



Public Facilities Plan

Prepared for the
City of Canby

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Canby Public Facilities Plan

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1. Purpose Statement

Oregon Administrative Rules (OAR) 660-011-0010 through OAR 660-011-0045 require cities and counties in Oregon to develop and maintain Public Facilities Plans to help assure that urban development within their boundaries is guided and supported by types and levels of urban facilities and services appropriate for the needs and requirements of the community, and that facilities and services are provided in a timely, orderly and efficient arrangement. Public Facilities Plans also are intended to serve as a framework for urban and rural development within a city's urban growth boundary (UGB).

The Canby Public Facilities Plan (PFP) is intended to further the purposes of Statewide Planning Goal 11. The PFP includes the following information:

- Goals and policies for incorporation in the City's Comprehensive Plan to guide planning, constructing and financing public facilities.
- Narrative descriptions of existing and planned water, wastewater, storm drainage and transportation facilities.
- Capital improvement plan for future construction of facilities. The plan contains information about all facility costs, schedule and funding sources.
- General financing plan indicating how the City plans to finance current and planned facilities and services.

It is expected that this plan will be revised in the future to reflect updates to specific master plans, significant proposals for new development within or outside the city that prompt the need for review of public facilities plans, or other similar factors or events. One of the following plan policies states that the PFP will be updated periodically as needed.

2. Goals and Policies

The following are policies and implementation measures recommended for inclusion in the City's Comprehensive Plan under the sections *Public Facilities and Services Element*. They are organized by general topic. These policies and implementation measures intended to be consistent with state law and existing City policies and practices, are for promoting efficient and effective provision of urban services and protecting natural resources.

Goal 1: To assure the adequate provision of water services to meet the needs of the residents and property owners of Canby.

Policy No. 1 – *Canby shall maintain, repair or replace all current water system elements to continue providing an adequate level of water service.*

Implementation Measures

- A. Water treatment facilities must be upgraded to meet current needs, including the following improvements:
 - 1. Upgrade water treatment facilities.
 - 2. Repair Clearwell weld failures and compromised coatings.
 - 3. Replace and enlarge backwash ponds.
 - 4. Improve truck delivery access.
- B. Replace and repair pipes in fire flow deficient areas and areas where facilities have reached their estimated design life using a distribution system maintenance program.
- C. Capacity of the existing production pumps should be increased to meet peak day demand and improve efficiency.

Policy No. 2 – *Canby shall maintain, repair, replace and/or expand its water system to meet future adequate water service needs.*

Implementation Measures

- A. An application for additional water rights on the Willamette River is in process and intended for industrial and electric generation needs, but may be further developed to meet peak day demand well past 2040.
- B. Several treatment facility elements must be replaced or repaired, including the following:
 - 1. Replace system generators to provide sufficient and reliable backup power.
 - 2. Develop an emergency response plan that defines improvements to increase protection in compliance with federal regulations.

C. Storage capacity must be added to the current system.

Policy No. 3 – *Canby shall adopt and periodically update a capital improvement program for major water projects, and utilize all feasible means to finance any needed water system improvements in an equitable manner.*

Implementation Measures

- A. Develop a Water Master Plan Update that provides a capital improvement plan for the water system. The Water Master Plan Update was most recently completed in 2003. Capital improvement projects cited in the Master Plan are listed in Section 3 of this Public Facilities Plan.
- B. Pay for yearly pipeline costs using user fees and, when possible, use general obligation bonds to pay for large system improvements. Service Development Charges should be used to pay for system expansion needed to serve new development.

Goal 2: To assure the adequate provision of waste water services to meet the needs of the residents and property owners of Canby.

Policy No. 1 – *Canby shall maintain, repair or replace existing wastewater system elements, as needed, to continue providing the current level of wastewater services.*

Implementation Measures

- A. Replace or repair deteriorating collection systems.
- B. Improve or replace other existing facilities as needed in the future to ensure their reliability.

Policy No. 2 – *Canby shall maintain, repair, replace or expand its wastewater system to meet future wastewater service needs.*

Implementation Measures

- A. Construct new trunk and major sewers.
- B. Construct four new pump stations.
- C. Relocate, upgrade and/or expand pump stations in areas where additional capacity is needed.

Policy No. 3 – *Canby shall adopt and periodically update a capital improvement program for major wastewater projects, and utilize all feasible means of financing any needed wastewater system improvements in an equitable manner.*

Implementation Measures

- A. Develop a Wastewater Master Plan that provides a capital improvement plan for the wastewater system. The current Wastewater Collection System Master Plan was adopted by the City in 1999. Capital improvement projects included in the Master Plan are listed in section 3 of this Public Facilities Plan.
- B. Utilize user fees to pay for the operation and maintenance of existing facilities and to replace, upgrade and/or expand these facilities when necessary. Private development is expected to pay for the majority of new collection facilities through system development charges and the construction of new infrastructure.

Goal 3: To assure the adequate provision of storm drainage services to meet the needs of the residents and property owners of Canby.

Policy No. 1 – *Canby shall maintain, repair or replace existing storm drainage system elements, as needed, to continue providing the current level of storm drainage services.*

Implementation Measures

- A. Purchase a regional treatment site.
- B. Provide regional treatment and monitoring facilities.
- C. Maintain, expand or replace existing local facilities as needed, to ensure they continue to function reliably.
- D. Develop standards and requirements for on-site storm drainage facilities; incorporate into City development, public facility and other ordinances.

Policy No. 2 – *Canby shall maintain, repair, replace or expand its storm drainage system to meet future storm drainage service needs.*

Implementation Measures

- A. Decommission unacceptable drywells and water wells.
- B. Implement a catchbasin and drywell best management practices (BMP) plan.

Policy No. 3 – *Canby shall adopt and periodically update a capital improvement program for major storm drainage projects, and utilize all feasible means of financing any needed storm drainage system improvements in an equitable manner.*

Implementation Measures

- A. Develop a Storm Drainage Master Plan that provides a capital improvement plan for the storm drainage system. The Storm Drainage Master Plan was adopted by the City in 1994. Capital improvement projects cited in the Master Plan are listed in section 3 of this Public Facilities Plan.

- B. Storm drainage user fees will be collected monthly and system development charges (SDCs) will be assessed on development as it occurs. SDCs will be used to fund capital improvements to serve new development. User fees also will fund system operation and maintenance.

Goal 4: To assure the adequate provision of transportation services to meet the needs of the residents and property owners of Canby.

Policy No. 1 – Canby shall maintain, repair or replace existing transportation system elements, as needed, to continue providing an adequate level of transportation services.

Implementation Measures

- A. Install new traffic signals and upgrade existing signals at several intersections.
- B. Construct or upgrade sidewalks and paths.
- C. Install bike lanes as part of future street improvements.

Policy No. 2 - Canby shall maintain, repair, replace or expand its transportation system to meet future transportation service needs.

Implementation Measures

- A. Construct, widen or otherwise upgrade arterial streets, collector streets and neighborhood connectors.
- B. Improve the intersections identified in the Transportation System Plan.
- C. Complete bicycle, pedestrian and other improvements, consistent with the City's Transportation System Plan.

Policy No. 3 – Canby shall adopt and periodically update a capital improvement program for major transportation projects, and utilize all feasible means of financing any needed transportation system improvements in an equitable manner.

Implementation Measures

- A. Develop a Transportation System Plan that provides a capital improvement plan for the transportation system. The City of Canby adopted a Transportation System Plan in 2000. The plan identifies short-term and long-term transportation system improvements and includes a transportation financing plan. Capital improvement projects cited in the Plan are listed in section 3 of this Public Facilities Plan.
- B. Capital improvement costs will be paid for through state, regional and local gasoline taxes, user fees, property taxes, serial levies, local sales tax, debt funding, economic development funding and system development charges as identified in the TSP.
- C. Explore adoption of a combined street maintenance fee/gas tax.

Goal 5: To assure the adequate provision of parks and recreation services to meet the needs of the residents and property owners of Canby.

Policy No. 1 – *Canby shall maintain, repair or replace existing parks system elements, as needed, to continue providing an adequate level of park and recreational services.*

Implementation Measures

- A. Improve the level of maintenance in current city parks and recreation facilities.
- B. Standardize park and recreation amenities for ease of maintenance and aesthetics.
- C. Improve park and recreation signage.
- D. Improve access to facilities to comply with the Americans with Disabilities Act.
- E. Improve the perceived level and actual safety of parks and recreation facilities.

Policy No. 2 – *Canby shall maintain, repair, replace or expand its parks system to meet future park and recreation service needs.*

Implementation Measures

- A. Acquire and develop 141.2 additional acres of park and recreation facilities by 2020 to meet the community standard of 10 acres of developed parkland per 1,000 residents.
- B. Allocate land needed for mini-parks and neighborhood parks in rapidly developing areas on the edges of the city.
 - 1. Develop mini-parks (two acres or smaller) to serve 2,000 residents or a ¼-mile area. For a population of 20,000, this would be approximately 20 acres and 10 parks.
 - 2. Develop neighborhood parks (15-17 acres) to serve 5,000-7,000 people or a ¼ to ½-mile area. For a population of 20,000, this results in a need for about three neighborhood parks and about 45 acres.
- C. Identify potential trail connections and linkages to schools and other recreational sites in the Canby vicinity.
- D. Develop bike lanes to connect bicyclists to parks, natural areas and off-road bicycling opportunities.
- E. Develop connections between Canby parks, trails, the Molalla River State Park and the Willamette River, with a hub in Wait Park.

Policy No. 3 – *Canby shall adopt and periodically update a capital improvement program for major parks projects, and utilize all feasible means of financing any needed parks system improvements in an equitable manner.*

Implementation Measures

- A. Continue to update the City’s Park and Recreation Master Plan, which identifies needed capital improvements and standards for the parks system. The City of Canby adopted a Park and Recreation Master Plan Update in 2002. Capital improvement projects listed in the Master Plan are listed in section 3 of this Public Facilities Plan.
- B. Utilize user fees to pay for the operation and maintenance of existing facilities and to replace, upgrade and/or expand these facilities when necessary. Use bonds to acquire additional land for new park facilities and to replace the existing pool facility.
- C. Explore creation of a separate park and recreation district to help provide and pay for new park facilities.

Goal 6: To assure the provision of a full range of public facilities and services to meet the needs of the residents and property owners of Canby

Policy No. 1 – *Canby shall work closely and cooperate with all entities and agencies providing public facilities and services, and ensure that public facilities and services are provided concurrently with future development.*

Implementation measures

- A. Work with land developers, property owners and other service providers to ensure that adequate public facilities and services are in place to meet the needs of new residents and businesses prior to approval and/or construction of new development.
- B. To minimize the cost of providing public services and infrastructure, discourage urban development that lacks adequate public services and promote efficient use of urban and urbanizable land within the city’s urban growth boundary.
- C. Support only development that is compatible with the City’s ability to provide adequate public facilities and services.
- D. Prioritize the extension of water, sewer, and transportation infrastructure within the UGB, as needed.
- E. Require all properties that receive urban services to either annex to the city or enter into an agreement for future annexation when contiguous to city limits.

Policy No. 2 – *Canby shall utilize all feasible means of financing needed public improvements and shall do so in an equitable manner.*

Implementation measures

- A. Allow for the creation of Local Improvement Districts and Advanced Financing Districts as a means of financing needed improvements where supported by local residents.

- B. Continue to use SDCs to pay for the costs of public facilities and services needed to serve new development. Consider adopting additional SDCs, as allowed by Oregon statutes, to pay for services not currently covered by SDCs.
- C. Use general obligation and revenue bonds, as appropriate, to help finance long-term capital improvements.
- D. Consider establishing additional special districts, if needed, to cover the cost of facilities or services that cannot be financed through user fees, SDCs, tax revenues or other existing funding mechanisms.
- E. Use fees to recover the cost of services to the greatest extent possible where services or facilities directly benefit users.
- F. Incorporate additional changes to capital improvement plans (CIPs) and associated SDC rates, as needed, as individual master plans are updated.

Policy No. 3 – *Canby shall coordinate with the Canby School District to help ensure that adequate sites are provided for public school and associated recreation facilities.*

Implementation measures

- A. Work with representatives of the school district, community schools office, and recreation-oriented groups to determine the best possible sites for future acquisition and development of schools and associated recreational facilities.
- B. Utilize the density bonus provisions of the planned unit development regulations to encourage developers to provide either public or private recreation facilities within their projects. If sufficient recreation opportunities are provided through this means, the amount of land needed for public acquisition can be reduced accordingly.

3. Public Facilities System Descriptions

3.1 Water System

Overview

The majority of water supplied to the city of Canby by Canby Utility is obtained from the Molalla River, with additional water supplied by groundwater sources. The three surface water intake points include the Molalla River infiltration gallery, the Main River Intake and the Old River Intake. Groundwater intake points include the Springs Gallery, the Collection Boxes and Well No. 10. All of these sources are located approximately 2.5 miles upstream from the confluence of the Willamette and Molalla Rivers. Figure 1 shows proposed upgrades the water transmission, storage, and treatment system.

The River Infiltration Gallery (RIG) and River Intake Pump Station were constructed in 1980 and consist of an infiltration gallery, wet well, and raw water pumps. Raw water from the river filters through river gravels into perforated collector pipes (Ranney collectors). The RIG has a capacity of about 7 million gallons per day. The collectors are connected to a common header that delivers the raw water to the 14-foot-diameter, 40-foot-deep pump station well. The Main River Intake (MRI) was constructed in 1997. It is a screened structure that takes water directly from the Molalla River to the wet well of the River Intake Pump Station. The MRI has a design capacity of 8 million gallons per day. The RIG/MRI facility serves as the primary water source for Canby.

The Old River Intake was constructed in the early 1970's and has a pump capacity of 900 to 1,000 gallons per minute (gpm). The intake is seldom used due to the higher quality raw water produced by the RIG/MRI facility and seasonal constraints that prevent using the pump during low river water levels. The point of intake for this water right has been transferred to the RIG/MRI facility, but water can be diverted at either location.

Construction of the concrete Springs Gallery began in 1944 at the gravels near the Molalla River. The Springs Gallery is approximately 18 feet in diameter and 24 feet deep with openings in the walls to permit groundwater infiltration. Between 1950 and 1951, a 30-inch diameter, 300-foot-long perforated corrugated metal collection pipe was buried in the same vicinity and was connected to the existing infiltration gallery. The Spring Gallery has a capacity of 1,000 to 1,200 gpm, but is used infrequently due to its low pH and moderate nitrate levels.

The concrete Collector Boxes, constructed around 1930, collect water from springs near the Molalla River at the base of the ridge and direct it into a cistern. The cistern discharges water into the Springs Gallery. This source was valved off due to trace-level contaminant concentrations in the 1990s and is not currently being used.

Well No. 10 pumps groundwater into the Springs Gallery and has a capacity of approximately 250 gpm. Due to low flow rates and reduced water quality, the well is not currently used.

Beck's Well is owned by John W. Beck and is used as a municipal irrigation supply for Canby Public Schools. The well is 10 inches in diameter and 160 feet deep. It produces between 400 and 600 gpm. The well is not used as a potable water source due to poor water quality issues.

Canby's water treatment plant can treat up to 6 mgd. The treatment of raw water is split into two process trains. Water flows through the unbaffled steel Clearwell, providing contact time for disinfection with chlorine. Production pumps supply the distribution system with treated water.

Water is distributed through approximately 66 miles of pipe ranging in size from 4 to 16 inches. Pipe material is predominantly PVC, ductile iron and steel, with some asbestos cement and copper. Many of the pipes in the system are approaching their design life, having been installed prior to 1960. Storage is provided by three reservoirs located in the southern and western portions of the city. Each storage facility has an adjacent pump station.

There is one pressure zone in the city of Canby. The production pumps at the treatment plant at the 13th Avenue reservoir maintain the average system pressure of 70 pounds per square inch. Pressure ranges across the system are based on pump total dynamic head and existing topography.

Planning

HDR Engineering prepared a Water Management and Conservation Plan for the City in September, 2003 that describes existing facilities, long-term needs, supply sources and potential curtailment plans for the water system. Existing water rights on the Molalla River and active potable groundwater sources are adequate to meet projected peak day demands until 2033. The estimated future demand is based on projections included in the City's 2003 Water Management and Conservation Plan. These projections assume that Canby's future service area will expand to include lands currently within the urban growth boundary but outside city boundaries. The 20-year population forecast corresponding to this scenario (buildout) is 22,329 residents by 2015 and 51,671 residents by 2040.

An application for additional water rights on the Willamette River is in process under the auspices of the Willamette River Water Coalition. The additional water right is intended for industrial and electric generation needs, but may be developed to meet peak day demand well past 2040.

Water system needs identified by the Canby Utility include:

Source

Additional water supply is needed in the long term as current water rights on the Molalla River will not be sufficient to meet the estimated 2040 peak demand. Future service will be limited by minimum stream flow and raw water intake and delivery capacities. Alternate sources include the Willamette River and groundwater wells.

Treatment

- The capacity of the River Intake Pump Station is not sufficient to meet current peak day demands.
- Older turbidity treatment units operate well with flows less than 2 mgd through the sedimentation basin. However, at buildout, a capacity of 4 mgd will be needed.
- A rapid mix process is needed to disperse chemicals upon addition. This generally improves coagulation, sedimentation and filtration, and reduces chemical use.
- Installation of baffling in the Clearwell is needed to provide adequate disinfection capacity.
- The Clearwell has weld failures and compromised coatings that need repair. Seismic analysis and improvements should be completed simultaneously.
- Existing backwash ponds flood due to inadequate capacity. They should be replaced and enlarged.
- The existing generator does not provide sufficient backup power for buildout conditions. The new Ultra Violet (UV) units will require backup power for reliability.
- Full size trucks cannot access the chemical feed area in the back of the treatment plant. Truck delivery access to the plant will need to be improved.
- Due to increased security concerns, a Vulnerability Assessment will need to be performed and an Emergency Response Plan developed to comply with federal regulations and define improvements to increase protection.

Distribution System

- Several fire flow-deficient areas have been identified related to inadequate pipe size.
- Several pipes have reached their estimated design life. A maintenance program for pipe replacement should be developed.

Storage and Pump Station

- The current system has a storage deficit of approximately 5.3 million gallons. Additional storage will be necessary.
- The existing production pumps are not able to supply the needed peak day demand with the largest unit out of service. In addition, the existing variable frequency drives produce excess harmonics, impacting pump performance.
- A comprehensive inspection and structural analysis of the tanks should be conducted to determine their vulnerability to seismic activity.

3.2 Wastewater Collection System

Overview

The City of Canby collects and treats sanitary sewage through a gravity and pressurized collection system that began to be constructed in 1955. The system uses gravity sewer lines ranging in size from six inches to 30 inches in diameter. Most of the old gravity sewers, installed before 1980, were constructed with concrete pipe and asbestos cement pipe. Most of the newer sewers were constructed with PVC pipe. The new Redwood interceptor sewer, which was constructed in 1989, is concrete sewer pipe ranging in size from 15 to 30 inches. The system is subdivided into drainage basins. Each basin corresponds to a particular interceptor or trunk sewer. Trunk sewers receive sewage from branch sewers.

The collection system utilizes seven sewage pump stations. Of the seven, six are owned and operated by the City. The seventh, Village of the Lochs Pump Station, is privately owned and operated by the Village of the Lochs. There are approximately 1,000 feet of pressure sewer or force mains in the collection system. The force mains are four inches in diameter. Figure 2 illustrates the proposed elements of the wastewater collection system.

Planning

The City adopted a Wastewater Collection System Master Plan prepared by Curran-McLeod, Inc., Consulting Engineers in 1999. The plan reviews existing facilities as well as planning criteria. The City of Canby must be able to provide sewage collection and treatment to all areas within its urban growth boundary (UGB). The City's Wastewater Master Plan identifies wastewater treatment needs for this service area with a planning horizon of the year 2015. Several pump stations and system extensions are either planned, under construction, or have been constructed since the plan was adopted.

In general, the condition of the sanitary sewer system is good. The collection system has no deficiencies related to excessive infiltration or inflow. Most sewers have excess capacity for both existing and future flows. However, numerous sections of sewers have been installed at relatively flat grades, including some at adverse grades. These sewers are subject to the accumulation of solids and require more frequent cleaning to prevent blockages. All of the existing pump stations are relatively new and in good working order.

Wastewater system needs identified include:

- The collection system along South 2nd Avenue between Elm and Knott Streets should be replaced within the next few years. These existing sewers have significant surcharging problems which will increase with new development. Approximately 2,080 feet of existing 8- to 10-inch sewers will be replaced with 10- to 18-inch sewers.
- Approximately 10 miles of new trunk or major sewers and as many as four new pump stations will be needed to serve the built-out service area. The station at 3rd Avenue and Baker Street will be relocated and upgraded, and the Willow Creek station will need to be expanded.

- Private development will pay for the majority of new collection facilities through the construction of infrastructure.

3.3 Storm Drainage System

Overview

The Canby area drainage system consists of eight basins that ultimately drain to the adjacent Molalla and Willamette Rivers. Numerous natural detention ponds and wetlands exist throughout this area. The majority of local drainage flows from impervious street and sidewalk surfaces within the public right-of-way. Contribution of runoff from private property is minimal due to the prevalence of subsurface storm water drywells and surface infiltration.

The existing drainage system is comprised of conveyance pipes, open ditches, drainage ways and drywells. The oldest element is a system of collection pipes varying in size from 10 to 20 inches. Smaller collection systems are located in numerous localized areas, which most frequently collect runoff for discharge in drywells common to a larger area. The stormwater disposal system consists of approximately 200 drywells, various areas of disposal trenches and 10 surface-water discharge points. In addition, the Oregon Department of Transportation (ODOT) has two substantial collection systems that discharge into the Molalla and Willamette Rivers. Figure 3 shows scheduled upgrades to the storm drainage system.

Planning

The City adopted a Storm Drainage Master Plan prepared by Curran-McLeod, Inc., Consulting Engineers in 1994. The plan evaluates the existing land use designations and typical storm drainage runoff, assuming ultimate build-out of land within the urban growth boundary. The information was modeled using synthetic rainfall events superimposed on the area to estimate peak discharge rates for each section of collection pipe and each basin. The plan divides capital improvements into three phases: 1-5 years, 5-10 years and 10-20 years.

The City of Canby is currently preparing Best Management Practices and an updated Master Plan for the continued use of drywells as the primary stormwater disposal method. New guidelines have already been implemented to require pre-treatment of all stormwater, and require DEQ registration and Rule Authorization for all injection well disposal systems.

Storm drainage system needs identified include:

- A. The City of Canby has completed construction of improvements to resolve the system deficiencies identified in Phase I of the 1994 Master Plan. Future improvements will expand the monitoring and treatment facilities to all surface-water disposal locations over the next 10 to 20 years pending the adoption of EPA/DEQ requirements to comply with the Phase II Stormwater Program or the Total Mass Daily Loading (TMDL) criteria adopted for the Willamette River and tributary basins.
- B. Approximately 50% of Phase I improvements are complete. The remaining Phase I work is to buy the regional treatment site.

- C. Phase II entails providing the regional treatment and monitoring facilities.
- D. Phase III includes decommissioning any unacceptable drywells, implementing a catchbasin and drywell BMP plan, and any potential domestic water well decommissioning.
- E. Ongoing planning efforts include the Master Plan update.

3.4 Transportation System

Overview

The city of Canby is located approximately 20 miles south of Portland on the Willamette River. State Route 99E (Pacific Highway) runs through and provides the most direct access to the City. Territorial Road forms the major east-west arterial route to the north of the city, while S. 13th Avenue is a major east-west arterial at the southern end of the city. Ivy Street (the Canby Marquam Highway) is the major north-south arterial. Holly Street connects Canby with West Linn, across the Willamette River to the north via the Canby Ferry. The Southern Pacific Railroad, which parallels Highway 99E, forms a major barrier to traffic of all modes wishing to travel from north to south.

The city of Canby has a well-planned collector and arterial street system to serve existing and future land development. Most of Canby's collectors and arterials have sidewalks on at least one side of the street. The majority of street intersections within the city of Canby are controlled by stop signs. The intersections of Highway 99E and Ivy Street, Hwy. 99E and Redwood/Sequoia, Grant Street, Elm Street, Fourth/Pine Streets and Berg Parkway, and the intersection of Ivy Street and 13th Avenue are the only locations controlled by a traffic signal. Several unsignalized intersections are currently operating at or near capacity along Highway 99E. Figure 4 shows proposed upgrades to the arterial/collector street system.

Other transportation components include:

- ➔ Canby Area Transit (CAT) provides system services in Canby with links to the neighboring cities, including Oregon City, Wilsonville and Molalla. Service also is offered to link to Tri-Met services at the Oregon City Transit Station. CAT offers fixed-route service six days a week and is free to riders. All buses have bicycle racks and are ADA-compliant.
- ➔ Passenger rail service is provided daily (two trains/day) by AMTRAK to Portland and Salem, Oregon. Southern Pacific Railroad provides daily service (16 trains/day) for freight shipment. Spur-line freight service (lumber and feed) between Canby and Molalla is provided weekly by the Molalla Western Railway Company.
- ➔ Regional and international air service for passengers and freight is provided at the Portland International Airport which is located approximately 20 miles from Canby. The Aurora State Airport and Mulino Airport also provide local commercial service and private aircraft use.
- ➔ The Canby Ferry is operated year-round by Clackamas County and provides auto, bicycle and pedestrian service across the Willamette River. The ferry links Canby with Pete's

Mountain Road and West Linn to the north. Current use of the river as a transportation route is limited to barge shipment of sand and gravel as well as some floats of timber. Recreational boating on the Willamette River is popular year-round.

- Pipeline transportation in and through the Canby urban area includes transmission lines for electricity, cable television and telephone services, and pipeline transport of water, sewer and natural gas.

One traffic operations problem area was identified at Highway 99E and Territorial Road. This two-way, stop-controlled intersection experiences high volume traffic on Highway 99E. Single-lane approaches experience excessive delays during peak hours, and the eastbound left-turn movement is operating near capacity. The City of Canby has received a grant for \$2 million from ODOT to address the problems at this intersection. Improvements are scheduled for 2006.

No major traffic safety problems have been identified. However, the absence of sidewalks in some areas and lack of continuity in others creates a potential safety hazard for pedestrians in those locations. An absence of bicycle lanes or routes also creates potential hazards for cyclists. The City currently is developing a bicycle route plan for collector and arterial streets that will include posted routes as well as bicycle lanes and a recreational bicycle route network.

Planning

The city of Canby adopted a Transportation System Plan in 2000. The plan includes an analysis of existing conditions, identification of short-term and long-term transportation system improvements (prepared by Pavement Services, Inc), a transportation system description, a transportation finance plan and a description of the transportation system plan's compliance with the Transportation Planning Rule. Future transportation needs were identified based on an assessment of long-range impacts of local and regional growth of the transportation system and surrounding land uses. A planning horizon of buildout in 2015 was used to identify future demographic conditions from which traffic forecasts were developed. The study area includes all land within Canby's urban growth boundary.

Planned transportation system improvements include:

- Construction and widening/upgrading of arterial streets, collector streets and neighborhood connectors.
- Installation of new traffic signals and upgrading existing signals at several intersections.
- Reconfiguring of the intersection at NW 1st and Elm Street.
- Construction or upgrading of sidewalks.

The Capital Improvement Plan in this document provides specific details on these improvements.

Other transportation system improvements include:

- Installation of bike lanes for the following street segments:

- NE 2nd Avenue from Ivy Street to the dead-end at Thriftway and from Elm to Cedar.
- NE 3rd Avenue from Holly Street to Pine Street/99E intersection.
- NE 5th Avenue from Cedar to Elm Street.
- N Elm Street from 99E to 5th Avenue.
- Remove bike lanes from Grant Street between 1st and 3rd, but leave lanes across 99E and the railroad tracks and extending to the south and from 3rd Avenue to Knights Bridge.

➤ Construction of a multi-use path on the north side of the railroad tracks from Redwood Street to Ivy Street.

3.5 Parks System

Overview

The City of Canby has a variety of park and recreation facilities, as well as public spaces available to residents and visitors including:

Name	Size	Classification	Facilities
13 th Avenue Park	5.7 acres	Neighborhood park	Undeveloped with a master plan for full development. Currently used as a soccer field and maintained by Canby Kids.
19 th Avenue Loop	1.8 acres	Mini-park	Picnic tables and footbridge in a wooded upland area overlooking Willow Creek Wetland protected area.
Arneson Garden	1.8 acres	Mini-park	Benches, trash cans, visitor information board, wheelchair-accessible trails, bike rack.
Canby Adult Center	6,175 sq. ft.	n/a	Billiards room, cafeteria, library, computer room, exercise room, multi-purpose room, library, video lounge, meals-on-wheels, classes, tax, health and legal consultation and transportation services.

Name	Size	Classification	Facilities
Canby Community Park Wetland Protected Open Space and Trail	14.5 acres	Community park	Boat ramp on Molalla River, pond, trail, one play area, one informal play field, picnic tables, benches, grills, amphitheater, shelter, rest rooms, trash cans and Boy Scouts headquarters. Wetland area being restored through community-wide effort.
Canby Swim Center	25-yard pool	n/a	Indoor pool with ADA lift, dressing room with toilets and showers, lobby, bleachers, lap, recreation and competitive swimming, swim lessons, water exercise and pool rentals.
Eco Park	19 acres	Community park	Undeveloped park with established nature trails.
Locust Street Park	1 acre	Mini-park	Two play areas, one full basketball court, restrooms, covered picnic tables, drinking fountain, trash cans and benches.
Logging Road Trail Willamette Wayside Fish Eddy Property	3 miles 15 acres 20 acres	Multi-use trail with protected open space along Willamette River	A paved, multi-use trail traversing the city. At the Willamette River terminus, the Willamette River Wayside and Fish Eddy offer nature experiences in protected open space.
Maple Street Park	9 acres	Neighborhood park	Two tennis courts, two ball fields, two handball courts, two basketball courts, four horseshow pits, two play areas, benches, bleachers, picnic tables, restrooms, concession stand, trash cans, grills, shelter, bicycle rack and announcer's booth.
Skate Park (Phase I of Canby Regional Park)	14 acres	Community park	A paved parking lot, a large skate park with three separate skate bowls, drinking fountain, portable toilets and a bike rack. Master plan calls for ball field and picnic area development in Phase II.
Wait Park	2 acres	Mini-park	Gazebo, benches, restrooms, picnic tables, fountains, trash cans, bicycle rack, water and electrical outlets and two play areas.

Name	Size	Classification	Facilities
Willow Creek Wetland	4.6 acres	Protected open space	Protected wetland area adjacent to residential development.

In addition to city facilities, the Canby School District and Clackamas County Fairgrounds allow area residents limited use of their facilities and grounds. Outside the city limits, Molalla River State Park and two private golf courses offer additional recreation opportunities.

The Blue Heron Recreational District was formed about 30 years ago in the Canby area, but lacks a permanent funding source. As a result, it has been relatively limited in its ability to acquire and provide recreational opportunities. The City will explore options to garner the necessary support within the community to fund the district.

Figure 5 shows proposed upgrades to the parks system.

Planning

The City of Canby adopted a Park and Recreation Master Plan Update prepared by the Community Planning Workshop of the University of Oregon in 2002. The City of Canby consulted guidelines from the National Recreation and Park Association and the Oregon Parks and Recreation Department to assess the current level of services for Canby park and recreation resources. A systems approach was used to determine park adequacy. This approach emphasizes locally identified needs and desires rather than applying a blanket standard that may or may not respond to community growth and desires. These park and recreation planning guidelines are not to be considered rigid regulations, but provide a framework for the community to assess existing and needed recreation areas and facilities and levels of service. This assessment provides a baseline to compare Canby’s future supply of parks.

The parks and recreation system was assessed in six different ways:

1. Current park acreage
2. Current park acreage by type of park
3. Current supply of recreation facilities
4. Services area guidelines
5. Comparison with the 1997 Parks Master Plan Update
6. Comparison with population projections. The use patterns, participation rates, demographic data and community input form the basis for projecting demand and establishing guidelines to meet that demand.

Currently, there are 5.38 acres of city-owned parkland in Canby per 1,000 residents (developed and undeveloped parkland). Projections for this plan are based on an Urban Growth Boundary area to serve the city in 2020. A figure of 10 acres per 1,000 residents has been adopted as the

city's overall park standard. Based on this park standard, Canby will need 210 acres of parkland, or 141.2 acres of new parkland, to serve the projected population in 2020.

Identified parks system needs include:

Improvement and Maintenance

- Improve the level of maintenance in current city parks and recreation facilities.
- Move towards standardized park and recreation amenities for ease of maintenance and aesthetics. Recycled plastic benches, garbage receptacles, drinking fountains, picnic tables, lighting, restrooms, irrigation and some play equipment have been identified as desired amenities.
- Improve park and recreation signage, including identifying entrances to Canby's parks where they are obscure or in poor condition, and directional signage along main arterial streets.
- Improve universal access. Bathrooms in some parks may need upgrades to comply with the Americans with Disabilities Act. Currently, Wait Park, Maple Street Park and Canby Community Park are not fully accessible.
- Improve the perceived level and actual safety of Canby's parks and recreation facilities.

Acquisition, Development and Trail Connections

- Acquire and develop 141.2 additional acres of park and recreation facilities by 2020 to meet the community standard of 10 acres of developed parkland per 1,000 residents.
- Allocate land needed for neighborhood parks in rapidly developing areas on the edges of the city. Residents living in the southeast areas within the urban growth boundary are most underserved.
- Identify potential trail connections and linkages to schools and other recreational sites in the Canby vicinity. A map generated at an August, 2000 community forum identifies Canby Transportation System Plan recommendations and recommended bike and multi-use trails as conceptual planning tools.
- Develop bike lanes to connect bicyclists to parks, natural areas and off-road bicycling opportunities. The Canby Transportation System Plan identifies needed bike lanes.
- Connect Eco Park/Logging Road Trail with the Molalla River State Park.
- Develop a hub of trails and parks in Wait Park.
- Develop connections between the Willamette River and Canby.

Parkland and Recreation Projects

- Develop Phase II of the Canby Regional Park with multiple sports fields, lighting for night-time play, and a dual-use parking area.
- Develop the 13th Avenue Park site into a neighborhood park.
- Develop the Eco Park site as a nature park for recreation and nature enjoyment.
- Acquire, protect and restore sensitive riparian and wetland areas along the Molalla River, particularly the Canby Utilities property, and create the necessary rights-of-way to connect Canby Community Park to Knight's Bridge with a trail system, benches and river access (the "Molalla River Greenway" concept).
- Construct an additional swimming pool. The Canby Swim Center is currently at or near maximum capacity.
- Develop currently-owned public property designated for parks, recreation and open space and acquire new property as opportunities arise. Suggested property includes the Marshall House property and remaining portions of the Willow Creek Wetland.

4. Capital Improvements Plan (CIP)

Overview

The City of Canby's Public Facilities Plan calls for significant investment in infrastructure to accommodate expected growth and development over the next 20 years. A summary of planned improvements is presented in Table 1 below. The level of investment is based on cost estimates for planned projects in the City's adopted master plans for water, sewer, and transportation. A list of all planned public facility projects is included in Appendix A. It indicates the location, estimated cost, source of funding, and estimated timeframe for each capital improvement project. All cost estimates are expressed in year 2004 dollars.

It should be noted that a PFP project list may be adopted as part of the Comprehensive Plan, but there is no obligation on the part of the City to build the projects as described in the PFP or to meet the timeframe listed for the projects. The project list may be included as part of the Comprehensive Plan to show anticipated infrastructure needs based on known regulatory requirements and current assumptions about growth and the direction of future development. The list is intended only to provide a general indication of the facilities needed to support future growth. If growth trends change, or if new regulations are imposed on the city, or if technologies emerge that satisfy needs using different methods than those assumed in master plans, the City may revise its public facilities investment strategy without amending the Comprehensive Plan or PFP.

Public Facility	Short-term (Yr. 1 – 5)	Medium-term (Yr. 6 – 10)	Long-term (Yr. 11 – 20)	Total
Water				
<i>Source and Intake</i>	\$52,900	\$207,600	\$1,039,700	\$1,360,100
<i>Treatment</i>	\$1,841,800	\$8,918,400	\$0	\$10,760,200
<i>Distribution and Pricing</i>	\$1,636,800	\$1,383,900	\$3,367,000	\$6,387,700
<i>Storage and Pump Station</i>	\$4,747,900	\$5,281,700	\$15,254,000	\$25,283,600
Water Total	\$8,279,400	\$15,791,600	\$19,660,700	\$42,731,700
Wastewater				
<i>Collection System</i>	\$855,300	\$356,800	\$1,115,700	\$2,327,800
<i>Treatment Plant</i>	\$934,900	\$326,900	\$1,207,300	\$2,469,100
<i>System Planning</i>	\$36,800	\$175,300	\$50,000	\$262,100
Wastewater Total	\$1,827,000	\$859,000	\$2,373,000	\$5,059,000
Storm Drainage				
<i>Master Plan Phase I</i>	\$357,300	\$0	\$0	\$357,300
<i>Master Plan Phase II</i>	\$0	\$1,106,750	\$0	\$1,106,750
<i>Master Plan Phase III</i>	\$369,400	\$211,900	\$663,000	\$1,244,500
<i>System Planning</i>	\$127,680	\$193,200	\$0	\$320,880
Storm Drainage Total	\$854,380	\$1,511,850	\$663,000	\$3,029,430

Public Facility	Short-term (Yr. 1 – 5)	Medium-term (Yr. 6 – 10)	Long-term (Yr. 11 – 20)	Total
Transportation				
<i>New Streets</i>	\$18,794,000	\$14,246,400	\$11,895,100	\$44,935,500
<i>Street Widening/Upgrading</i>	\$7,715,700	\$24,932,200	\$11,901,900	\$44,549,800
<i>Traffic Signal Projects</i>	\$3,148,700	\$503,000	\$0	\$3,970,500
<i>Sidewalk Projects</i>	\$261,100	\$816,500	\$0	\$1,077,600
Transportation Total	\$29,919,500	\$40,498,100	\$23,797,000	\$94,533,400
Parks				
Parks Total	\$35,118,700	\$20,412,100	\$0	\$55,530,800
Total Investment	\$75,998,980	\$79,072,650	\$20,412,100	\$201,884,330

No schedule is provided for parks projects and selected transportation projects.

5. Financing and Implementation Plan

The City of Canby uses a combination of strategies to finance the development and maintenance of its public works infrastructure. The following discussion provides an overview of the financial structure in place to support Canby’s infrastructure and development and ongoing maintenance needs.

5.1 Water System

Canby’s water system is managed as a municipal enterprise by Canby Utility, which means the service is operated as a business enterprise and is self-supporting. The utility is debt-free. Yearly pipeline maintenance and improvements are paid for by user fees. In 2004, Canby Utility secured a \$2.9 million bond to pay for improvements to the water treatment plant, storage and distribution system, and filtering capability. The 20-year capital improvement plan (CIP) included in this Plan includes 19 projects totaling approximately \$30 million. In addition, Canby Utility plans to construct the following longer-range projects:

- A second new reservoir at the water treatment plant site is scheduled for development in 2035
- A groundwater and/or aquifer storage and recovery sources scheduled for development in 2039
- System looping improvements scheduled for 2040
- Upgrades to the downtown north service area scheduled for 2040

Canby Utility charges an SDC to pay for water infrastructure. The methodology was last updated in 2004. It includes both a reimbursement component for existing fixed assets and an improvement component for capacity-building projects.

5.2 Wastewater System

Canby’s wastewater system also is managed as a municipal enterprise. The City maintains a “Sewer Construction Reserve Fund” accrued from user fees and SDCs to finance improvements and new facilities.

Revenues from user fees are used to pay for all costs associated with the system. This includes the operation and maintenance of the wastewater treatment plant and collection system, as well as all of the capital expenses needed to replace, upgrade or expand the plant and collection system. To pay for the capital expenses of replacing existing facilities, the user fee includes a factor for the depreciation of equipment and structures, including sewers. Likewise, the user fee includes a factor for the capital expenses which are expected to be required for ongoing operation of the treatment plant.

All SDC fees are related to the capital cost of providing new capacity. The SDC is comprised of two components, a reimbursement fee and an improvement fee. The reimbursement fee essentially reimburses the system for the cost of existing capacity, including financing costs.

The improvement fee provides a mechanism to collect funds for future needed capacity building. The magnitude of the SDC is based on the cost of service and facilities. For reimbursement, all existing capacity is inventoried, the cost identified and then prorated according to the amount of capacity used for a new connection. Improvements are inventoried, costs estimated and the cost again prorated by the amount of capacity consumed by a new connection.

The CIP for wastewater included in this plan assumes that a combination of user fees and SDCs will be adequate to fund projected future improvements.

5.3 Storm Drainage System

Canby's Storm Drainage System is also paid for through a combination of user fees and SDCs. User fees are collected monthly for use of the storm water system. Systems development charges (SDCs) are assessed on development as it occurs. Storm drainage improvements by private development which are identified in the Capital Improvement Plan are eligible for credits to offset the on-site SDC charges, in accordance with Oregon Revised Statutes. User fees and SDCs will be used to fund capital improvements as well as system operation and maintenance for the next 10 years.

The user fee is based on total annual utility costs and on trip rates. The SDC charge on new development will be \$0.42 per trip generated. This fee is based on the Phase I capital costs. The SDC revenues can be used only for capital purchases and debt service. The SDC revenue is used for cash acquisitions of capital and for debt service on the revenue bonds issued to build the Phase I improvements and for monitoring.

The CIP for wastewater included in this plan assumes that a combination of user fees and SDCs will be adequate to fund projected future improvements.

5.4 Transportation System

The City of Canby Transportation System plan identifies needed transportation system improvements over the next 20 years, including new streets, street widening, new traffic signals and bike lane and sidewalk projects. The total cost of these improvements is estimated to be about \$47.2 million. Of this total cost, approximately \$8.4 million is expected to be funded by the State of Oregon and Clackamas County for improvements to facilities under their jurisdiction; the remaining \$38.8 million will be the responsibility of the City and its residents, including new development.

Funding sources are divided into the following seven categories:

1. City: The City of Canby is responsible for approximately \$1.3 million (3%) of the project costs, mostly for costs that are related to maintenance of existing surfaces.
2. County: Clackamas County is allocated a share of the signal at Territorial and Hwy. 99E, covering less than 1% of total costs.
3. State: The State of Oregon is expected to help fund a share of several projects on or near Hwy 99E. These costs total \$7.9 million, or 16.7% of the \$47.2 million total.

4. LID: Local Improvement Districts are planned to cover \$508,350 in sidewalk projects.
5. Grants: The Oregon Department of Transportation has funded grants for some street projects in the past. It is assumed that \$1.1 million of these grants will be available for certain projects (approximately 2.3% of total costs).
6. New Development: Developers of new projects and properties are required to provide frontage improvements along their properties. This is anticipated to be a major source of improvements in the future, providing almost \$21 million (44%) of the total costs identified in this plan.
7. System Development Charges: The City imposes a charge on all new development to cover the costs of projects required due to growth. This SDC is in addition to any on-site costs included in #6 above, and pays for off-site projects all over town. System Development Charges are expected to cover \$14.8 million (31%) of total costs.

Seventy-five percent of total project costs are assessed to new development with the remainder covered by public agencies.

5.5 Parks System

Improvements to Canby's parks system are funded in one of two ways. Parks that serve areas of new development are paid for through SDCs. Projects that are not eligible for SDC funding are paid for through general fund. Especially large capital improvements are funded through bonds. In 2007, an \$8 million bond will be used to acquire additional acreage for park land. In 2012, an \$8 million bond will be used to replace the existing pool.

6. Plan Implementation

The City of Canby's Public Facilities Plan is implemented through a combination of local plans, infrastructure standards and development codes. Implementing plans include:

- Water Master Plan Update, September, 2003
- Wastewater Collection System Master Plan, December, 1999
- Storm Drainage Master Plan, December, 1994
- Transportation System Plan, April, 2000
- Park and Recreation Master Plan Update, January, 2002

Infrastructure design standards include:

- Canby Municipal Code, Title 12. Streets, Sidewalks and Public Places
- Canby Municipal Code, Title 13. Public Services
- Canby Municipal Code, Title 16. Planning and Zoning (regulations and design standards)

Financing is supported by:

- City of Canby and Canby Utility System Development Charges Methodologies
- Canby Municipal Code, Title 4. Public Improvements
- Canby Municipal Code, Title 13. Public Services
- Annual City budget authorization

Appendix A: Capital Improvements Plan

Map ID	Item	WATER			Listed Cost	Cost 2005 \$s	Cost Estimate	Project Schedule			Year	Funding Source
		Type	Project Title	Description/ Location				Short-term	Medium-term	Long-term		
								(0-5 years)	(6-10 yrs)	(10-20 yrs)		
Source and Intake												
	SI01	WSI	River Intake Pump Station	Phase I - Address current system deficiencies	\$47,000	\$49,900	\$52,900	\$52,900			2006/07	User Fees
	SI02	WSI	River Intake Pump Station	Phase II – address growth related issues	\$708,000	\$751,100	\$1,039,700			\$1,039,700	2016	User Fees
	SI03	WSI	Investigate Groundwater and Aquifer storage and Recovery sources		\$150,000	\$159,100	\$207,600		\$207,600		2014	User Fees
			Total Source and Intake		\$905,000	\$960,100	\$1,300,200	\$52,900	\$207,600	\$1,039,700		
Treatment												
1	TP03	WT	Plant Improvements	Phase I	\$952,000	\$1,010,000	\$1,040,300	\$1,040,300			2006/07	User Fees
2	TP04	WT	Plant Improvements	Phase II	\$6,073,000	\$6,442,800	\$8,918,400		\$8,918,400		2016	User Fees
3	TP05	WT	Backwash Pond Improvements		\$557,650	\$591,600	\$627,600	\$627,600			2007	User Fees
4	TP07	WT	Secondary Power Supply		\$150,000	\$159,100	\$173,900	\$173,900			2008	User Fees
			Total Treatment		\$7,732,650	\$8,203,500	\$10,760,200	\$1,841,800	\$8,918,400	\$0		
Distribution and Piping												
5	DP01	WDP	Vicinity of SW 4 th & S Aspen		\$181,000	\$192,000	\$203,700	\$203,700			2007/08	User Fees
6	DP02	WDP	Vicinity of SE 13 th Ave. east of S Ivy		\$92,000	\$97,600	\$103,500	\$103,500			2007/08	User Fees
7	DP03	WDP	Vicinity of NW 3 rd and Baker		\$146,000	\$154,900	\$169,300	\$169,300			2008/09	User Fees
8	DP04	WDP	Vicinity of Hwy 99E & N Sequoia		\$28,000	\$29,700	\$38,800		\$38,800		2014	User Fees
	DP07	WDP	Pipeline Rehabilitation (yearly)		\$4,000,000	\$4,243,600	\$5,872,400	\$1,160,300	\$1,345,100	\$3,367,000	Yearly	User Fees
			Total Distribution and Piping		\$4,447,000	\$4,717,800	\$6,387,700	\$1,636,800	\$1,383,900	\$3,367,000		
Storage and Pump Station												
9	ST00	WSPS	Water Treatment Plant Land Acquisition		\$75,600	\$80,200	\$82,600	\$82,600			2006/07	User Fees
10	ST02	WSPS	New Reservoir at 13 th Avenue Site		\$1,946,000	\$2,064,500	\$2,190,200	\$2,190,200			2007/08	User Fees
11	ST03	WSPS	New Reservoir at Water Treatment Plant Site		\$2,135,000	\$2,265,000	\$2,475,100	\$2,475,100			2008	User Fees
12	ST04	WSPS	Molalla Forest Road Reservoir and Pump Station		\$4,048,000	\$4,294,500	\$5,281,700		\$5,281,700		2012	User Fees
13	ST05	WSPS	Territorial Road Reservoir and Pump Station		\$5,115,000	\$5,426,500	\$7,969,000			\$7,969,000	2018	User Fees
14	ST06	WSPS	Township Road Reservoir and Pump Station		\$3,802,000	\$4,033,500	\$7,285,000			\$7,285,000	2025	User Fees
			Total Storage and Pump Station		\$17,121,600	\$18,164,200	\$25,283,600	\$4,747,900	\$5,281,700	\$15,254,000		
			Total WS		\$30,206,250	\$32,045,600	\$43,731,700	\$8,279,400	\$15,791,600	\$19,660,700		

WASTEWATER												
Map ID	Item	Type	Project Title	Description/Location	Listed Cost	Cost 2005 \$s	Cost Estimate	Project Schedule			Year	Funding Source
								Short-term (0-5 years)	Medium-term (6-10 yrs)	Long-term (10-20 yrs)		
Collection System												
1		WWC	Collection System		\$1,115,800	\$1,182,700	\$1,691,800	\$219,300	\$356,800	\$1,115,700	2006-2019	User Fees
2		WWC	Territorial Rd/Hwy99E/ Crossing		\$300,000	\$318,000	\$318,000	\$318,000			2005/06	User Fees
3		WWC	SE 2 nd Ave. Collection System		\$300,000	\$318,000	\$318,000	\$318,000			2005/06	User Fees
Total Collection					\$1,715,800	\$1,818,700	\$2,327,800	\$855,300	\$356,800	\$1,115,700		
Treatment Plant												
4		WWT	Sec. Scum Pump Station		\$35,000	\$37,100	\$41,700	\$41,700			2006/07	
5		WWT	Effluent Filtration Equipment		\$240,000	\$254,400	\$285,800	\$285,800			2006/07	
6		WWT	Septage Receiving Station		\$100,000	\$106,000	\$119,100	\$119,100			2006/07	
7		WWT	Headworks Conveyor		\$150,000	\$159,000	\$225,500		\$225,500		2010/11	
8		WWT	UV Disinfection Upgrade		\$290,000	\$307,400	\$345,400	\$345,400			2006/07	
9		WWT	Outfall Diffuser Assembly		\$60,000	\$63,600	\$101,400		\$101,400		2012/12	
10		WWT	Dewatered Sludge Storage		\$120,000	\$127,200	\$142,900	\$142,900			2006/07	
11		WWT	New Primary Clarifier		\$600,000	\$636,000	\$1,207,300			\$1,207,300	2015/16	
Total Treatment					\$1,595,000	\$1,690,700	\$2,469,100	\$934,900	\$326,900	\$1,207,300		
System Planning												
12		WWP	Facility Plan Update		\$50,000	\$50,000	\$189,500		\$139,500	\$50,000	2010-2016	
13		WWP	SDC Update (2006)		\$10,000	\$10,000	\$10,000	\$10,000			2005/06	
14		WWP	Rate Study / SDC Update		\$20,000	\$21,200	\$62,600	\$26,800	\$35,800		2008/09	
Total Planning					\$80,000	\$81,200	\$262,100	\$36,800	\$175,300	\$50,000		
Total WWS					\$3,390,800	\$3,590,600	\$5,059,000	\$1,827,000	\$859,000	\$2,373,000		

STORM DRAINAGE												
Map ID	Item	Type	Project Title	Description/Location	Listed Cost	Cost 2005 \$s	Cost Estimate	Project Schedule			Year	Funding Source
								Short-term (0-5 years)	Medium-term (6-10 yrs)	Long-term (10-20 yrs)		
Master Plan Phase I												
1		SDI	Land Acquisition for Regional Treatment		\$300,000	\$318,000	\$357,300	\$357,300			2006/07	
Phase I Total					\$300,000	\$318,000	\$357,300	\$357,300	\$0	\$0		
Master Plan Phase II												
2		SDII	Regional Treatment and Permitting		\$600,000	\$636,000	\$1,106,750		\$1,106,750		2013 - 2015	

			Costs									
			Phase II Total		\$600,000	\$636,000	\$1,106,750	\$0	\$1,106,750	\$0		
Master Plan Phase III												
3		SDIII	Drywell Decommissioning		\$25,000	\$26,500	\$28,100	\$28,100			2005/06	
3		SDIII	CB BMP Implementation		\$500,000	\$530,000	\$1,033,400	\$158,300	\$211,900	\$663,000	2005-2019	
3		SDIII	Drywell BMP Implementation		\$125,000	\$132,500	\$157,800	\$157,800			2007/08	
3		SDIII	Domestic Well Decommissioning		\$20,000	\$21,200	\$25,200	\$25,200			2007/08	
			Phase III Total		\$670,000	\$710,200	\$1,244,500	\$369,400	\$211,900	\$663,000		
System Planning												
		SDP	Stormwater Master Plan Update		\$100,000	\$106,000	\$287,080	\$127,680	\$159,400		2005-2010	
		SDP	Drywell Decommissioning Plan		\$20,000	\$212,000	\$33,800		\$33,800		2012/13	
			Total Planning		\$120,000	\$318,000	\$320,880	\$127,680	\$193,200	\$0		
			Total SDS		\$1,690,000	\$1,982,200	\$3,029,430	\$854,380	\$1,511,850	\$663,000		

Map ID	Item	TRANSPORTATION			Listed Cost	Cost 2005 \$s	Cost Estimate	Project Schedule			Year	Funding Source
		Type	Project Title	Description/Location				Short-term (0-5 years)	Medium-term (6-10 yrs)	Long-term (10-20 yrs)		
New Streets												
1		Arterial	Berg Parkway	Canby Sq. to SW 13 th Ave.	\$708,000	\$947,500	\$1,064,600	\$1,064,600			2007	SDC
2		Collector	NW Baker Street	3 rd to Hwy 99	\$116,000	\$155,200	\$233,400		\$233,400		2012	State, SDC
3		Collector	Bridge	Structure	\$6,500,000	\$8,698,500	\$13,079,300		\$13,079,300		2012	State, SDC
4		Collector	NE 9 th Ext.	Log Road to Redwood	\$185,500	\$248,200	\$561,200			\$561,200	2019	New Dev
5		Collector	SE Otto Road	Walnut St. to Hwy 99E	\$462,000	\$618,300	\$1,397,800			\$1,397,800	2019	New Dev, SDC
6		Collector	SE Walnut	SE 1 st Ave. to Territorial	\$848,000	\$1,134,800	\$2,565,700			\$2,565,700	2019	New Dev
7		Collector	SE 2 nd Avenue	SW 2 nd Ave. to SE 2 nd Ave.	\$87,000	\$116,400	\$175,100		\$175,100		2012	City
8		Collector	Industrial Area	Master Plan	\$9,900,000	\$13,248,400	\$17,729,400	\$17,729,400			2010	New Dev, SDC
9		Nbhd Connector	NW Birch	Territorial to NW 22 nd	\$464,000	\$620,937	\$1,403,900			\$1,403,900	2019	New Dev, SDC
10		Nbhd Connector	NW 10 th Avenue	Birch to Grant Street	\$377,000	\$504,500	\$758,600		\$758,600		2012	New Dev
11		Nbhd Connector	SE 17 th Avenue	Ivy to Redwood	\$754,000	\$1,009,000	\$2,281,300			\$2,281,300	2019	New Dev
12		Nbhd Connector	S Redwood	SE 13 th to SE 17 th Ave.	\$464,000	\$620,937	\$1,403,900			\$1,403,900	2019	New Dev
13		Nbhd Connector	S Teakwood	Township to S 13 th Ave.	\$754,000	\$1,009,000	\$2,281,300			\$2,281,300	2019	New Dev, SDC
			Total New Streets		\$21,619,500	\$28,931,674	\$44,935,500	\$18,794,000	\$14,246,400	\$11,895,100		
Street Widening/Upgrading												

14		Arterial	N Ivy Street	NW 6 th to NW 9 th Ave.	\$232,000	\$310,500	\$348,800	\$348,800			2007	Grant, SDC
15		Arterial	N Ivy Street	NW 9 th to NW 10 th Ave.	\$14,400	\$19,300	\$21,700	\$21,700			2007	Grant, SDC
16		Arterial	N Ivy Street	NW 10 th to NW 12 th Ave.	\$174,000	\$232,900	\$261,600	\$261,600			2007	Grant, SDC
17		Arterial	S Ivy Street	Hwy 99E to SW 2 nd Ave.	\$41,600	\$55,700	\$83,700		\$83,700		2012	SDC
18		Arterial	S Ivy Street	SW 2 nd to SE 9 th Ave.	\$572,000	\$765,500	\$1,151,000		\$1,151,000		2012	SDC
19		Arterial	S Ivy Street	S 13 th Ave. to South	\$475,200	\$635,900	\$1,437,800			\$1,437,800	2019	New Dev, SDC
20		Arterial	Territorial	Holly St. to Redwood	\$1,482,000	\$1,983,300	\$2,982,100		\$2,982,100		2012	New Dev, SDC
21		Arterial		Redwood to Hwy 99E	\$496,000	\$663,800	\$998,000		\$998,000		2012	New Dev, SDC
22		Arterial	Knightsbridge	Holly St. to K-Bridge	\$870,000	\$1,164,300	\$1,308,200	\$1,308,200			2007	City, SDC
23		Arterial	S Berg Parkway	Hwy 99 to Canby Sq.	\$390,000	\$521,900	\$586,400	\$586,400			2007	SDC
24		Arterial	S 13 th Avenue	W End to Elm St.	\$48,000	\$64,200	\$96,600		\$96,600		2012	SDC
25		Arterial	S Territorial	Haines Rd. to Hwy 99E	\$870,000	\$1,164,300	\$2,632,300			\$2,632,300	2019	New Dev, SDC
26		Arterial	S 13th Avenue	Elm St. to Fir St.	\$203,000	\$271,700	\$408,500		\$408,500		2012	New Dev, SDC
27		Arterial		Fir St. to Redwood	\$715,000	\$956,800	\$1,438,700		\$1,438,700		2012	New Dev, SDC
28		Arterial		Redwood to Mulino Rd.	\$1,192,500	\$1,595,800	\$3,608,000			\$3,608,000	2019	New Dev
29		Arterial	N Holly Street	Territorial to N 22 nd Ave.	\$440,000	\$588,800	\$1,331,300			\$1,331,300	2019	New Dev, SDC
30		Arterial	S Elm Street	Hwy 99E to SW 2 nd Ave.	\$64,000	\$85,600	\$96,200	\$96,200			2007	City, SDC
31		Arterial	Hwy 99E	Town limit to Town limit	\$4,380,000	\$5,861,400	\$8,813,400		\$8,813,400		2012	
32		Collector	N Pine	N 4 th Ave. to Territorial	\$1,044,000	\$1,397,100	\$1,569,800	\$1,569,800			2007	New Dev, SDC
33		Collector	N Redwood	Territorial to Hwy 99E	\$400,000	\$535,300	\$601,500	\$601,500			2007	New Dev, SDC
34		Collector	SE 2 nd	Private Section	\$168,000	\$224,800	\$338,000		\$338,000		2012	New Dev, SDC
35		Collector	Township	Redwood to Railroad	\$896,000	\$1,199,100	\$1,802,900		\$1,802,900		2012	New Dev, SDC
36		Collector	N10th Avenue	Locust St. to Pine St.	\$667,000	\$892,600	\$1,002,900	\$1,002,900			2007	City, SDC
37		Collector	NE 3 rd Avenue	Locust St. to Hwy 99E	\$896,000	\$1,199,100	\$1,802,900		\$1,802,900		2012	Grant, New Dev, SDC
38		Collector	N Holly Street	N 1 st Ave. to N 7 th Ave.	\$638,000	\$853,800	\$959,300	\$959,300			2007	City, New Dev, SDC
39		Collector	N Holly Street	13 th Ave. to Territorial	\$160,000	\$214,100	\$322,000		\$322,000		2012	New Dev, SDC
40		Collector	NW 2 nd Avenue	Grant St. to Douglas St.	\$580,000	\$776,200	\$1,167,100		\$1,167,100		2012	SDC
41		Collector	N Grant Street	Hwy 99E to Knightsbridge Rd.	\$638,000	\$853,800	\$959,300	\$959,300			2007	City, New Dev, SDC
42		Collector	SW 2 nd Avenue	Elm St. to Ivy St.	\$504,000	\$674,500	\$1,014,100		\$1,014,100		2012	New Dev, SDC
43		Collector	SE Haines	Mulino Rd. to Brown Rd.	\$956,000	\$1,279,300	\$2,892,500			\$2,892,500	2012	New Dev, SDC

44		Nbhd Collector	Territorial	Birch to Holly St.	\$609,000	\$815,000	\$1,225,400		\$1,225,400		2012	New Dev, SDC
45		Nbhd Collector	Maple	N 10 th to N 22 nd Ave.	\$640,000	\$856,500	\$1,287,800		\$1,287,800		2012	New Dev, SDC
			Total Widening/ Upgrading		\$17,075,700	\$28,712,900	\$44,549,800	\$7,715,700	\$24,932,200	\$11,901,900		
Traffic Signal Projects												
46		New	Hwy 99E/ Territorial	Territorial	\$1,650,000	\$2,208,100	\$2,340,600	\$2,340,600			2006	County, State, SDC
47		New	Hwy 99E / Otto	Otto	\$250,000	\$334,600	\$503,000		\$503,000		2012	New Dev, SDC
48		New	Ivy / Township	Township	\$200,000	\$267,600	\$318,800				2008	SDC
49		Upgrade	Hwy 99 / Ivy	Ivy	\$300,000	\$401,500	\$506,800	\$506,800			2009	SDC
50		Upgrade	Hwy 99 / Berg Parkway	Berg Parkway	\$100,000	\$133,800	\$141,900	\$141,900			2006	SDC
51		Reconfiguration	NW 1 st / Elm	Close west leg off first	\$100,000	\$133,800	\$159,400	\$159,400			2008	SDC
			Total Signal		\$2,600,000	\$3,479,400	\$3,970,500	\$3,148,700	\$503,000	\$0		
Sidewalk Projects												
52			N 10 th Avenue	Grant to Locust	\$165,000	\$220,800	\$332,000		\$332,000		2012	LID
53			NE 4 th Avenue	Ivy to Pine	\$112,000	\$149,900	\$225,400		\$225,400		2012	County, LID
54			NW 3 rd Avenue	Cedar to End	\$63,000	\$84,300	\$89,400	\$89,400			2006	LID
55			NW 2 nd Avenue	Douglas to Cedar	\$14,000	\$18,700	\$22,300	\$22,300			2008	LID
56			SE 2 nd Avenue	Ivy to Maple	\$82,000	\$109,700	\$116,300	\$116,300			2006	LID
57			SW 4 th Avenue	Elm to Birch	\$22,000	\$29,400	\$33,100	\$33,100			2007	LID
58			S Locust	Hwy 99 to Township	\$32,000	\$42,800	\$64,400		\$64,400		2012	LID
59			S Elm	SW 4 th to SW 13 th	\$32,000	\$42,800	\$64,400		\$64,400		2012	LID
60			SW 6 th Avenue	Elm to Ivy	\$64,750	\$86,700	\$130,300		\$130,300		2012	LID
			Total Sidewalk		\$586,750	\$785,100	\$1,077,600	\$261,100	\$816,500	\$0		
			Total TSP		\$41,881,950	\$61,909,074	\$94,533,400	\$29,919,500	\$40,498,100	\$23,797,000		

Map ID	Item	Type	PARKS		Listed Cost	Cost 2005 \$s	Cost Estimate	Project Schedule			Year	Funding Source
			Project Title	Description/Location				Short-term (0-5 years)	Medium-term (6-10 yrs)	Long-term (10-20 yrs)		
1			Canby Regional Park	Phase II	\$2,382,200	\$2,525,100	\$3,796,900		\$3,796,900		2012	SDC
2			13th Avenue Park		\$1,113,100	\$1,179,900	\$1,405,300	\$1,405,300			2008	SDC
3			Eco Park	Includes Master Plan	\$257,200	\$272,600	\$409,900		\$409,900		2012	SDC
4			Trail		\$147,400	\$156,200	\$234,900		\$234,900		2012	SDC
			Acquisition and Development of New Park Land	Includes Two Master Plans	\$28,306,400	\$30,004,800	\$33,713,400	\$33,713,400			2007	Bond
5			Swim Center	Replacement/Addition	\$10,020,000	\$10,621,200	\$15,970,400		\$15,970,400		2012	Bond

			Total Park System		\$42,226,300	\$44,759,800	\$55,530,800	\$35,118,700	\$20,412,100	\$0		
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Total Public Facilities Capital Improvement Projects					\$119,395,300	\$144,287,274	\$201,884,330	\$75,998,980	\$79,072,650	\$46,493,700		
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* Amount is based on a 20 year cycle, which differs from the amount in the Wastewater Collection System Master Plan.

Notes:

The "Cost in 2005 \$\$" details what each project would cost if constructed in 2005.

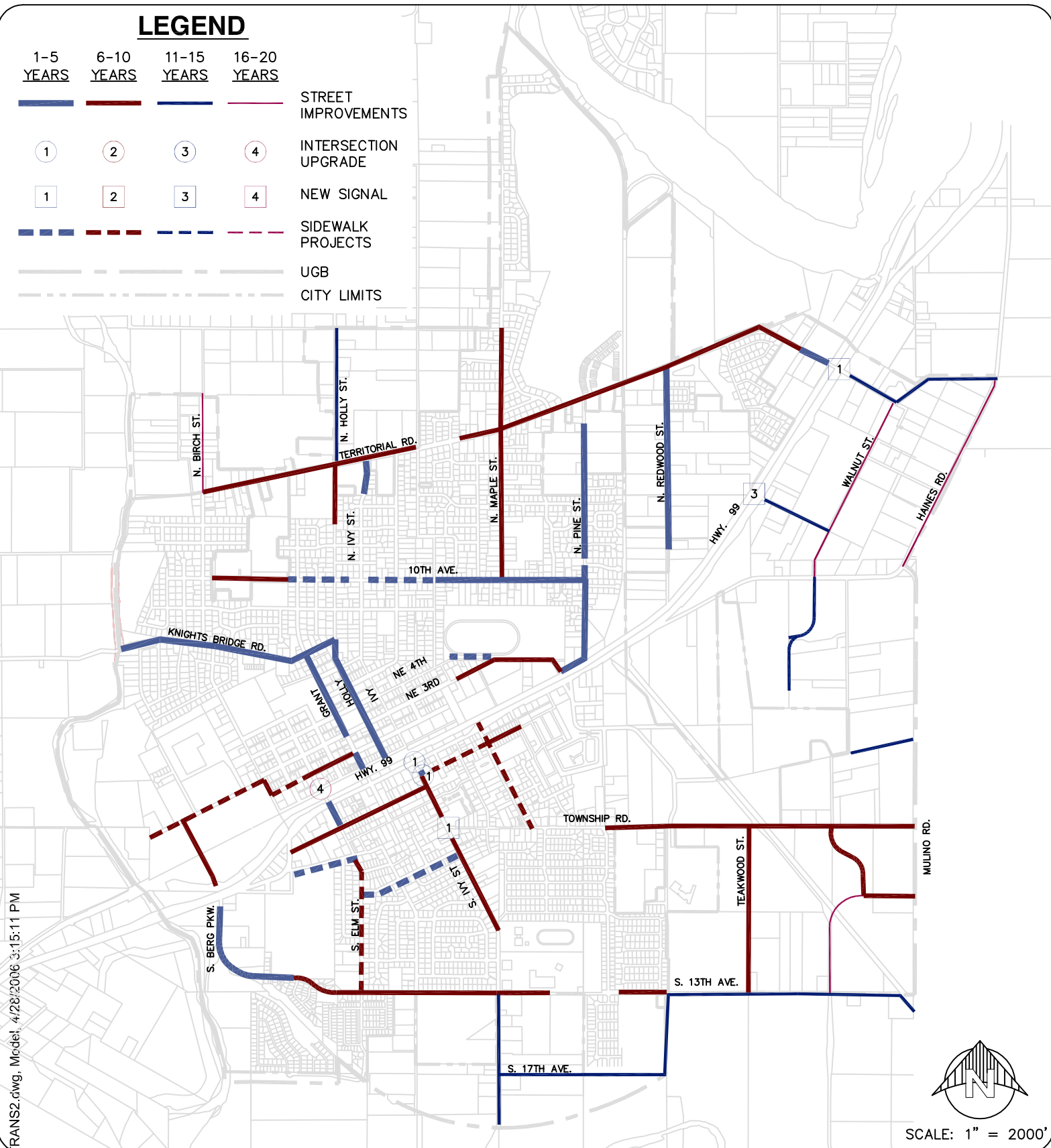
The "Cost Estimate" column estimates what each project will cost upon completion.

An inflation rate of 6% was used for wastewater, stormwater and transportation projects. A figure of 3% was used for water projects.

All project costs are rounded off to the nearest \$100.

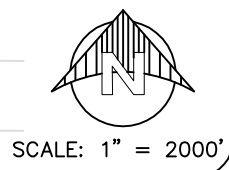
LEGEND

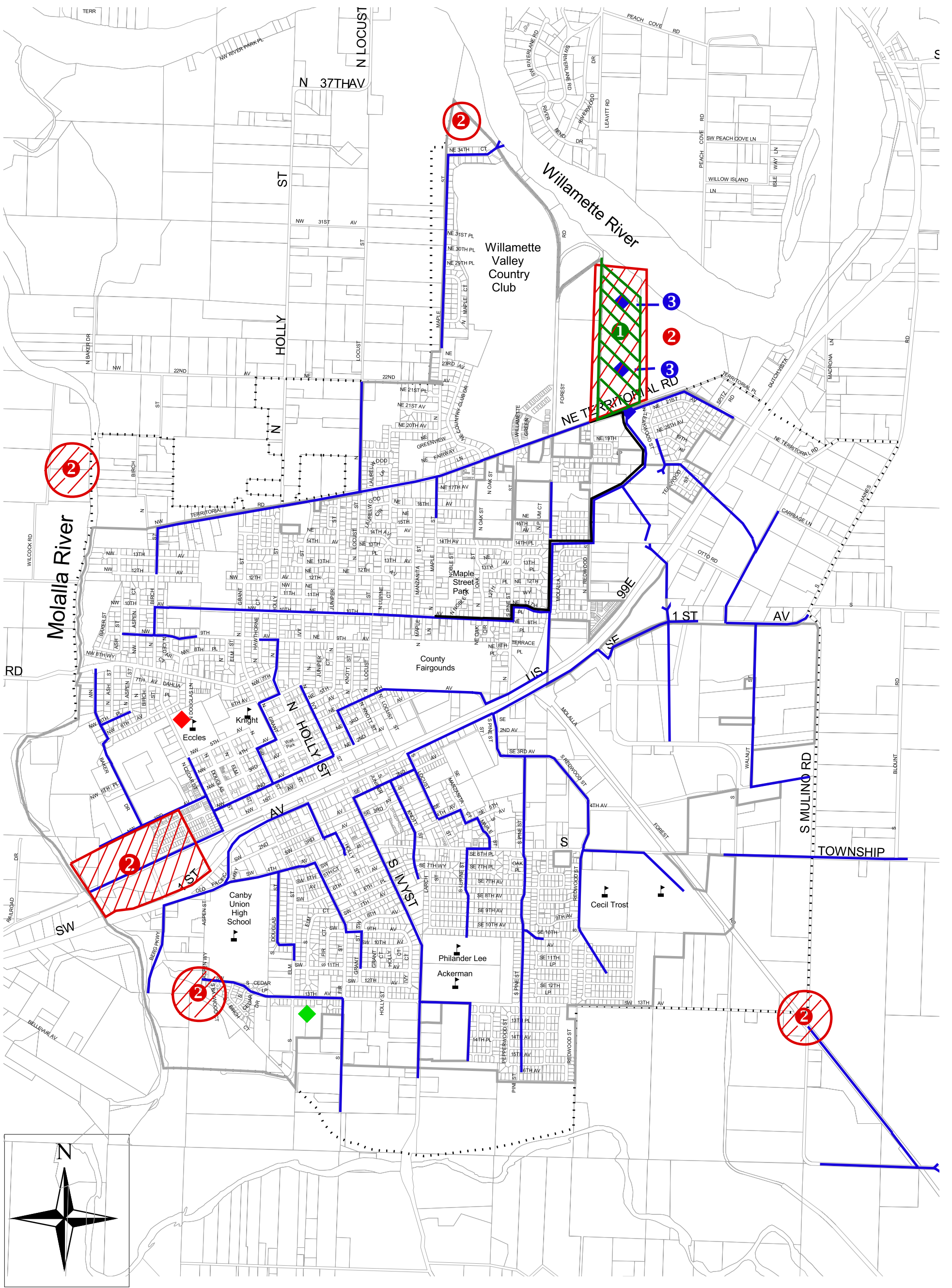
1-5 YEARS	6-10 YEARS	11-15 YEARS	16-20 YEARS	STREET IMPROVEMENTS
①	②	③	④	INTERSECTION UPGRADE
1	2	3	4	NEW SIGNAL
---	---	---	---	SIDEWALK PROJECTS
---	---	---	---	UGB
---	---	---	---	CITY LIMITS






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Figure 4-3
City of Canby Transportation System Plan
Major Street System

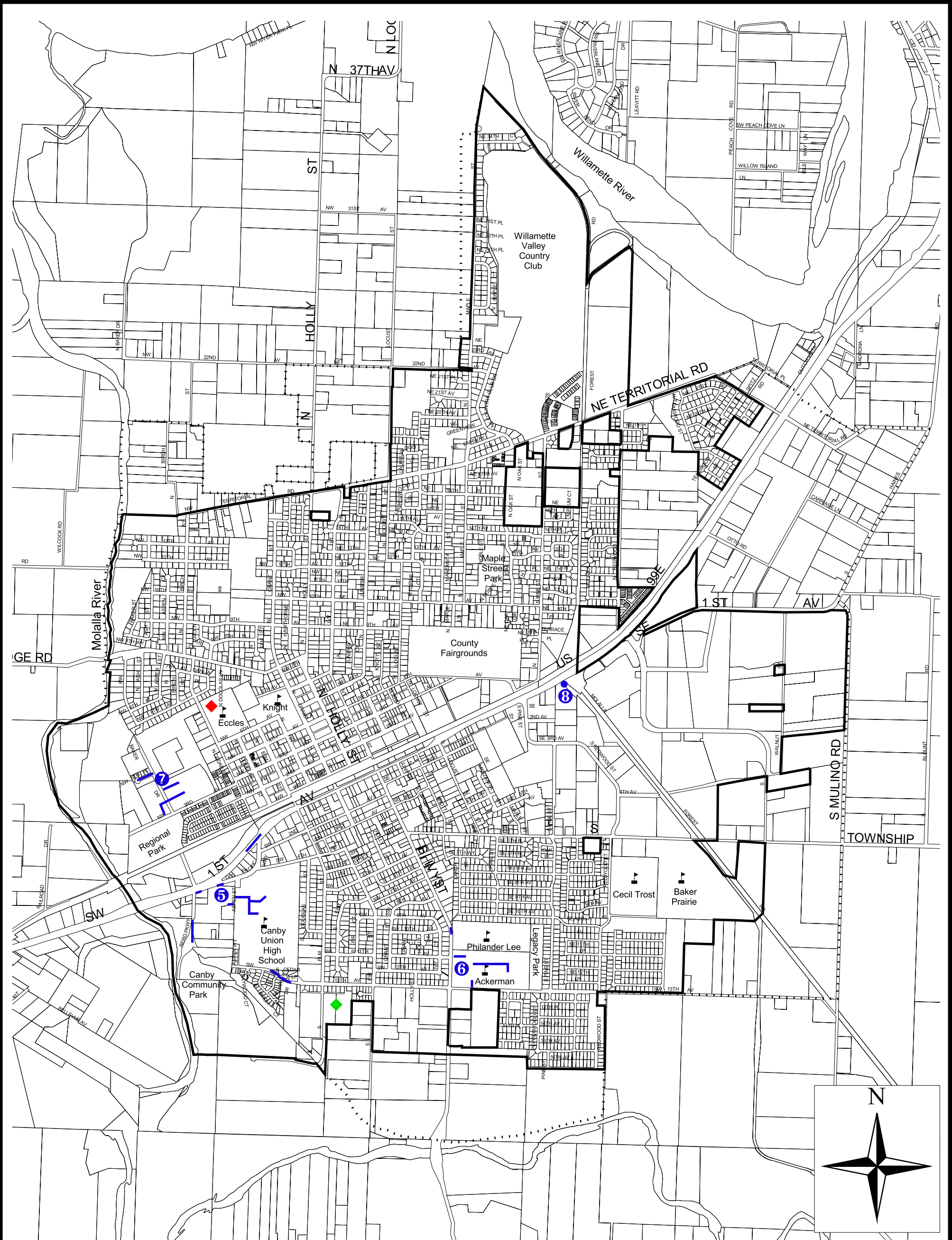




Storm Drainage Facilities

- Phase I 
- Phase II 
- Phase III 

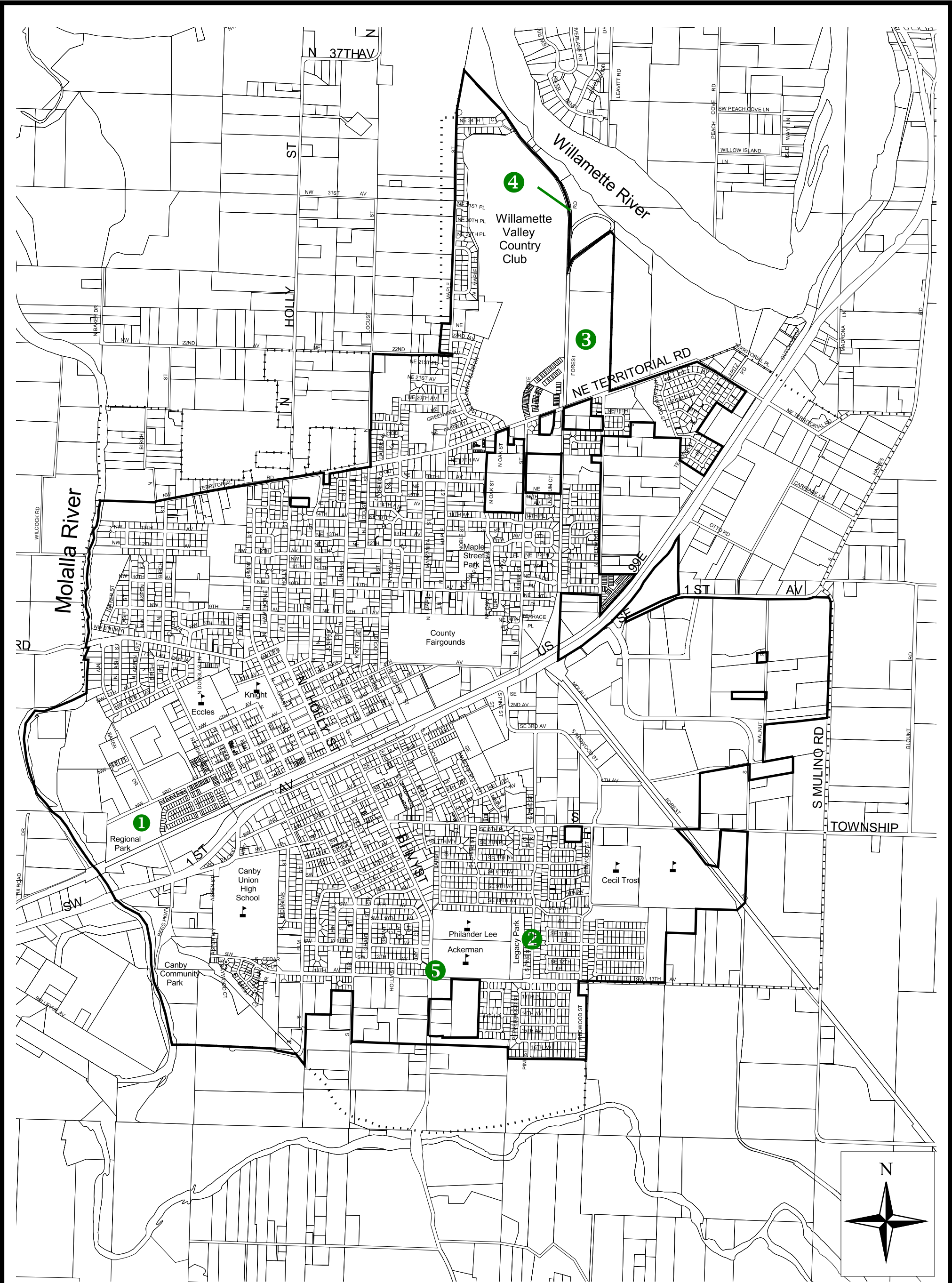




Water Facilities Plan

- Distribution and Piping — (5-8)
- Treatment ◆ (1-4)
- Storage and Pump Station ◆ (9-14)





Park Facilities Plan

Regional Park Phase II

①

Logging Road Trail

④

Legacy Park Phase II

②

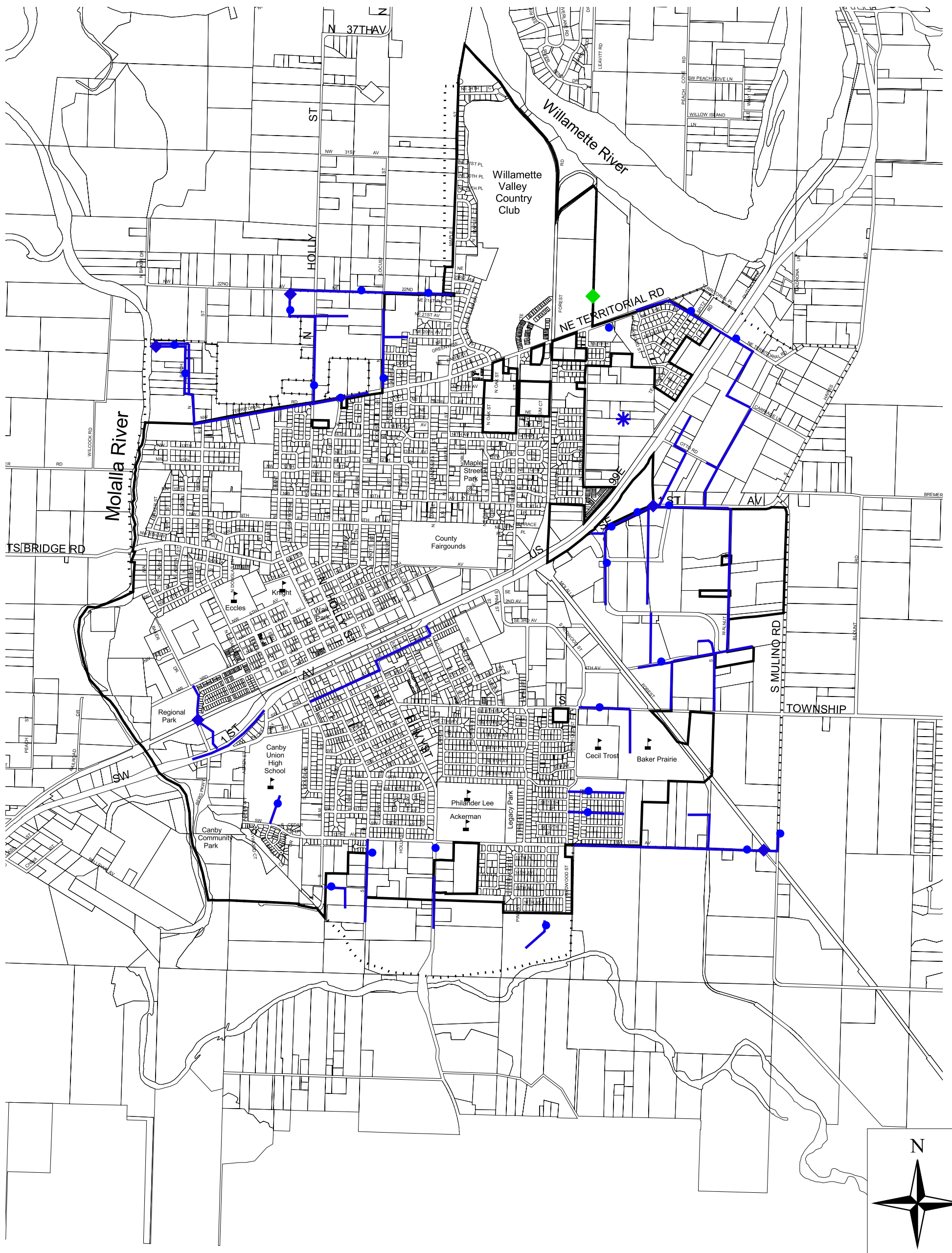
Swim Center

⑤

Eco Park

③





Wastewater Collection System

- Proposed Force Main or Sewer
- Needed Sewer Capacity
- ◆ Proposed Pump Station
- Upgraded Pump Station ✱
- Treatment Plant ◆

