Federal Grant and Loan Programs

Several state and federal grant and loan programs are available to provide financial assistance for municipal water system improvements. Based on data from the 2005 Community Development Block Grant Guidelines, 41.5% of families in Junction City are classified as low or moderate income. This calculation is performed using data from the 2000 Census. Many communities (e.g., Brownsville and Coburg) have performed income surveys and have found that the percentage of families classified as low or moderate is actually much higher than revealed by the 2000 Census data. Communities with high portions of low and moderate income families qualify for a number of grant and low interest loan programs. Should the City suspect that the actual percentage of low and moderate income families is higher than 41.5%, an income survey may be performed. In Oregon, income surveys are typically performed by the Portland State University Center for Population Research for a minimal cost.

The primary sources of funding available for water system financing are Rural Utilities Service (RUS), Special Public Works Fund (SPWF), the Water/Wastewater (W/W) Financing Program, the Community Development Block Grant (CDBG) program, and the Clean Water State Revolving Fund (CWSRF).

12.5.2.1 Rural Utility Services

Rural Utility Service (RUS) provides federal loans and grants to rural municipalities, counties, special districts, Indian tribes, and not-for-profit organizations to construct, enlarge, or modify water treatment and distribution systems and wastewater collection and treatment systems. Preference is given to projects in low-income communities with populations below 10,000.

Borrowers of RUS loans must be able to demonstrate the following:

- Monthly user rates must be at or above the state-wide average.
- They have the legal authority to borrow and repay loans, to pledge security for loans, and to operate and maintain the facilities and services.
- They are financially sound and able to manage the facility effectively.
- They have a financially sound facility based on taxes, assessments, revenues, fees, or other satisfactory sources of income to pay for all facility costs including O&M and to retire indebtedness and maintain a reserve.

The maximum RUS loan term is 40 years, but the finance term may not exceed statutory limitations on the agency borrowing the money or the expected useful life of the improvements. The reserve can typically be funded at 10 percent per year over a ten-year period. Interest rates for RUS loans vary based on median household income, but tend to be lower than those obtained in the open market.

12.5.2.2 Oregon Economic and Community Development Department

The Oregon Economic and Community Development Department (OECDD) manages a number of grant and low interest loan programs as describe in the following sections.

Special Public Works Fund

The Oregon Economic and Community Development Department (OECDD) administers the Special Public Works Fund (SPWF) program. The SPWF is a lottery-funded loan and grant program that provides funding to municipalities, counties, special districts, and public ports for infrastructure improvements to support industrial/manufacturing and eligible commercial economic development. Eligible commercial economic development is defined as commercial activity that is marketed nationally, or internationally, and attracts business from outside Oregon. Funded projects are usually linked to a specific private sector development and the resulting direct job creation (i.e., firm business commitment), of which 30% of the created jobs must be "family wage" jobs. The program also funds projects that build infrastructure capacity to support industrial/manufacturing development where recent interest by eligible business(s) can be documented.

The SPWF is primarily a loan program, although grant funds are available based on economic need of the community. Although the maximum loan term is 25 years, loans are generally made for 20-year terms. The maximum loan amount for projects funded with direct SPWF money is $1 million, while the maximum for projects financed with bond funds is $10 million.

Bond Bank Program

The Bond Bank program, administered by OECDD, attempts to lower the cost of issuing debt by pooling small revenue bond issues from many communities into one large revenue bond issue. It uses lottery proceeds to write down financing costs, and to improve the debt/equity ratio on projects. The interest rate for repayment of funds is typically around 6 percent, with up to a 25 year term.

Water/Wastewater Financing Program

OECDD also administers the W/W Financing Program, which gives priority to projects that provide system-wide benefits and helps communities meet the Clean Water Act or the Safe Drinking Water Act standards. It is intended to assist local governments that have been hard hit with state and federal mandates for public drinking water systems and wastewater systems. In order to be eligible for this program, the system must be out of compliance with federal or state rules, regulations or permits, as evidenced by issuance of Notice of Non-Compliance by the appropriate regulatory agency. The funded project must be needed to meet state or federal regulations. Priority is given to communities under economic distress.

Similar to the SPWF, the W/W Financing Program is primarily a loan program, although grant funds are available in certain cases, based on economic need of the community. Although the maximum loan term is 25 years, loans are generally made for 20-year terms. The maximum loan amount for projects funded with direct W/W money is $500,000, while the maximum for projects financed with bond funds is $10 million.

Economic and Community Development Block Grant

The OECDD administers the CDBG, but the funds are from the U.S. Department of Housing and Urban Development (HUD), so all federal grant management rules apply to the program. The federal eligibility standards are strict. There are two subcategories of Public Works projects eligible for funding, "Public Water and Wastewater," and "Public Works for New Housing." Only the former is considered in this discussion.

Grants are available for critically needed construction, improvement, or expansion of publicly owned water and wastewater systems for the benefit of current residents. Generally, projects must be necessary to resolve regulatory compliance problems identified by state and/or federal agencies and the project must serve a community that is comprised of more than 51% of low and moderate income persons.

The program separates projects into three parts. Grants are available for:

- Preliminary Engineering and Planning Projects

  Generally, these grants fund preparation or update of Water System Master Plans and Wastewater Facility Plans, as required by the Oregon Department of Environmental Quality or Oregon Health Division. In addition, funds for grant administration and preparation of a final design funding application can be included in the project budget. All plans produced with grant funds must be approved by the appropriate regulatory agency. Grants of up to $10,000 can also be made for problem identification studies to delineate problems and corrective measures, as required by a regulatory agency.

- Final Design and Engineering Projects

  Final design and engineering, bid specifications, environmental review, financial

feasibility, rate analysis, grant administration, and preparing a construction funding application are all eligible project activities. The final design, plans and specifications must be approved by the appropriate regulatory agency before a grant will be awarded.

- Construction Projects

  These grants fund construction and related activities, grant administration, and land/permanent easement acquisition.

  OECDD has established an evaluation system that gives priority to projects that provide system-wide benefits. The overall maximum grant amount per water or wastewater project is $1,000,000 (including all planning, final engineering, and construction). The project cannot be divided locally into phases with the expectation of receiving more than one $1,000,000 grant. In order to qualify for grant funding under this program, the water user rates must be at or above statewide averages.

12.5.2.3 Safe Drinking Water Revolving Loan Fund

The Safe Drinking Water Revolving Loan Fund is administered by OECDD with assistance from ODWP and provides loans to cities, counties, special districts, and Indian tribes to construct, expand, or rehabilitate water treatment, distribution, and storage facilities in order to comply with the Safe Drinking Water Act.

Interest rates on loans are about 80% of the general obligation bond rate; however, there are additional financing costs and annual service fees that increase the effective rate. The maximum loan amount per project is $4,000,000. The maximum loan term is 20 years except for disadvantaged communities that may qualify for loan terms up to 30 years provided the loan term does not exceed the useful life of the facility being constructed.

12.5.2.4 Water Development Loan Fund

The Water Development Loan Fund is administered by the Oregon Water Resources Department. This program provides loans to municipal water suppliers with a population under 30,000. These loans are available with up to 30-year terms.

12.5.3 State Funding

The City and State stakeholders are currently negotiating a pro-rata share of State funding for the improvements identified in this report. The City and State need to recognize that the set of water system improvement projects recommended by this study are driven by the IGA development schedule and that a prioritized list for municipal needs alone would yield a different set of improvement projects with a longer development period and a reduced overall cost. The cost sharing agreement must therefore equitably assign costs imposed by the State's needs.

12.5.4 Funding Recommendations

As available grant funding on public works projects has decreased in the last several years, it will be incumbent upon the City to aggressively pursue funding to finance the cost of the recommended improvements that are in excess of the pro-rata costs contributed by the State.

Based on the infrastructure improvements and cost projections presented in this master plan, the existing SDC fee structure is insufficient to meet the planning period goals. This plan accordingly recommends that the City complete a full review of its SDC rate structure and update

these fees accordingly. All funding options will likely include an increase of the user rate and SDCs.

Another important element of the funding process is to schedule a "one stop meeting" with Oregon Economic and Community Development Department (OECDD). The preparation of applicable grant applications should begin as soon as possible. The City may not qualify for a number of grant programs since the City does not have greater than 51% of residents in the low and moderate income brackets. As previously described, many communities have performed local income surveys and have determined that a greater percentage of households fall under the low or moderate income category than determined by the 2000 census data. If the City believes the actual percentage of low and moderate income families is higher than revealed by the 2000 census data, a local income survey may be performed.

Based on the 2000 census data, 41.5% of the households in the City fall into the low or moderate income category. The information in Table 12-4 was prepared to assist the City in determining whether or not an income survey would be beneficial. This table shows the communities that have performed local income surveys after the 2000 census and how the results of the local survey differ from the 2000 census data. For comparison purposes, the percent of low/moderate income from the 1990 census or a local survey performed before 2000 is also included. With the exception of Cottage Grove, all of the communities saw an increase in the percentage of low and moderate income families when a local survey was performed. Some communities saw dramatic increases. This fact suggests the possibility of an overall inaccuracy with regard to income levels in the 2000 census data.

Table 12-4 | Effects of Local Income Surveys for Communities in Oregon

Community	Low/Moderate Income as a Percentage of Population (1990 Census or Local Data)	Low/Moderate Income as a Percentage of Population (2000 Census)	Low/Moderate Income as a Percentage of Population (post 2000 Local Survey)
Junction City	42.8%	41.5%	NA
Cascade Locks	47.9%	37.5%	58.5%
Cottage Grove	59.5%	50.6%	48.0%
Brownsville	46.9%	46.0%	58.0%
Mill City	56.0%	50.5%	53.5%
Vale	61.9%	49.8%	57.4%
Aumsville	56.1%	44.6%	74.3%
Jefferson	62.0%	44.1%	57.3%
Mt. Angel	55.8%	43.2%	66.3%
Independence	55.9%	48.0%	79.5%
Monmouth	52.1%	48.6%	67.3%
Yamhill	57.3%	39.9%	64.8%

Data compiled from 2003 Oregon Community Development Block Grant Guidelines – Appendix A and 2005 Oregon Community Development Block Grant Guidelines – Appendix A

Based on this information, the City may wish to perform a local income survey to obtain a more accurate measurement of the percentage of low and moderate income families. The cost for such a survey is likely to be in the $8,000 to $10,000 range and is not eligible for reimbursement under a grant if secured. Municipalities interested in completing a survey are required to contact the OECDD regional coordinator prior to beginning the survey.

Should the survey reveal that the actual percentage of low and moderate income families is greater than 51%, the City would readily qualify for a $1,000,000 grant from the Community Development Block Grant Program administered by OECDD. The balance of the funding would have to be derived from local sources and/or state or federal loan programs.

12.6 RECOMMENDED IMPLEMENTATION PLAN

It is recommended that the City begin design work on the Priority 1A improvements as soon as possible after final approval of the Master Plan. With limited exceptions all of the priority 1A projects are required to provide adequate water service to the DOC/DHS development. The design and construction of these projects are accordingly driven by the development schedule stipulated by the IGA for the prison and hospital project. A prioritized list for municipal needs alone would yield a different set of improvement projects with a longer development period and a reduced overall cost. The cost sharing plan negotiated with the State, must therefore equitably assign costs imposed by the State's needs.

Priority 1B projects—replacement of galvanized pipe—will be required as a direct result of higher water pressures provided under the former category. It is recommended that the Priority 1B projects are completed on an as-needed basis at the determination of the City after the new elevated reservoir is put into service. Clearly, the Priority 1 improvement project is substantial. Based on discussions with City staff, it will be the largest set of projects the City has ever undertaken.

As of this writing, a final implementation schedule is not available because the tasks associated with the Priority 1 improvements are complex and interrelated and are heavily contingent on the development of a final funding cash flow for this development phase—a product that has not yet been finalized by the IGA stakeholders.

It is anticipated that the Priority 2 improvements will be required in 2020. As with the Priority 1 project set, these recommendations are substantial and many of the projects will need to be completed concurrently in order to meet development schedules. The City should be diligently preparing for the financial requirements of these future projects.

Table 12-1 | Recommended Capital Improvement Priorities

Project Code [1]	Project	Priority	Total Estimated Project Cost [2]
I-1	Development of SCADA System Platform	1A	$ 70,000
D-1	South Transmission Line to DOC/DHS (24-inch line) [3]	1A	$ 4,608,000
D-2	Westside Transmission Line (16-inch line in Oaklea Drive and Bailey Lane) [3]	1A	$ 1,479,000
S-1	Finished Water Pump Station and yard piping improvements [3]	1A	$ 2,100,000
D-30	Raw Water lines to WTP for 8th & Front + 11th & Elm Wells [3]	1A	$ 308,000
D-31	Raw Water lines to WTP for 8th & Deal + 13th & Elm Wells [3]	1A	$ 392,000
D-15	Elm Street Waterline Replacement (9th Avenue to 14th Avenue)	1A	$ 149,000
S-2	Reconstruction of 11th & Elm Street Well [3]	1A	$ 1,400,000
R-1	Elevated Reservoir at WTP (0.3 MG) [3]	1A	$ 2,100,000
R-2	Ground Storage Reservoir at WTP (2.25 MG) [3]	1A	$ 4,900,000
S-3	Existing Well Facility Improvements (Auxiliary Power and I&C Improvements) [3]	1A	$ 700,000
T-1	Water Treatment Plant, Phase I (5.0 MGD base capacity) [3]	1A	$ 7,825,000
D-23	Rose Street Waterline Replacement	1A	$ 274,000
D-16	Prairie Meadows (Connect west end of Prairie Meadows to Pitney Village)	1A	$ 22,000
D-17	Hatton Lane, Phase I (Prairie Road to Oak View Apartments)	1A	$ 51,000
D-18	First Avenue (Kalmia Street to Highway 99)	1A	$ 84,000
D-19	River Road (From the alley between Cedar and Deal Streets to Boden Street)	1A	$ 98,000
D-20	Bryant Street (Prairie Road to Kalmia Street)	1A	$ 69,000
D-21	Hatton Lane, Phase II (Oak View Apartments to Hwy 99 then North on Hwy 99)	1A	$ 230,000
D-22	6th Avenue (Greenwood to Front Street & Elm to Cedar Street)	1A	$ 87,000
		Subtotal Priority 1A	**$ 26,946,000**
Galvanized Pipe Replacement Program (Program 1)			
D-4	Laurel Street (9th Street to 12th Street)	1B	$ 67,000
D-5	Laurel Street (6th Street to 9th Street)	1B	$ 68,000
D-6	Addison Avenue & SW Laurel Street	1B	$ 75,000
D-7	Laurel Street (3rd Avenue to 5th Avenue)	1B	$ 71,000
D-8	Kalmia Street (3rd Avenue to 5th Avenue)	1B	$ 71,000
D-9	Juniper Street (3rd Avenue to 5th Avenue)	1B	$ 71,000
D-10	3rd Avenue (Laurel Street to Juniper Street)	1B	$ 41,000
D-11	Alley between Ivy and Holly Street (4th Avenue to 7th Avenue)	1B	$ 69,000
D-12	Alley between Holly and Greenwood Streets (5th Avenue to 7th Avenue)	1B	$ 49,000
		Subtotal Priority 1B	**$ 582,000**

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Table 12-1 | Continued from previous page

Project Code [1]	Project	Priority	Total Estimated Project Cost [2]
S-4	Development of New Well [3]	2	$ 1,600,000
T-2	Water Treatment Plant, Phase II (1.0 MGD expansion) [3]	2	$ 850,000
R-3	Second Ground Storage Reservoir at WTP	2	$ 5,100,000
D-24	Hydrant Infill along Front Street (Total of three new hydrants)	2	$ 15,000
D-25	5th Avenue (Greenwood to Front Street)	2	$ 40,000
D-26	2nd Avenue (Greenwood to Front Street)	2	$ 36,000
D-27	14th Avenue (Greenwood to Ivy Street)	2	$ 66,000
D-3	Eastside Transmission Line	2	$ 1,728,000
D-28	Commercial Corridor Hydrants (Constructed in conjunction with D-2)	2	$ 60,000
D-29	10th Avenue (Holly Street to Front Street)	2	$ 39,000
		Subtotal Priority 2	**$ 9,534,000**
D-30a	6th Avenue (Front Street to Elm Street)	3	$ 44,000
D-30b	6th Avenue and Birch Street (6th & Cedar then south along Birch Street)	3	$ 274,000
D-30c	River Road (Front Street to the alley between Cedar and Deal Streets)	3	$ 116,000
D-4	Future UGB Buildout Transmission Line	3	$ 2,211,000
D-5	Future Industrial Corridor Transmission Line	3	$ 1,536,000
		Subtotal Priority 3	**$ 4,181,000**
		TOTAL	**$ 41,243,000**

Recurring Annual Programs		
P-2	Perpetual Pipeline and Valve Replacement Program (Program 2)	$ 250,000
P-3	Hydrant Replacement and Infill Program (Program 3)	$ 15,000
	Subtotal Recurring Annual Programs	**$ 265,000**

[1] Project Code Legend:
D = Distribution
R = Reservoirs
S = Water Supply
T = Treatment
I = Instrumentation & Control
P = Improvement Program

[2] See Section 12.3 for basis of project cost estimates

[3] Improvement costs are shared with DOC