AGENDA

WILSONVILLE CITY COUNCIL MEETING
FEBRUARY 19, 2015
7:00 P.M.

CITY HALL
29799 SW TOWN CENTER LOOP
WILSONVILLE, OREGON

Mayor Tim Knapp

Council President Scott Starr — Councilor Julie Fitzgerald
Councilor Susie Stevens — Councilor Charlotte Lehan

CITY COUNCIL MISSION STATEMENT

To protect and enhance Wilsonville's livability by providing quality service to ensure a safe, attractive, economically vital community while preserving our natural environment and heritage.

Executive Session is held in the Willamette River Room, City Hall, 2nd Floor

5:00 P.M. **EXECUTIVE SESSION** [15 min.]
A. Pursuant to ORS 192.660(2)(f) Exempt Public Records
ORS 192.660(2)(e) Real Property Negotiation

5:15 P.M. **REVIEW OF AGENDA** [5 min.]

5:20 P.M. **COUNCILORS' CONCERNS** [5 min.]

5:25 P.M. **PRE-COUNCIL WORK SESSION**

A.	Communications Plan (Gail)	[30 min.]	**Page No. 1**
B.	City Council Goals for 2015-17 (Cosgrove)	[20 min.]	**Page No. 83**

6:50 P.M. **ADJOURN**

CITY COUNCIL MEETING

The following is a summary of the legislative and other matters to come before the Wilsonville City Council a special session to be held, Thursday, February 19, 2015 at City Hall. Legislative matters must have been filed in the office of the City Recorder by 10 a.m. on February 3, 2015. Remonstrances and other documents pertaining to any matters listed in said summary filed at or prior to the time of the meeting may be considered therewith except where a time limit for filing has been fixed.

7:00 P.M. **CALL TO ORDER**
A. Roll Call
B. Pledge of Allegiance
C. Motion to approve the following order of the agenda and to remove items from the consent agenda.

7:05 P.M. MAYOR'S BUSINESS PAGE NO. 86

A. State of the City Address
B. Upcoming Meetings

7:45 P.M. CITIZEN INPUT & COMMUNITY ANNOUNCEMENTS

This is an opportunity for visitors to address the City Council on items ***not*** on the agenda. It is also the time to address items that are on the agenda but not scheduled for a public hearing. Staff and the City Council will make every effort to respond to questions raised during citizens input before tonight's meeting ends or as quickly as possible thereafter. Please limit your comments to three minutes.

7:50 P.M. COUNCILOR COMMENTS, LIAISON REPORTS & MEETING ANNOUNCEMENTS

A. Council President Starr – (Park & Recreation Advisory Board Liaison)
B. Councilor Fitzgerald – (Development Review Panels A & B Liaison)
C. Councilor Stevens – (Library Board and Wilsonville Seniors Liaison)
D. Councilor Lehan– (Planning Commission and CCI Liaison)

8:00 P.M. CONSENT AGENDA PAGE NO. 87

A. Minutes of the January 22, 2015 and February 2, 2015 Council Meetings. (staff – King)

8:05 P.M. CONTINUING BUSINESS

A. **Ordinance No. 766** – 2nd reading **PAGE NO. 99**
An Ordinance Of The City Of Wilsonville Adopting The 2014 Update To The Wastewater Collection System Master Plan And Replacing The 2001 Wastewater Collection System Master Plan. (staff – Ward/Pauly/Kraushaar)

B. **Ordinance No. 767** – 2nd reading **PAGE NO. 392**
An Ordinance Of The City Of Wilsonville Amending Section 3.410 Of The Wilsonville City Code. (staff – Kohlhoff)

8:15 P.M. NEW BUSINESS

A. **Resolution No. 2511** **PAGE NO. 394**
A Resolution Of The City Of Wilsonville Declaring City-Owned Real Property As A Remnant Parcel Of The Canyon Creek South Extension Project To Be Surplus Property And Authorizing Staff To Dispose Of The Property Through Sale. (Retherford)

B. **Resolution No. 2512** **PAGE NO. 404**
A Resolution Of The City Of Wilsonville Authorizing Acquisition Of Property And Property Interests Related To The Construction Of The Kinsman Road Extension Project From Barber Street To Boeckman Road. (Retherford)

C. Adoption of City Council Goals 2015-17 (staff – Cosgrove) **PAGE NO. 83**

8:50 P.M. CITY MANAGER'S BUSINESS

8:55 P.M. LEGAL BUSINESS

9:00 P.M. ADJOURN

AN URBAN RENEWAL AGENCY MEETING WILL IMMEDIATELY FOLLOW

Time frames for agenda items are not time certain (i.e. Agenda items may be considered earlier than indicated. The Mayor will call for a majority vote of the Council before allotting more time than indicated for an agenda item.) Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting if required at least 48 hours prior to the meeting. The city will also endeavor to provide the following services, without cost, if requested at least 48 hours prior to the meeting:-Qualified sign language interpreters for persons with speech or hearing impairments. Qualified bilingual interpreters. To obtain services, please contact the City Recorder, (503)570-1506 or king@ci.wilsonville.or.us

City of WILSONVILLE OREGON

CITY COUNCIL MEETING
STAFF REPORT

Meeting Date:	**Subject: 2015 Communications Plan Update**
February 19, 2015	**Staff Member**: Jon Gail, Community Relations Coordinator **Department:** Administration
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☐ Information or Direction ☒ Information Only ☒ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:**
Staff Recommendations: The Council is encouraged to review the draft 2015 Communication Plan, ask clarifying questions and provide staff direction on any desired modifications to the proposed plan and initiatives included in the plan.	
Recommended Language for Motion: NA	
PROJECT / ISSUE RELATES TO:	
☒Council Goals/Priorities: Improved Community Engagement	☐Adopted Master Plan(s) ☐Not Applicable

ISSUE BEFORE COUNCIL

The draft 2015 Communications Plan is designed to provide an overview of the City's communications goals, strategies and initiatives for the current year. The plan is before City Council as an information item, and staff seeks City Council direction on the plan prior to finalizing and implementing the plan for the remainder of the year.

EXECUTIVE SUMMARY

The draft 2015 Communications Plan seeks to support the City Council's desire for continuous improvement in community engagement and City communications about all types of City policy, programs and projects using the most efficient and effective communications tools possible for the various audiences of City outreach efforts.

Staff based the current plan on a prior version of the plan that City Council and Planning Commission originally reviewed and provided feedback on in 2012.

The draft plan is a comprehensive overview of the City's communications goals and objectives, guiding principles, communications infrastructure, applicable audiences, communication channels, tools for internal and external audiences, public notice procedures, current and recent accomplishments and new initiatives for additional consideration.

EXPECTED RESULTS
City Council will be better informed regarding the City's communication plans for the current calendar year and have the opportunity to provide staff direction to make modifications to the plan in order to more closely align with City Council's goals and priorities.

CURRENT YEAR BUDGET IMPACTS
The primary cost to implement the plan is staff time and printing which are included in the current approved budget and the upcoming proposed budget.

FINANCIAL REVIEW / COMMENTS:
Reviewed by: SCole Date: 2/3/2015
The Communications Plan describes existing and proposed programs and projects and does not carry an explicit budget impact.

LEGAL REVIEW / COMMENTS
Reviewed by: MEK Date: 2/3/2015
This is an informational item, Legal comment is not germane.

COMMUNITY INVOLVEMENT PROCESS
The Communications Plan is not a formal master plan and does not require a formal community involvement process. Rather, the Communications Plan provides detailed accounting and descriptions of existing City communications and marketing tools, as well as suggesting new communications initiatives for Council consideration.

The Communications Plan calls for ongoing interaction and feedback with the public, staff, boards and commissions and the City Council to ensure the City's communications efforts are meeting the community's needs to be well informed about City matters.

Within the City the plan was circulated internally to the each department for review and comment and their changes are included in the plan update provided to City Council.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups):

Implementation of the plan benefits all types of community members by increasing community member awareness, involvement and understanding of City projects, policy-making and programs and is expected to result in increased satisfaction and participation by community members.

CITY MANAGER COMMENT
The Communications Plan summarizes current City outreach efforts and tools and provides new communications programs for consideration.

ATTACHMENT

A. 2015 Communications Plan (draft)

City of
WILSONVILLE
OREGON

2015 Communications Plan

DRAFT February 2015




City of
WILSONVILLE
OREGON

City Council

Tim Knapp, Mayor

Scott Starr, Council President
Julie Fitzgerald, Councilor
Susie Stevens, Councilor
Charlotte Lehan, Councilor

Planning Commission / Committee for Citizen Involvement (CCI)

Eric Postma
Al Levit
Marta McGuire
Peter Hurley
Jerry Greenfield
Phyllis Millan
Simon Springall

City Appointed Management

Bryan Cosgrove, City Manager
Michael Kohlhoff, City Attorney

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City of Wilsonville

Communications Plan

DRAFT February 2015

Table of Contents

1. Goal and Objectives

A. Goal

The goal of this Communication Plan is to identify the use of communications tools used to keep the community and other audiences informed about how the City of Wilsonville operates the policies and procedures that are involved in that operation and to encourage public participation in local government. The Communication Plan furthers the City's implementation of Goal 1, Citizen Involvement, of Oregon's Statewide Planning Goals & Guidelines, OAR 660-015-0000(1).

The Communications Plan seeks to support the City Council's desire for continuous improvement in community engagement and community member awareness about all types of City policy, programs and projects using the most efficient and effective communications tools possible.

This plan focuses on "routine" City communications; public communications during an emergency are addressed in the City's Emergency Operations Plan.

B. Objectives

Specific objectives of this plan include:

Internal objectives

- Engage members of City Council and Planning Commission/Committee for Citizen Involvement and staff in the development and implementation of the Communications Plan.
- Assist Council in efforts to augment communications with appointed boards and commissions.
- Increase inter-departmental communications and leverage content for production into various products (media releases, news articles, presentations, etc.) and multiple media platforms – print, online, social and video.
- Provide support for all City departments to assist with development of marketing communications, including public education, media relations, publications, online and multi-media.

External objectives

- Enhance City communications to and from Wilsonville residents, businesses and organizations.
- Enhance and improve community and media relations by reaching out to local, regional and Portland metro media outlets.
- Provide opportunities to increase awareness, interest and participation of Wilsonville residents and businesses in government goals and activities.
- Develop additional methods for enhancing public communication and participation. Use social networking such as Facebook, Twitter, YouTube and other new media to reach larger audiences.
- Plan and conduct periodic public surveys to assist the Council and the City Manager in evaluating the effectiveness of communication tools and techniques.

C. Themes of Effective Communications with the Public

Pollster Adam Davis, principal of the respected public-survey firm Davis, Hibbitts & Midghall, Inc. (DHM), has outlined a number of themes to use or avoid when communicating with the public on local government matters. These themes, which have been compiled over the past several years in various local and state-wide polls, are reflective of the current political and economic realities that the country, state and region face in the aftermath of the "Great Recession."

In general, Adam Davis recommends that the public seeks "more effective communications about government services and public finance."

Specifically, Davis recommends that effective local government communications with the public should consider these themes and strategies:

- Link subject matter under discussion to:
  - General public's values and beliefs, which include:
    - Participation in family
    - Concern for the environment
- Keep communications basic:
  - Avoid the use of the word "government" when possible
  - Tell a great story (concrete, surprising/unexpected, simplicity, credibility, emotion)
  - Keep at it, sustain the effort
  - Be consistent
- Show and demonstrate where feasible:
  - Public involvement
  - Accountability and transparency
  - Partnerships
- Use certain tools:
  - Effective messengers such as neutral third parties, friends and family, trusted advisors, subject matter experts
  - Multiple communication sources
- Provide content for non-English -speaking Oregonians (Spanish and possibly others)
  - Get to know your changing demographics and psychographics[1]

[1] Psychographics is the study of personality, values, opinions, attitudes, interests, and lifestyles.[1] Because this area of research focuses on interests, attitudes, and opinions, psychographic factors are also called Interests, Activities and Opinions (IAO) variables.

2. Guiding Principles of the Communications Plan

A. Government Transparency

Provide for early opportunities for information and engagement – Efficient and effective problem-solving depends upon getting as much of the needed information into the process as early as possible.

Open two-way communication – Ensure that important information is shared throughout the community and that the community has a timely way of sharing feedback about matters that are important to them

Community problem solving – Provide residents and interested parties with complete, accurate and timely information enabling them to make informed judgments and participate in community problem solving initiatives and decisions.

Inclusive – Include as many people as is feasible in the process. The goal is to include everyone who wants to participate and to promote engagement with those who are not currently engaged.

Multiple media – Use a variety of ways and means to communicate and provide information in multiple formats to respond to the diverse needs and preferences of the public.

B. Efficient, Responsive Operations

Timely – Provide the public with timely notice and reasonable access to information about City policies, issues and processes.

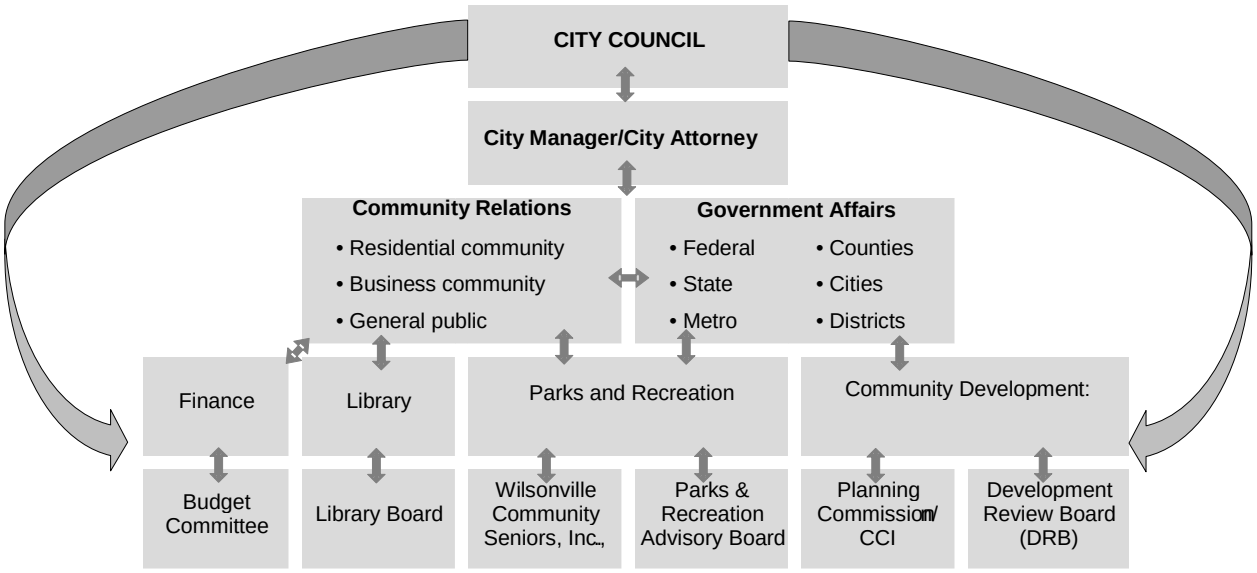
Proactive – The City should consistently seek the public's input in a proactive manner and actively discuss and share the City's rationale and basis for making key decisions.

Strong and Consistent Messages – A successful communication plan, is built on strong themes and is more effective than one with unrelated and scattered messages. The Communication Plan should support, reinforce and reflect the goals of the City government as established by the City Council and the City management, thus underscoring the idea of an organization with one common purpose: effective operations and transparent government and open decision-making processes.

Decentralized – Strengthen direct communication among elected officials, city departments and residents rather than trying to funnel all information through a central point of contact or department. This provides for more knowledgeable discourse, strengthens accountability and also makes it easier to access or provide information on city activities.

3. City Communications Infrastructure

The City has a number of elected/appointed bodies and staff of various departments that are responsible for communicating with the public — both in terms of receiving public input and providing information to the public. And within the City's organizational structure, communications flow to and from the City Council to various appointed boards/commissions and departments, which provide logistical and technical support to the boards and commissions. The schematic diagram below illustrates the communications flow and interchange that occurs within City government.



A. Elected, Appointed and Designated Boards and Commissions

The City's elected and appointed bodies review public-policy matters, public-works projects and private-development proposals. In seeking to render a decision, these bodies work with staff on public outreach and listening to public input.

In addition to each board receiving public comments and making public pronouncements, boards also seek to communicate information to the City Council and vice-versa. Following is a list and brief description of the City's nine elected, appointed or designated boards and commissions.

- **City Council**, as the City's 'top' leadership body composed of a Mayor and four Councilors who are elected by registered, voting-age residents, takes into account a wide variety of public comments and sentiments in rendering policy and other decisions. The City Council, which normally meets twice per month, works closely with the City Manager's Administration Department, City Attorney's Legal Department and other departments and divisions to review specific proposals and programs and recommendations from City boards.
  - **Urban Renewal Agency Board**, whose members are composed of the City Council, guides urban renewal plan creation and ongoing oversight, including project prioritization, boundaries, debt issuance, and other issues. The Urban Renewal Agency Board meets on an as-needed basis. Day-to-day administration of the City's urban renewal areas lies with the Economic Development Division with support provided by the Finance Department, the Legal Department, and the Community Development Department.
- **Budget Committee**, whose five community member representatives are appointed by the City Council and includes all of the City Council, works closely with the Finance Department to produce

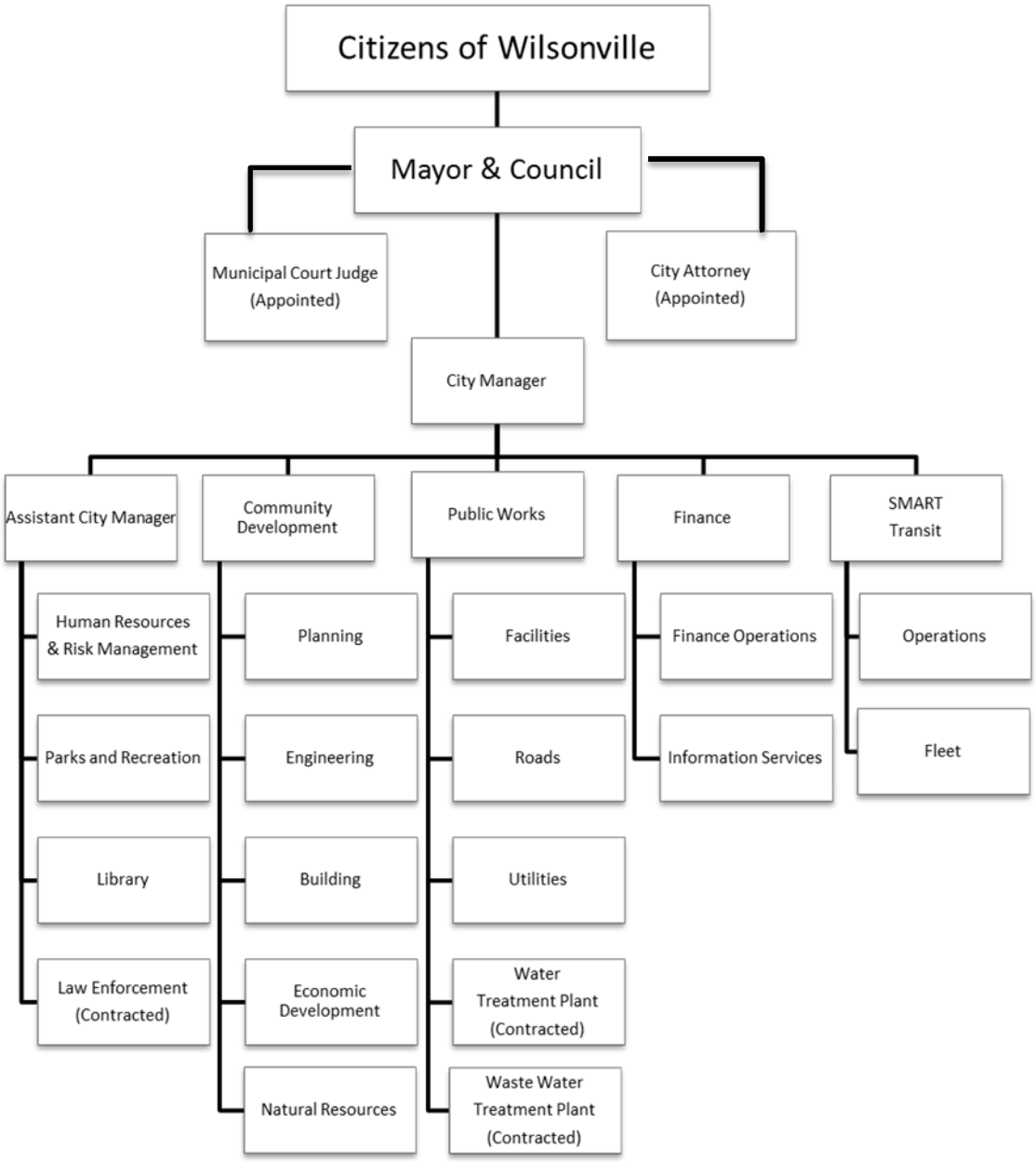
balanced budgets for City and Urban Renewal Agency and to review budget trends and make recommendations.

- **Development Review Board (DRB)**, whose 10 members are appointed to one of two panels by the City Council, acts in a quasi-judicial capacity in reviewing land-use and development applications on an as-needed basis. A City Councilor acts as a liaison between the Board and Council. Staff and Director of the Planning Division of the Community Development Department provide support to the DRB.
- **Library Board**, whose five members are appointed by the City Council, supports and assists the Library Director in all areas of library planning, and advises the City of budgetary and policy considerations relating to the Library's operation and development. A City Councilor acts as a liaison between the Board and Council. Staff and Director of the Library provide support to the board, which meets monthly.
- **Parks & Recreation Advisory Board,** whose seven members are appointed by the City Council, recommends policy, programs and plans for the present and future park and recreational needs of the residents of Wilsonville and acts as a channel of communication between the public and City. A City Councilor acts as a liaison between the Board and Council. Staff and Director of Community Services Department provide support to the board, which meets quarterly and on an as-needed basis.
- **Planning Commission**, whose seven members are appointed by the City Council, reviews policies and makes recommendations to the City Council on legislative land-use and planning matters, zoning code amendments, master plans and Comprehensive Plan amendments.; . A City Councilor acts as a liaison between the Commission and Council. Staff and the Parks and Recreation Director provide primary support to the commission, which meets monthly.
    - **Committee for Citizen Involvement (CCI)**, whose seven members are the same individuals as the Planning Commission and are appointed by the City Council, assists the City Council in gathering information, sponsoring public meetings and/or evaluating proposals and special projects relating to land use and civic issues. By way of background, the CCI is a state requirement for local governments under Goal 1, Citizen Participation, of Oregon's Statewide Planning Goals & Guidelines; in 2000, as part of the adoption of the amendments to the Comprehensive Plan, the City Council designated the Planning Commission as the Committee for Citizen Involvement, which meets as needed. .
- **Wilsonville Community Seniors, Inc. (WCSI)**, an independent, not-for-profit organization that acts as the Community Center Advisory Commission, whose 11 members advise the City on matters effecting senior programs, services, and facilities. WCSI members are not appointed by the Mayor and City Council; rather they are elected by the participants in senior programs at the Community Center. WCSI, which was established in 2005 and meets monthly, operates out of the Community Center under a Memorandum of Understanding with the City. WCSI has a series of committees focused on specific programs and is supported by the staff and director of the Community Services Department.

B. City Departments and Divisions

The City is composed of 10 departments, most of which have a number of divisions or programs that are responsible for major, specific operations in the City. Various departments/divisions are responsible for developing and implementing an assortment of programs and projects. Depending on the nature of a particular program or project, one or more departments or divisions maybe responsible for soliciting public input, relaying information to the public or providing a direct "retail" public service.

Following is a brief accounting of the primary departments' role in public communications, presented along the lines the City's organizational chart.



Departments Headed by City Council-Appointed Officials

- **Administration Department / Office of the City Manager**, is composed of five staff. Administration is responsible for overall coordination of City operations, programs and projects and working with City Council on agenda setting and other activities. Administration handles and responds directly to or routes to appropriate departments both general City inquiries and specific questions. Key staff for public communications include:
  - City Manager, as the appointed CEO of the municipal corporation by the City Council, speaks on behalf of the City and City Council. The City Manager is assisted by staff, including an Executive Assistant. The City Manager also serves as the Executive Director of the City's Urban Renewal Agency.

- City Recorder produces City Council and Urban Renewal Agency meeting minutes, assists with public records requests, tracks resolutions and ordinances, maintains the City Code and conducts elections.
- Public & Government Affairs Director oversees general public communications efforts and specifically focuses on local, metro, state and federal governments matters.
- Community Relations Coordinator works with different departments on overall public communications, including print, video and online products, and tends to focus on community affairs.

· **Legal Department / Office of City Attorney**, is composed of three staff and periodic interns. The Legal Department is responsible for all legal matters, including negotiations, contracts, intergovernmental agreements, memoranda of understanding, lawsuits and other judicial matters. Legal communicates with attorneys representing private-sector developers and other government agencies, and other staff on a variety of specific legal or judicial inquiries. Key staff for public communications include:

- City Attorney, as the appointed legal representative of the municipal corporation by the City Council, speaks on behalf of the City and City Council.
- Assistant City Attorney works with the City Attorney on specific legal matters and speaks on behalf of the City and City Council.

· **Office of Municipal Court Judge**, a kind of City "Judicial Department," is composed of two part-time presiding judges who receive logistical and administrative support from two staff and work closely with Finance Department staff. The Wilsonville Municipal Court is a limited jurisdiction court that rules on City traffic violations, parking citations and local ordinances.

Departments Headed by City Manager-Appointed Officials

· **Community Development Department** composed of 29 staff, is a diverse department that manages private- and public sector land-use matters, commercial and residential development, administration of system development charges, and major public infrastructure projects throughout the city. Community Development tends to deal primarily with private-sector developers and businesses, public-sector contractors and other agencies, and the general public of the community, particularly on larger planning projects. Community Development is composed of various divisions, including:

- **Administration Division** oversees overall coordination of the various divisions and oversight of major capital projects. Key staff for public communications include:
  - Community Development Director manages the department and budget and also functions as the City Engineer.
- **Building Division**, is responsible for administering and enforcing the State building, plumbing, and mechanical specialty codes, and providing all fire/life safety plan review, permits and inspection services within the Wilsonville city limits. Building tends to deal with contractors, developers, architects, building managers, do-it-yourself remodelers. Key staff for public communications include:
  - Building Official manages the division and budget.
  - Plans Examiner and Permit Technician work with builders and others to examine construction plans and issue permits.
  - Inspectors examine completed building and plumbing work in new or remodeled buildings.
- **Engineering Division**, provides planning, design, inspection, and project management for long-range capital, public improvement projects; plan reviews, permits and construction inspections

for privately financed residential, commercial, and industrial developments; and maintaining the City infrastructure records such as plats, partitions, easements, and construction record drawings. Engineering tends to deal with technicians and contractors of private- and public-sector developers, and with a variety of transportation-related agencies. Key staff for public communications include:

- City Engineer manages the division and budget. This role is filled by the Community Development Director.
- Capital Projects Engineering Manager manages the capital project program and oversees major public works projects.
- Development Engineering Manager oversees major private-sector development projects.

o **Natural Resources Division**, focuses primarily on stormwater management planning, permitting, design, inspection and monitoring; erosion control; compliance with federal, state and local environmental requirements; wetland permitting and mitigation sites; natural areas management and restoration and public education and outreach. Natural Resources Division develops the NPDES MS4 Annual Report and deals with the general public, schools and nonprofit organizations, and developers and contractors on both private and public projects. Key staff for public communications include:

- Natural Resources Program Manager manages the program and budget.
- Stormwater Management Coordinator interacts with contractors on construction sites and responds to citizen inquiries.

o **Planning Division**, works with the public, stakeholders and City leaders to determine the kind of community that they want Wilsonville to be. Major areas of responsibility include current planning activities such as review of development applications, issuing permits for development, signs, tree removal, conditional use, temporary use and land divisions; long-range planning projects such as Comprehensive Plan and Development Code amendments, master planning, transportation planning and meeting Metro and State requirements; and code enforcement of City codes.

Planning, in conjunction with other departments and divisions, also provides primary support to several key appointed leadership bodies, including:

- Planning Commission
- Committee for Citizen Involvement (CCI)
- Development Review Board (DRB)

Key staff for public communications include:

- Planning Director manages the division and budget.
- Manager of Current Planning works with developers, contractors, do-it-yourself homeowners and others.
- Long Range Planning Manager works with citizens, the Planning Commission and City Council on long range plans, concept plans, master plans and special projects.
- Associate Planners handle specific development related projects and deal with citizens, consultants, developers and contractors.
- Assistant Planner/Code Enforcement works with business owners, home owners and contractors who have development related questions as well as public complaints regarding potential City code violations.

- **Economic Development Division**, oversees the City's economic development, urban renewal, and real estate activities. Economic Development activities include business retention and recruitment efforts and involve communication with City Council, businesses, state and regional partners, and internal staff coordination. Urban renewal activities include day-to-day administration of the City's two urban renewal areas and three Tax Increment Finance Zones. Staff works with developers, businesses, City Council, the Urban Renewal Agency Board, the Planning Commission, task forces, affected taxing districts, and other City divisions and departments including Planning, Engineering, Parks and Recreation, and Public Works on urban renewal plan creation, amendment, and implementation activities. Real Estate activities consist of property acquisition in support of capital projects and the administration of private development real estate activities. Staff communicates with developers, consultants, the City's Legal Department, and divisions within the Community Development Department. Key staff for public communications include:
  - Economic Development Manager manages the division and budget.
  - Real Property Specialist works with real-estate brokers, appraisers and others on property and rights-of-way acquisition.

· **Parks and Recreation Department**, oversees and organizes a wide variety of programs and community events, while providing senior services and volunteer opportunities. The Parks and Recreation Department also maintains all City parks and is responsible for the planning and development of current and future park and recreational facilities. The department oversees use and rentals of the City's park facilities, Community Center, ballfields and community gardens. Parks and Recreation produces and distributes the tri-annual Wilsonville Activity Guide including activities and events of the Parks and Recreation, Library, SMART and Natural Resources Departments. Parks and Recreation, along with Library and Transit, have some of the most extensive public contact of any City department due in large part to the "retail" and direct public-service nature of the operation.

  Staff of Parks and Recreation provides support to two City boards:

  - Wilsonville Community Seniors, Inc.
  - Parks & Recreation Advisory Board

  Key staff for public communications include:

  - Parks and Recreation Director manages the department and budget.
  - Parks Maintenance Staff provide in the field customer service.
  - Recreation Program Manager organizes and promotes programs and services and manages the Community Center
  - Recreation Coordinator organizes and promotes community and youth programs and activities and maintains social media systems (*e.g.*, Facebook, web, etc.).
  - Information & Referral Specialist provides direct assistance to at-risk seniors seeking information or referrals to service-providers.
  - Fitness Specialist works with clients on health and fitness.
  - Nutrition Program Coordinators oversee and coordinate senior meal programs and related services.
  - Administration staff provides direct customer service via front desk registration, reservation procedures and maintain social media systems (e.g., Facebook, web, etc.).

· **Finance Department**, composed of 15 staff, is responsible for all elements of City's financial matters, including accounting, accounts receivable and payable, budgeting, debt management,

financial forecasting and reporting, and issuing and collecting fees for business licenses, City utility billings and municipal/traffic citations and fines. Finance has extensive contact with a wide variety of the public, including City leaders, bond-rating agency managers, external auditors, residential and business utility rate-payers, private-sector employers with payroll, and defendants appearing in municipal court.

Finance, in conjunction with other departments and divisions, also provides primary support to several key appointed leadership bodies, including:

- Municipal Court
- Budget Committee
- Urban Renewal Agency Board

Key staff for public communications include:

- Finance Director, who acts as the municipal corporation's CFO, manages the department and budget.
- Assistant Finance Director works with Director to manage the department and budget.
- Payroll Accounting Specialist, who oversees payroll tax and business license collections.
- Accounting Technician who processes accounts payable.
- Utility Billing Specialist and Accounting Technician who oversee City utility billings.
- Court Clerks who assist the Municipal Court judges and defendants paying fines.

Finance also oversees information systems-related functions that provide support to Finance and other departments:

- **Information Services Division**, composed of three staff, provides computer application and networking support to all City personnel, including external website and internal intranet maintenance. While not having extensive, direct public communications contact, Information Services works with staff of Administration, Community Development, Community Services, and Transit Departments to help post events, news and other content to the City's public website.
    - **Geographic Information Services (GIS) Section**, composed of one staff, provides highly technical support for utility telemetry surveys and WilsonvilleMaps.com, a public website that has extensive mapping databases, map libraries and MapOptix, a sophisticated application that maps City and other utilities infrastructure.

· **Human Resources Department**, composed of three staff, provides centralized personnel support for all city departments, including services for labor relations, compensation, classification, recruitment, employee development, and risk management. Human Resources includes a Human Resources Manager and a Human Resources Assistant. Key staff for public communications include:

- Assistant City Manager is responsible for the Human Resources and Risk Management functions of the City and oversees the Library, Parks and Recreation departments. This position also administers the contract with Clackamas County Sheriff's Office (CCSO) to provide police services.
- Human Resources Manager is responsible for including employee recruitment and retention issues, benefits and compensation administration, employee development, and worker's compensation.

· **Library**, composed of 25 staff, operates the Wilsonville Public Library. The Library provides the community with access to a wide range of books and other physical items, a growing online collection, and use of computers for Internet research and doing work. Library staff respond to thousands of reference inquiries each year, and create educational programs for children and adults.

The Library has extensive contact with the community and general public, with a primary emphasis on children, youth and adult programming and other service promotion. Library staff provide support for the Library Board. The Library, along with Community Services and Transit departments, has some of the most extensive public contact of any City department due in large part to the "retail" nature of the operation.

The key staff for public communications include:

- Library Director manages the department and budget.
- Library Program Coordinator
- Adult Services Librarian
- Youth Services Librarian
- Library Volunteer Coordinator

· **Public Safety Operations / Emergency Services**

- **Clackamas County Sheriff's Office, doing business as Wilsonville Police.** The City contracts with the Clackamas County Sheriff's Office to provide law enforcement services as the "Wilsonville Police Department" under the supervision of the Assistant City Manager. Composed of 16 police officers and two sergeants. The department is managed by the Chief of Police. The Wilsonville Police Department has adopted a "community policing model" that provides many opportunities for officers to mingle and mix with residents and visitors at many community events. The City also helps to fund a "School Resource Officer" who works local schools of the West Linn-Wilsonville School District on youth crime-prevention and other issues. The Sheriff's Office/Wilsonville Police has extensive contact with members of the public in terms of traffic encounters and other law enforcement matters.

  Key staff for public communications include:

  - Chief of Police who manages the department.
  - Police Officers and Sergeants
  - School Resource Officer provides support services to local schools for law-enforcement education and intervention.

- **Tualatin Valley Fire & Rescue (TVF&R) District** is a regional, Washington County-based emergency-services provider with its own tax-base that provides emergency and fire-protection services. TVF&R Station 52 at 29875 SW Kinsman Road and Station 56 at 8445 SW Elligsen Road.

  TVF&R has extensive contact with members of the public through attendance of City functions and major community events, as well as through providing emergency services. TVFR operates a number of public-outreach programs, including SKID (Stop Kids Intoxicated Driving), residential smoke alarm program, apartment landlord program, and juvenile fire-setter intervention.

  Key staff for public communications include:

  - Fire Chief, who manages TVF&R
  - Station Captains
  - Community Liaisons
  - Public Information Officers (PIOs)

· **Public Works Department**, composed of 24 regular full-time staff and seasonal workers, is responsible for maintenance of the City's streets, streetlights, water, sewer, and stormwater systems,

administering the industrial pretreatment program, as well as managing the operation of the Willamette River Water Treatment and Wastewater Treatment Plants. Public Works maintains all public buildings and the City's popular water features in Town Center Park and Murase Plaza. Development, implementation and coordination of the City's Emergency Management Program also is under the authority of the department.

Public Works has extensive and often casual contact with the public during the course of maintaining the water utilities, streets — all high-profile public resources used by residents. Because of the extensive exposure of Public Works staff to the public, some observers suggest that residents may judge the quality of municipal government based on the activities of Public Works.

Public Works supervises contractors Veolia Water, which operates the Willamette River Water Treatment Plant, and CH2M Hill, which operates the Wastewater Treatment Plant.

Key staff for public communications include:

- Public Works Director manages the department and budget along with the Emergency Management Program.
- Public Works Supervisors oversee day-to-day operations of facilities, infrastructure and utilities.
- Industrial Pretreatment Coordinator works with representatives of larger industrial businesses that generate effluent.

· **Transit Department, doing business as SMART – South Metro Area Regional Transit**, composed of 42 staff, operates an urban-area public-transit system with service in Wilsonville and to other cities, including Canby, Salem, Tualatin, and Portland. In addition to operating seven fixed bus-routes and curb-to-curb Dial-a-Ride service for the elderly and disabled, SMART manages commuter and residential outreach and educational SMART Options programs to decrease drive alone trips and promote transit, carpooling, walking and bicycling in and around Wilsonville. SMART provides buses for special events and pre-scheduled senior lunches, shopping, and other community trips. SMART coordinates schedules with Tri-Met for Westside Express Service (WES) Commuter Rail, and other regional transportation programs. SMART also shares the operation of the 1X Salem route with Salem-Keiser Transit (Cherriots).

SMART staff have extensive contact with members of the general public, including schools through rider interaction, educational programs, and with businesses, especially larger employers with 100 or more employees who by state law are to have a DEQ approved Employee Commute Options (ECO) plan. SMART staff regularly interacts with officials from Metro, ODOT, other transit agencies, city and county jurisdictions and the Federal Transit Administration (FTA). Transit, along with the Library and Community Services, has some of the most extensive public contact of any City department due in large part to the "retail" and direct public-service nature of the operation.

SMART maintains a separate website from the City and produces newsletters, articles and social media communication for the public on a daily basis.

Key staff for public communications includes:

- SMART Transit Director manages the department and budgets
- Operations Manager manages operations, purchasing, and related reporting.
- SMART Options Program Manager manages programs and grants.
- Bike/Ped Coordinator facilitates the Bicycle and Pedestrian Task Force made up of citizen volunteers.
- Outreach Coordinator promotes programs, and special events.
- Bus Drivers and Customer Service/Dispatchers communicate daily with SMART riders.

Additionally, housed under the Transit Department is the Fleet Services Division.

- **Fleet Services Division**, composed of seven staff, manages repair and maintenance of all City-owned vehicles and equipment. In addition to repair and maintenance, Fleet Services staff coordinates and executes vehicle and equipment acquisition and disposal. The department consists of one manager, four mechanics, and two employees responsible for daily cleaning and fueling of transit buses. “Retail” Departments

A distinguishing characteristic of various departments and divisions is the degree to which they have a public “retail-transaction” and direct public-service orientation. That is, some departments have a greater degree of direct or ‘face-time’ involvement with the general public in transacting business or providing a public service. These ‘retail and service’ departments tend to fluctuate more frequently based on public customer preferences. The primary “retail and service” departments are Parks and Recreation, Library and Transit.

4. Audiences for City Communications

City communications are targeted to different audiences depending on the nature of the issue.

A. Internal Audiences

Audiences within City government that are responsible for conducting public business include:

- Mayor and City Council members
- Members of city boards, commissions and committees:
  - Budget Committee
  - Development Review Board
  - Library Board
  - Parks & Recreation Advisory Board
  - Planning Commission / Committee for Citizen Involvement (CCI)
  - Wilsonville Community Seniors, Inc.
  - Urban Renewal Agency Board
  - Tourism Promotion Committee
- City employees and families

B. External Audiences

Most City communications are oriented towards the public audience outside of city government, including:

■ Residents

Wilsonville has approximately 21,980 residents. Residents are segmented into groupings that tend to have different interests and venues or preferences for communications:

- **Families** (59% of city population is comprised of family households; 28% of households are families with children under the age of 18)
- **Youth/children** (22% of city population is under 18 years of age)
- **Seniors** (13% % of city population is over 65 years of age)
- **Population** whose primary language is not English
- **Home owners' associations** (HOAs), Charbonneau Country Club, Morey's Landing, Meadows, etc.

■ Businesses/Employers

This audience is comprised of both primarily businesses currently in Wilsonville, as well as businesses that may locate here:

- **Small businesses** principally composed of retail and service firms
- **Major employers** are primarily manufacturing and wholesale-distribution companies, with a few larger commercial retail outlets.

- **Employees**, especially a majority of whom commute from other locations to jobs in Wilsonville; larger employers (over 100 FTE) are required by state law to have an Employee Commute Options (ECO) Plan that the Planning and Transit departments assist with.

■ Civic Organizations

- **Business associations**: Clackamas County Business Alliance (CCBA), Greater Portland, Inc. (former Portland-Vancouver Regional Council Partners for Economic Development), Oregon Economic Development Assn. (OEDA), Westside Economic Alliance (WEA), Wilsonville Chamber of Commerce, Workforce Investment Council of Clackamas County (WICCO)
- **Charitable organizations**: American Cancer Society, Arts and Culture Alliance of Wilsonville, Fun In The Park, Wilsonville Arts & Culture Council and Wilsonville-Boones Ferry Historical Society
- **Service clubs**: Al Kader Shriners, Charbonneau Lions Club, Friends of the Wilsonville Center, Kiwanis Club of Wilsonville, Rotary Club of Wilsonville, Wilsonville Lions Club, Wilsonville Community Seniors, Inc. Scoops (Wood Middle School), Wilsonville Garden Club, Boy Scouts,
- **Social clubs**: MOMS Club® of Wilsonville, Moose Lodge #1598
- **Social-service agencies**: Clackamas Women's Services, Wilsonville Community Sharing

■ Media

- **Local media**, principally the *Wilsonville Spokesman; Charbonneau Villager, Homeowners Newsletters; Senior/WCSI Gazette.*
- **Regional media**:
  - **Newspapers**:
    - General circulation: *The Oregonian, Portland Tribune*
    - Business publications: *Portland Business Journal, Portland Daily Journal of Commerce, Oregon Business Magazine*
    - Specialty publications: *Northwest Senior & Boomer News, Portland Monthly Magazine, Willamette Week*
  - **TV**: KGW TV 8 (NBC), KOIN 6 (CBS), KOPB 10 (PBS), KPDX 49 (MyTV), KPTV 12 (Fox), KRCW 32 (CW)
  - **Radio**: KEX AM 1190, KOPB FM 91.5 (OPB)

■ Governments

- **Cities**: primarily the cities of Tualatin, Sherwood and West Linn; also the cities of Aurora, Canby, Oregon City, Portland and others in the metropolitan region and North Willamette Valley, including the French Prairie Forum local-governments working group
- **Counties**: primarily Clackamas and Washington counties; also Marion, Multnomah and Yamhill counties
- **County coordinating committees**: Clackamas and Washington county coordinating committees
- **School districts**: West Linn Wilsonville School District; Canby School District
- **Public schools**: Wilsonville High School, Arts & Technology High School, Wood Middle School, Boeckman Creek Primary, Boones Ferry Primary and Lowrie Primary,
- **Special districts that the City contracts** or works with to provide public services, including:

- Tualatin Valley Fire & Rescue (TVF&R)
- Tri-Met (Tri-County Metropolitan Transit District)
- Tualatin Valley Water District

· **Regional — Metro** (Metropolitan Service District, designated Portland Metropolitan Planning Organization (MPO)):

- Metro Council
- JPACT (Joint Policy Advisory Committee on Transportation)
  - TPAC (Transportation Policy Alternatives Committee)
    - Regional Freight Advisory subcommittee
    - Regional Travel Options (RTO) subcommittee
- MPAC (Metropolitan Policy Advisory Committee)
  - MTAC (Metro Technical Advisory Committee)

· **Oregon State**:

- Executive Agencies, including primarily:
  - Office of the Governor
  - Oregon Transportation Commission (OTC), Oregon Dept. of Transportation (ODOT)
  - Land Conservation and Development Commission (LCDC), Oregon Dept. of Land Conservation and Development (DLCD)
- Legislative:
  - Office of State Senators of Districts 13 and 20
  - Offices of Representatives of House Districts 26 and 39

· **U.S. Federal**:

- Executive Agencies, including primarily:
  - Federal Highway Administration (FHwA), US Dept. of Transportation
  - Federal Transit Administration (FTA), US Dept. of Transportation
  - US Army Corps of Engineers
- Legislative:
  - Offices of US Senators from Oregon
  - Office of US Representative Congressional Districts One and Five

■ City Contractors/Service-Providers

· **Businesses that contract with City** to provide public services, including:

- Republic Services (formerly Allied) for franchised waste-collection/recycling services
- CH2M Hill for Wastewater Treatment Plant operations and reconstruction
- Veolia Water North America for Willamette River Water Treatment Plant operations
- Telecommunications utility-franchise providers, including Comcast, Frontier Communications, NW Natural, PGE, Verizon and others

- Clackamas County Sheriff's Office (CCSO)

■ Other consultants that the City contracts with periodically for special projects Visitors

- Business travelers, principally during the work-week
- Leisure tourists, mainly on weekends, and to some degree summer weeks

■ Governmental Associations/Organizations

- Clackamas Cities Assn. (CCA)
- League of Oregon Cities (LOC)
- Oregon Mayors Assn. (OMA)
- Oregon Association of Municipal Recorders (OAMR)
- Oregon City Attorneys Association
- Oregon City/County Management Association
- French Prairie Forum Local Governments Work Group
- Regional Water Providers Consortium

5. Communication Channels

The City has various communication "channels" through different media to utilize and methods of disseminating information to the public and receiving public feedback.

A. City-Produced Communications

These are tools the City has control over and regularly utilizes to provide information to the public and to solicit feedback. A more detailed enumeration of specific communications tools follows in this plan.

■ City publications:

- "Regular" or periodic publications that are produced routinely, such as the *Boones Ferry Messenger* newsletter, City Council Meeting packets and City Manager Updates.
- "Irregular" or specially produced publications such as flyers promoting an event and select brochures that have a longer shelf-life such as "How to Testify Before the City Council."

■ Web/Online media:

- The City-hosts five main websites that serves as the primary internet medium for City communications. These five websites include:
  - www.ci.Wilsonville.or.us
  - www.WilsonvilleLibrary.org
  - www.RideSmart.com
  - www.WilsonvilleParksandRec.com
  - www.WilsonvilleEcDev.com
- The City's websites have a Notify Me® service that allows web visitors to sign up to get instant alerts on news, events and notifications which cover a variety of subjects including:
  - Boones Ferry Messenger (202)
  - Building Division News(249)
  - General News (255)
  - Public Hearing Notices (177)
  - Public Works News (231)
  - Budget Committee (169)
  - Calendar (198)
  - City Council Meetings (172)
  - Development Review Board (177)
  - Frog Pond Area Plan (141)
  - Library Board (121)
  - Municipal/Traffic Court (1)
  - Parks & Recreation Board (80)
  - Planning Commission (191)
  - Urban Renewal Agency (172)

- Wilsonville Community Seniors, Inc.(5)
- Various City departments have also developed other websites that address City programs and information. Currently these websites include:
  - www.WilsonvilleConnectivity.com
  - www.WilsonvilleWWTP.com
- Public comment/request form that feeds into the Citizen Request Module (CRM), which directs comments and requests to specific staff for action and or a response, and tracks status and fulfillment of the request.
- Social media such as Facebook and Twitter.

■ Video: TV, streaming web content:

· Wilsonville Website Video-on-Demand

· Wilsonville Website Live-Streaming Video

· Wilsonville Government Channel (WGC TV) 30/32

■ Media Advisories:

· Media Releases

· Public Service Announcements (PSA)

· News Media Press Kits

■ Events:

· City-hosted public meetings

· Project celebrations/ribbon-cuttings/ground-breakings

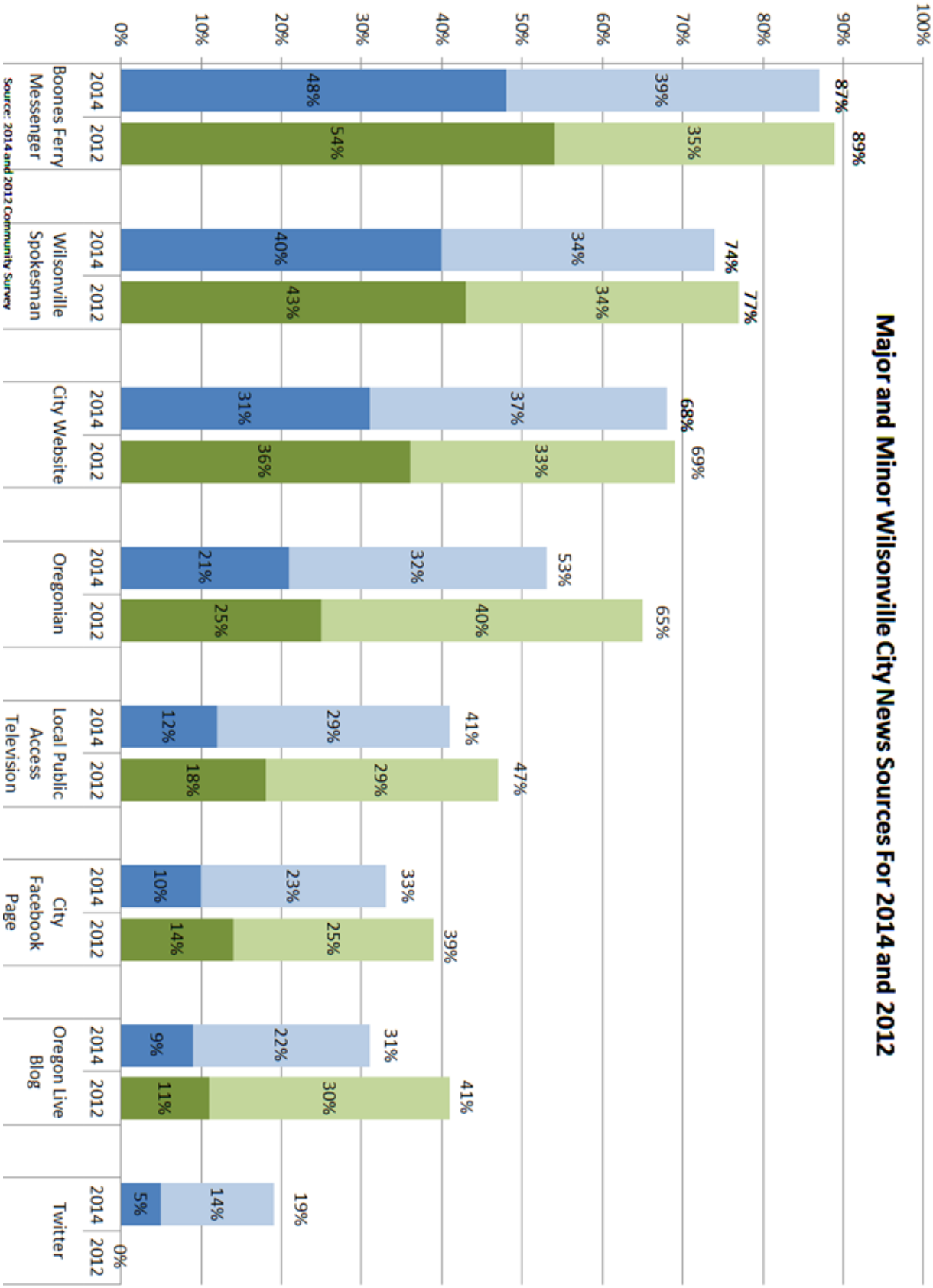
· Neighborhood BBQs

B. Externally-Produced Communications

A significant component of the City's communications with the public is propagated via other parties often not directly affiliated with the City, including media outlets such as newspapers and TV, and organizations such as the chamber of commerce and civic associations. The City recognizes that providing information to media and responding to their inquiries in a timely manner helps facilitate communications and public participation in local government.

C. Community Survey Results

The 2012 and 2014 Community Survey conducted by the City asked community members "Please indicate whether each of the following is a major, minor, or not a source of information regarding Wilsonville City Government." The results from the survey are shown on the following page indicate the most important news source for community members is the Boones Ferry Messenger with 87% of the respondents indicating it is either a major or minor news source. The Wilsonville Spokesman is the second most popular news source with 74% of the respondents indicating it is a major or minor news source.


Major and Minor Wilsonville City News Sources For 2014 and 2012
Source: 2014 and 2012 Community Survey
Boones Ferry Messenger
2014 87% 48% 39%
2012 89% 54% 35%
Wilsonville Spokesman
2014 74% 40% 34%
2012 77% 43% 34%
City Website
2014 68% 31% 37%
2012 69% 36% 33%
Oregonian
2014 53% 21% 32%
2012 65% 25% 40%
Local Public Access Television
2014 41% 12% 29%
2012 47% 18% 29%
City Facebook Page
2014 33% 10% 23%
2012 39% 14% 25%
Oregon Live Blog
2014 31% 9% 22%
2012 41% 11% 30%
Twitter
2014 19% 5% 14%
2012 0%
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

6. Communication Tools for External Audiences

A. Publications

■ *The Boones Ferry Messenger* newsletter

Description: Monthly full-color tabloid of four to eight pages in length produced every month except for in August.

Objective: To provide information from the Mayor, Council and city departments to the residents of Wilsonville. The *Boones Ferry Messenger* is the City's primary communications vehicle that is mailed to approximately 12,500 residents and businesses and is also posted online as a PDF file. Additional copies are also placed at various locations throughout Wilsonville.

The Boones Ferry Messenger contains 'standing' content that provides information on specific City programs, including pages dedicated to Parks and Recreation, Library and SMART Transit. It also features a monthly Mayor's Message, Chief's Corner, Reports from Boards and Commissions, Volunteer Spotlight and the City Calendar. On a quarterly basis the newsletter includes an article called the Councilor's Corner which features information about one of the City Councilors on a rotating basis.

Audience: All Wilsonville residents with a 97070 zip code.

■ *Wilsonville Activity Guide* publication

Description: Quarterly 8.5 x 11 thirty-page booklet in two spot colors.

Objective: To provide information community programs, special events and park and facility rental opportunities.

Audience: Mailed to all Wilsonville households.

■ Annual Report for our Community (August)

Description: Annual 8.5 x 11 twelve-page booklet in full color.

Objective: To provide residents and business owners an annual update on the City Council goals, program highlights, city financials, program updates from Library, Parks and Recreation, and SMART transit, as well as community development project updates, and information about the City's various Boards and Commissions.

Audience: All Wilsonville residents with a 97070 zip code. Audience: All Wilsonville residents and businesses within the 97070 zip code.

■ Center Gazette newsletter

Description: Monthly 8.5 x 11 ten-page front and back stapled publication in black and white produced by Wilsonville Community Seniors.

Objective: To provide information about programs, activities, meals and other events at the Wilsonville Community Center.

Audience: Mailed to 226 households in Wilsonville.

■ City Water Bill Inserts

Description: – The City includes inserts with monthly water bill statements to inform residents about upcoming issues. This is a cost effective way to inform residents about water rate changes, sewer and wastewater issues, upcoming city events and programs, and other city services.

Objective: Use this cost effective way to inform residents about issues, projects, and events. The Public Affairs Coordinator will coordinate and, when necessary originate materials.

Audience: Wilsonville water bill recipients.

■ Annual Water Quality Report (July 1)

Description: Annual 8.5 x 11 four-page booklet in full color.

Objective: To provide residents and business owners an annual update on the City's water-quality and testing results for the Willamette River Water Treatment Plant.

Audience: Local water customers and other interested in Wilsonville's water quality.

■ Community Survey Results

Description: – The City produced a report electronically and in print about the 2014 Community Survey results. The survey was conducted in the spring of 2014 and the results report was released in the fall of 2014.

Objective: To share community survey results with the residents and identify areas of strength and growth opportunities for the City's delivery of services and for the improved resident satisfaction.

Audience: All Wilsonville residents and business owners within the 97070 zip code.

■ Brochures

Description: A variety of brochures are created in-house, including Wilsonville Parks, A Historic Tour of Wilsonville and more. These are placed in display racks at City Hall, Community Center, Library and other locations as appropriate. They are mailed in response to inquiries and used as a resource by front-line staff.

Objective: To provide brief easy-to-understand information about city services and programs. Produce brochures with a consistent city look.

Audience: Wilsonville and region wide residents.

■ Assorted Specialty Printed Materials: Flyers, Post Cards, Door-Hangers, Transit Schedules

Description: Flyers, door hangers, postcards, maps, etc. are created as needed to provide information about city program and issues. Specific event post cards and mailers are distributed to targeted audiences about specific event or activity.

Objective: Support other communication tools with printed materials for targeted audiences.

Audience: Various targeted audiences depending on the message.

■ Other Annual Reports and Budget Documents

Description: Various annual reports are produced by city, including budget documents, capital improvement program, annual financial report and annual drinking water report.

Objective: Provide important City business and information to the public.

Audience: The general public and various targeted audiences depending on the content.

■ Monthly City Manager Reports

Description: The City Manager produces a monthly report that compiles reports from various departments that shows projects and programs under way and reports on various metrics such as the number of housing permits issued and number of citations issued.

Objective: Provide the City Council, boards and commissions, city departments and the general public with comprehensive, detailed data on city operations and services.

Audience: City Council, boards and commissions, city departments and the general public.

■ Legal/Public Notices; Display Advertisements

Description: The City regularly places legal/public notices in commercial newspaper/online publications to advertise public-input opportunities, requests for proposals, public-contracting solicitations, etc. The City also occasionally places display advertisements in local newspapers.

Objective: To promote city programs and upcoming public meetings and to solicit competitive bids.

Audience: Wilsonville residents.

B. Internet/Online

■ Web Site: *www.ci.Wilsonville.or.us*

Description: Comprehensive web site using online content management system that allows staff to post information to the numerous pages on the site without use of HTML coding. The site contains news items, department listings, calendar of city meetings and events, agendas and minutes for all Commissions, Committees and Council. The website offers easy access to city programs, services, documents and more. Viewers can request that news items agendas, calendar postings etc. be automatically e-mailed when posted.

The website includes Citizen Request Module where residents can ask city employees specific questions and receive a timely response.

Objective: To provide community members “one-stop” access to city information .

Audience: Anyone with access to the Internet.

■ Economic Development Web Site: *www.WilsonvilleEcDev.com*

Description: A web site designed specifically for the Wilsonville business community, those thinking of starting a business in Wilsonville, or those looking at relocating their business to Wilsonville. This site contains internal and external resources for businesses, as well as demographic information and access to City services such as building and planning

Objective: To provide easy to access information for the business community

Audience: Anyone with access to the Internet.

■ Parks and Recreation Web Site: *www.WilsonvilleParksandRec.com*

Description: A website designed specifically to promote the programs and services offered by the City’s Parks and Recreation Department.

Objective: To provide easy access to information about the City’s Parks and Recreation programs and services.

Audience: Community members in Wilsonville.

■ Wilsonville Public Library Web Site: *www.WilsonvilleLibrary.org*

Description: A website designed specifically to promote the programs and services offered by the Wilsonville Public Library.

Objective: To provide easy access to information about the library's programs and services.

Audience: Community members in the Library's service area.

■ City News and Calendar Alerts: E-News/Notify Me

Description: An online service that allows interested persons sign up to get e-news and calendar alerts from the City of Wilsonville. As soon as an item is posted it may be shared with subscribers electronically and instantly.

Objective: Provides the public the means to remain informed about the news and events that are issued and planned by the City.

Audience: Typically city residents, businesses and the media.

■ Ask the City! – Citizen Request Module (CRM)

Description: An online web-form for the public to ask questions of and provide feedback to the city. The Citizen Request Module, also known as a Customer Relations Management tool, provides a database for logging-in public comments and questions that need follow-up and tracking the course of the city's response to the public comment or question.

Objective: To provide the public the ability to submit questions or items for response and to ensure that these inquiries are not 'lost' and are responded to in a prompt manner.

Audience: Typically city residents and businesses.

■ Social Media

Description: Social media tools such as Facebook, Twitter and other new social media tools are new, more instant methods of reaching the residents of Wilsonville.

Objective: Produced a city Facebook page that is used to advertise upcoming city events such as neighborhood BBQs, Movies in the Park, project open houses, etc.

Audience: Wilsonville residents and anyone else who becomes a friend on the site

C. Video: TV, Streaming Web Content

■ Wilsonville Website Video-on-Demand

Description: City Council meetings and other video presentations currently airing on Wilsonville Government Channel are available on line using video on demand service. The City's YouTube page links back to the City's online "video vault" that provides a variety of video presentations.

Objective: Reach a larger audience by providing City Council meetings and other video presentations on the city website.

Audience: All visitors to the City of Wilsonville website.

■ Wilsonville Website Live-Streaming Video

Description: City Council meetings and other video presentations currently airing on our government channel are available online 24 hours a day/7 days a week via live streaming. The live streaming

component provides City Council meetings and City of Wilsonville video presentations to a larger audience via the World Wide Web.

Objective: This service reaches a larger audience, including a majority of city employees that do not live in the city, by providing City Council meetings and other video presentations on the city's website.

Audience: All visitors to the City of Wilsonville website.

■ Wilsonville Government Channel (WGC TV) 30/32

Description: Public access television with live broadcasts of all City Council meetings. Broadcasts are replayed numerous times over the next two weeks until the next meeting. City Council meetings and many locally produced programs can be seen on our Government Channel.

Objective: Use public access television to provide information about city issues, programs, events and other news to the community.

Audience: Wilsonville Government Channel 30/32 television viewers.

■ YouTube.com/CityofWilsonville

Description: The City has a YouTube channel that currently has 32 different videos posted that cover a variety of topics.

Objective: To provide community members informative videos on topics that pertain to them and to promote Wilsonville to potential new residents and businesses who are considering relocating.

Audience: Local community members and others interested in learning more about Wilsonville.

D. Media Advisories

■ News Releases

Description: A prepared news or publicity item about City of Wilsonville business. News releases should be timely and relevant and contain the facts of the information. The release should include basic information: who, what, where, when, why and how.

Objectives: To provide the local media timely, accurate, and useful news about the City of Wilsonville on a regular basis. Releases are emailed to the local media and distributed to regional media via FlashNews.Net.

Audience: Local and regional media.

■ Public Service Announcements (PSA)

Description: 30-second ad spots that air randomly on Channel 30 Government Channel.

Objective: To call attention to City programs and upcoming public meetings.

Audience: Wilsonville Government Channel 30 Television viewers.

■ News Media Press Kits

Description: Provide Press Kits to media for specific city projects, events and issues that includes:

Cover letter - one page that explains why the City of Wilsonville is sending a press kit.

City information - includes the information that is most relevant and up-to-date, as well as concise material about the city's history and key leadership. This information can include brochures, fact sheets, or other materials.

Services material - include material about the services the city provides the residents of Wilsonville.

Press releases and publicity clips - include copies of any media stories that have been done on the City of Wilsonville and our services.

Financial information - include a basic financial statement.

Objectives: To provide more information for media outlets to help them better tell our story to Wilsonville and metro area residents.

Audience: Local and regional media.

E. Events

■ City-hosted Public Meetings

Description: In addition to the regularly scheduled City Council, Planning Commission/Committee for Citizen Involvement and other board meetings, which always provide an open opportunity for public comment, other public meetings targeted towards specific issues are also held as needed.

Objective: To present the community with an opportunity to express opinions, ask questions and give input on specific city issues.

Audience: Wilsonville residents or specific targeted group.

■ Project Celebrations/Ribbon-cuttings/Ground-breakings

Description: Scheduled events to highlight successful completion of a project or introduce a new project or expansion of an existing facility.

Objective: To invite the community and share with Wilsonville residents the successful completion of a project or inform them about an upcoming project.

Audience: Wilsonville residents or specific targeted group.

■ Neighborhood BBQs

Description: Each summer, the City hosts two - three neighborhood barbeques that rotate through different areas of the city.

Objective: Provide residents with an informal opportunity to meet City Council members and City staff, learn about City programs and services, and provide feedback to City officials.

Audience: Residents of the neighborhood.

■ Portable Table-top Display for Events

Description: A three-panel, portable display that highlights various city services such as library and community services programs that can be used at Neighborhood BBQs and other events.

Objective: To set up at community events, businesses and other high-traffic locations where residents can gather information about programs and services that the city offers residents.

Audience: Library patrons and community members.

■ Talking Points for Public Presentations and Responding to Inquiries

Description: Reference sheet provided to employees and Mayor and Council related to specific and often complicated issues with extensive background. Talking Points generally contain the basics: who, what, where, when, why and how of an issue and enable city officials to become familiar with an issue quickly and respond factually to questions from the public and media.

Objective: Talking points allow presenters and spokespeople to remain on topic and deliver a consistent message and to be better prepared for media interviews and potential challenging questions.

Audience: Both elected officials speaking at events and front-line staff, both internal and field personnel.

F. Business/Employer Calls

■ Business Outreach

Description: The City's Economic Development division conducts outreach in the form of phone calls, emails, and site visits to the City's business community to exchange information on City services and business needs, and to assist in business retention and expansion activities.

Objective: To develop relationships with the local businesses that will assist in keeping and growing local jobs.

Audience: Wilsonville businesses that are typically industrial.

■ Employer Outreach

Description: The City's SMART Transit division works with larger employers to promote the "SMART Options" program of transit commuting alternatives—public transit, carpooling, walking and bicycling—to single-occupancy vehicles. Funded primarily through Metro's Regional Transit Options (RTO) program (based on federal Congestion Mitigation Air Quality surface-transportation act funds), the program underwrites outreach efforts to larger employers, especially those with over 100 employees at a worksite that under the DEQ Employee Commute Options (ECO) rule are required to provide transit commuting options to employees.

Objective: To provide employee commuting options to larger employers.

Audience: Large Wilsonville employers.

G. Other

■ Emergency Communications

Description: In the City's emergency plan, public affairs staff as Public Information Officers as part of the Joint Information Center (JIC) and Emergency Operations Center (EOC) in helping inform the public on events occurring in and around the City.

Objective: Public affairs staff participate in on-site training exercises and participate in National Incident Management System (NIMS) training and emergency protocol as needed.

Audience: Wilsonville residents and businesses.

7. Public Notice Procedures

A. Notification Process for Adopting Resolutions/Ordinances and Conducting Public Hearings/Open Houses

■ Adoption of a Resolution

A draft resolution with any attachments and the staff report is sent to the City Attorney and City Manager for review. The draft is also sent to the Finance Director if the resolution deals with funds.

After the draft resolution is approved for form and legality, it is sent to the City Recorder for inclusion in the City Council packet

A resolution number is assigned by the City Recorder who ensures the attachments and/or exhibits are properly numbered and attached.

If the resolution deals with fees or a controversial matter, it will be noticed for public hearing in a publication of record, which traditionally has been the *Wilsonville Spokesman* to be published the week before the City Council meeting.

If the resolution deals with land use, it will be noticed in the *Wilsonville Spokesman* at least 10 days before the City Council public hearing.

The notice to the *Wilsonville Spokesman* must be sent by Thursday afternoon the week prior to publication.

The resolution and staff report are included in the City Council packet, and posted on the city's website with the packet the day after the packet is delivered to the City Council.

City Council packets are delivered a full week prior to the City Council meeting. Packet materials are due the day after the previous City Council meeting.

After City Council adopts the resolution, the City Recorder makes any changes by the City Council at the meeting, includes the results of the vote on the document, attaches all exhibits, and lets the Mayor know the document is ready for his signature. This is done the day after the City Council meeting.

After the resolution is signed, copies are made and distributed to the Library and Community Development; a copy is made for the law library, and for the staffer or department that asked that the matter be brought to City Council.

In an agreement is approved by the resolution, originals of the agreement are prepared and sent to the person/company the agreement is with for them to sign.

Only a resolution can repeal/rescind/amend a resolution.

The resolution is listed on the City Council meeting agenda in one of three places, Consent Agenda if it is a house keeping item; new business if there will be City Council discussion; or public hearing if it is set for hearing.

■ Adoption of an Ordinance

Ordinances can deal with land use, or be legislative. Ordinances must be read twice as set out in the Wilsonville Code Chapter 2. To have first and second reading at one meeting, all City Council members must be present; otherwise the ordinance is read at two separate meetings.

The adoption process is the same for ordinances as resolutions steps 1-6.

Ordinances must be signed be the Mayor within 3 days of its adoption pursuant to Wilsonville Code. Ordinances typically take effect 30 days after their adoption; however, if there is an emergency clause they may take effect immediately; or on a specific date as specified in the body of the ordinance.

If the ordinance changes Wilsonville Code language, those changes are made to the Wilsonville Code and the revised chapter posted on line, and sent to staffers who maintain copies of the Wilsonville Code. Only an ordinance can repeal, or amend an ordinance.

■ Proclamations

Proclamations from the Mayor are a tool that helps call attention to a particular cause or concern. Often the proclamations will declare a day, week, or month to be named in honor of the cause or concern that is often tied to a larger state or nationwide campaign. For example April is "Volunteer Appreciation Month."

B. Planning Commission and DRB Notice Procedures

■ Planning Commission (PC) Public Hearing Notice (PHN) Procedures

Note: A Planning Commission "decision" is in the form of a recommendation to City Council.

Work Sessions

Legislative matters are usually presented to the Planning Commission in at least one work session prior to the matter coming before them in public hearing. Public Hearing Notices are mailed, published in the *Wilsonville Spokesman*, and posted in accordance to City and State Code. An "Interested People" list is compiled and maintained throughout the public review of a matter and these people are kept informed of the project's progress. Agendas for the PC work sessions are sent out according to the Agenda portion of the Planning Commission Public Hearing Notice Procedures.

DLCD Notices

- **DLCD Notice of a Proposed Change to a Comprehensive Plan or Land Use Regulation:** Once a land use-related legislative matter, i.e. Comprehensive Plan or land use regulation amendments, is deemed ready for public hearing, notice is mailed to the Department of Land Conservation and Development (DLCD) 35 days prior to the first evidentiary (Planning Commission) hearing. Note: Prior to January 1, 2012 this was 45 days prior to the first evidentiary hearing. [ORS 197.610, OAR 660-018-000]
- **DLCD Notice of Adopted Change to a Comprehensive Plan or Land Use Regulation**: A DLCD Notice of Decision is to be submitted no later than 20 days after the ordinance(s) implementing the change has been signed by the public official designated by the jurisdiction to sign the approved ordinance(s). [ORS 197.615 and OAR 660-018-0040]

Public Hearing Notices for Legislative Hearings

Where applicable, the Planning Director shall have notices of legislative hearings mailed to individual property owners as specified in State Law.

- If the matter under consideration is an amendment to Comprehensive Plan or a land use regulation that may cause property to be rezoned in order to comply with the amendment, a special notice is to be mailed out at least 20 days and not more than 40 days before the hearing with language in bold text at the top face page of the notice that states, "This is to notify you that the City of Wilsonville has proposed a land use regulation that may affect the permissible uses of your property and other properties." [ORS 227.186] This notice is mailed to property owners of the entire city or a large area of affected property owners. This type of notice is commonly called a "Ballot 56 Notice". Other than what is specified per ORS 227.186, the mailing/emailing/posting of the Public Hearing Notice follows the procedures listed below.
- Public Hearing Notices shall contain a brief description of the proposal, the time and place that the PC will consider the submitted documents, and the nature of the proposal, as well as other matters

required by law. Failure to advertise as specified in this Section shall not invalidate any decisions or proceedings of the City if a good faith attempt was made to comply with the notice requirements of this Code. [Section 4.012(B)]

- As the Planning Commission "decision" is in the form of a recommendation to City Council, a City Council hearing date is frequently included in the PC Public Hearing Notice.

Published Notices

- Section 4.012 of the City Code requires that Public Hearing Notices be published "at least ten (10) and not more than twenty-one (21) days before the first hearing."

  Notices are emailed to the *Wilsonville Spokesman* for publishing in time to comply with Section 4.012 – generally 21 days prior to the public hearing to appear in the *Spokesman* at least 10 days prior to the hearing. Failure to advertise as specified in this Section shall not invalidate any decisions or proceedings of the City if a good faith attempt was made to comply with the notice requirements of this Code.) [Section 4.012(.01)(B)]

Mailed Notices

Since the Planning Commission "decision" is in the form of a recommendation to City Council, and proposals are reviewed in Public Hearing before each hearing body, Public Hearing Notices are mailed at least ten days prior to the initial public hearing. [WC Section 4.012(.02)(B.)]

- Notices are mailed to:
  - Interested people (list compiled throughout public process)
  - If the applicant is someone other than the City, then it is mailed to the applicant and the applicant's consultant(s).
  - State, regional, county, and surrounding local agencies; Canby and Sherwood school districts; Wilsonville Chamber of Commerce; and special districts (including Tualatin Valley Fire & Rescue and utility districts.
  - Property owners of the entire city or a large area of affected property owners.

Emailed Notices

- Notices are e-mailed to:
  - Interested people who have indicated that they prefer to received notices via email rather than regular mail.
  - Agencies, such as Washington County, Clackamas County, Metro, NW Natural, ODOT and City staff.
  - Notices are emailed out via the City's web site notification options to the people who have signed up to receive Public Hearing Notices and notices of City Events.

Posted Notices

Notice shall be posted at least ten (10), and not more than forty (40) days before the initial hearing.

- They are posted at the following locations:
  - City Hall (2 locations)
  - Library
  - Community Center
  - City Website

Affidavits of Mailing, Posting and Publishing

- Affidavits of Mailing and Posting that list everyone who were sent a notice, the location of the postings, and an attached PHN, are prepared and notarized.
- *Wilsonville Spokesman* sends the City notarized Affidavits of Publishing verifying that the PHNs were published.

Meeting Agendas and Packets

Meeting agendas and packets with the documents to be presented to the PC are prepared and distributed seven days prior to PC meetings

Mailed Agendas

- Agendas are mailed to:
  - Agencies that have signed up to receive these mailings. This list currently includes the Chamber of Commerce and ODOT.
  - "Interested People" who have requested that they be mailed the agendas.

Emailed Agendas

- Agendas are e-mailed to:
  - Agencies, such as Washington County, Clackamas County, ODOT and City staff.
  - People who have requested that they be emailed the agendas.
  - If the applicant is someone other than the City, then it is mailed to the applicant and the applicant's consultant.
  - People who have signed up to receive notices of City Events via the City's web site notification options. Links to the PC agenda and packet material are included in this notification list. Projects with their own web pages may also have a "Notify Me" email subscription list for people who which to receive notices for specific projects.

Agendas are posted at the following locations:

- City Hall (2 locations)
- Library
- Community Center
- City Website
  - The agenda and packet material is linked from the Calendar Event notice to the "Agenda Center" where all City boards and commission documents are posted.
  - Agenda and meeting documents are posted on the project web page if such a page has been created for the project.

Extra agendas and meeting materials are available at the meeting.

Hearing Procedures

Public Hearings shall be conducted in accordance with procedures for evidentiary hearings set forth in Section 2.560 of the Wilsonville Code, or as otherwise amended by City Council action.

Notice of Decision

- After a Planning Commission Decision ("Decision" is a recommendation to City Council):
  - Planning Commission decisions are mailed/emailed to the "Interested People" list, and city staff.
  - The "Interested People" list is sent to the City Recorder for the City Council Public Hearing Notice mailings.
  - Anyone who testified or provided written testimony regarding the application

The Planning Commission record is sent up to the City Recorder for inclusion in the City Council record.

C. Development Review Board (DRB) Public Hearing Notice (PHN) Procedures

■ Public Hearing Notices for Quasi-Judicial Hearings

Once an application has been deemed complete and a public hearing date set, Public Hearing Notices can be sent out. The DRB is a decision-making body for quasi-judicial land use applications unless a Comprehensive Plan Map or Zone Change is proposed. Then a DLCD Notice of a Proposed Change to a Comprehensive Plan or Land Use Regulation is to be submitted to DLCD 35 days prior to the first evidentiary hearing. In such applications, the DRB Decision is a recommendation to City Council; Council makes the final decision.

DRB Public Hearing Notices shall contain a brief description of the subject property, including either the street address or other common description of the site, and including approximate geographic location such as a reference to nearby cross streets, the time and place that the City's decision-making body will consider the submitted documents, and the nature of the proposal, as well as other matters required by law.

Published Notices

- Section 4.012 of the City Code requires that Public Hearing Notices be published "at least ten (10) and not more than twenty-one (21) days before the first hearing."

  Notices are emailed to the *Wilsonville Spokesman* for publishing in time to comply with Section 4.012 – generally 21 days prior to the public hearing to appear in the *Spokesman* at least 10 days prior to the hearing. Failure to advertise as specified in this Section shall not invalidate any decisions or proceedings of the City if a good faith attempt was made to comply with the notice requirements of this Code.) [Section 4.012(.01)(B)]

Mailed Notice

For development projects involving Class II Administrative Reviews, or quasi-judicial public hearings, the Planning Director shall have public hearing notices and notices of Administrative Decisions mailed to the owners of real property located within 250 feet of the site of the proposed development. The Planning Director shall use the property ownership lists of the County Assessor in determining the recipients of the notices.

Notices shall be mailed not less than twenty (20) days nor more than forty (40) days prior to the initial public hearing date. Except, however, in cases where the development proposal will require public hearings before both the City Council and Development Review Board, in which case the notices shall be mailed at least ten (10) days before the initial public hearing.

In any case where State law requires different timing or form of notice than that specified in this Code, the standard requiring a broader coverage or duration of notice shall be followed.

The City will make a good faith effort to contact property owners whose names do not appear on County ownership records and to contact others who have asked to be contacted for different types of applications.

Mailed Notices

- Notices are mailed to:
  - The applicant and applicant's representatives
  - Property owners within a 250 foot radius of the affected property
  - Other interested people
  - Agencies who have signed up to receive these mailings. This list currently includes the Chamber of Commerce, and ODOT.

Emailed Notices

- Notices are e-mailed to:
  - Agencies, such as Washington County, Clackamas County, Metro, NW Natural, ODOT and City staff
  - Notices are emailed out via the City's web site notification options to the people who have signed up to receive Public Hearing Notices and notices of City Events.

Posted Notices:

The Planning Director shall have notice of development proposals, subject to Class II administrative or hearing body review, posted in at least three (3) standard locations for public notice. In addition, the property proposed for development may be posted so as to be visible and legible from adjacent public streets

Notice shall be posted not less than twenty-one (21) nor more than forty (40) days prior to the anticipated date of final decision or hearing, except in the case where the notice concerns public hearings before both the City Council and Development Review Board. In such cases, the notice shall be posted at least ten (10), and not more than forty (40) days before the initial hearing.

- Notices are posted at the following locations:
  - City Hall (2 locations)
  - Library
  - Community Center
  - City Website
  - Project Site

Affidavits of Mailing, Posting and Publishing:

- Affidavits of Mailing and Posting that list everyone who were sent a notice, the location of the postings, and an attached PHN, are prepared and notarized.
- *Wilsonville Spokesman* sends the City notarized Affidavits of Publishing verifying that the PHNs were published.

Meeting Agendas and Packets

Meeting agendas and packets with the documents to be presented to the DRB are prepared and distributed seven days prior to DRB meetings

Mailed Agendas:

- Agendas are mailed to:

- The applicant and applicant's representatives (along with the staff report included in the meeting packet)
- Agencies who have signed up to receive these mailings. This list currently includes the Chamber of Commerce and ODOT.

Emailed Agendas

- Agendas are e-mailed to:
  - Agencies, such as Washington County, Clackamas County, Region 1 Development Review, ODOT and City staff.
  - People who have signed up to receive notices of City Events via the City's web site notification options. Links to the DRB agenda and packet material are included in this notification list.

Hearing Procedures

Public Hearings shall be conducted in accordance with procedures for evidentiary hearings set forth in Section 2.560 of the Wilsonville Code, or as otherwise amended by City Council action.

Decision

- Following the public hearing, the hearing body shall approve, conditionally approve, or deny the application or if the hearing is in the nature of an appeal, affirm, reverse or remand the decision that is on appeal.
- A final decision involving a hearing on an application for the Development Permit shall be made within one hundred and twenty (120) days of the application being deemed complete; other than expedited land divisions which require a final decision within sixty-three (63) days of a complete filing. Except, however, that with agreement of the hearing body and the applicant or appellant, the processing of a matter under consideration may be extended for a reasonable period of time as determined by the hearing body.

8. Communication Tools for Internal Audiences

■ Intranet The Staff Zone

Description: The intranet is an internal tool for City employees to view and access general information, presentation templates, pictures and other information that is relevant to City Staff.

Objective: Ensure that employees are informed about city policies, procedures, benefits, trainings, and other information that is relevant to City Staff.

Audience: City of Wilsonville Employees.

■ E-mail

Description: City employees receive general E-mail correspondence or from individual departments within city government.

Objective: Ensure that employees are informed about city news and events.

Audience: City of Wilsonville Employees.

■ Managers Meeting

Description: Directors and managers of the various departments gather monthly after the second City Council meetings to receive a report on the City Council meeting and discuss action items and to keep each other informed of issues in their own departments. The meetings provide an opportunity for department heads and managers to keep abreast of what is happening in all departments and relay that information to employees in their departments. The meetings provide an opportunity to pick up story ideas and information to be included in upcoming issues of the Boones Ferry Messenger.

Objective: Ensure that all departments are familiar with broad issues related to city business and City Council priorities.

Audience: All department heads and managers.

■ Department Meetings

Descriptions: Each department meets regularly to exchange information and to update each other on issues and activities within the department and other departments.

Objective: Share information with all department employees about department business and citywide business.

Audience: Employees.

■ Employee New-Hire Orientation Guide

Description: Comprehensive handbook for new employees that provides an overview about the city, payroll procedures, policies, finance, safety, health insurance, benefits and miscellaneous.

Objective: Provide overview and detailed information about city policies, services, benefits and procedures.

Audience: Primarily new employees.

■ The City Times

Description: A quarterly internal newsletter for City of Wilsonville employees.

Objective: Provide City employees relevant news and information such as introducing new employees, getting better acquainted with co-workers, understanding and utilizing City benefits, health tips, recipes and other topics.

Audience: City employees.

9. Current and Recently Accomplished Initiatives

There are several initiatives that are underway and have been accomplished since the March 2012 Communications Plan. This section reviews both types of initiatives.

A. Boones Ferry Messenger City Newsletter Changes

Each month the City produces a 6 to 8 page 11 by 17 inch tabloid newsletter that is produced and distributed to all households and businesses in Wilsonville on or around the first of the month. The publication strives to cover City news and information that is relevant and of interest to local community members. As the publication evolves there are number of recent accomplishments and initiatives that are currently underway including:

New Design

- Complete Redesign of BFM in January 2013
- Communications staff has already began scheduling and holding quarterly meetings with department heads and outreach staff to review and update monthly and annual editorial
- Seek to produce more content that is not too long, easy to read, free of jargon, and rich with imagery such as photos with people in them and appealing and relevant graphics.

Resumed Content

- Volunteer Spotlight (resumed in 2014)
- "Councilor's Corner" Column (resumed in 2014)

New Content

- Improved Coverage of Matters before City Council and other Boards and Commissions
- Begin running "City Ads" to promote priorities such as increasing the number of people who subscribe to our e-news service, pay their bills by auto pay, like us on Facebook, follow us on Twitter, watch our Government Access Channel, Attend or watch City Council Meetings, and others as needed.
- Begin running articles on businesses that are "Under Construction – Coming Soon". These would be businesses that are located in high-visibility areas, such as the Kraven's Sports Bar, which generate a lot of interest and questions.
- General Q & A, "person-on-the-street" column to address concerns raised in the 2014 Community Survey. For example "What is going into the old Kraven's site?
- "Reporting on Matters before City Leadership Boards."
- Continue progress toward making the Boones Ferry Messenger the "People Magazine" of city newsletters.
- Include more pictures of City-sponsored events and major community events. When possible and appropriate include ½ page photo collages.

B. Community Survey

Since the first Communications Plan in 2012, the City has now conducted two Community Surveys in 2012 and 2014. Both surveys were shared with City Council and the community online and are informing city priorities and strategies on a daily basis. The results from both the 2014 and the 2012 Community Surveys are available online at www.ci.Wilsonville.or.us/CommunitySurvey.

In particular the results and feedback from the Community Surveys are informing the communication plan, strategies, and future plans.

C. Wilsonville Leaderships Academy

Under the guidance of the City Manager staff has created and promoted the Wilsonville Leadership Academy in 2014. The six-month long training program will begin in January 2015 through June 2015. Staff received 42 applications for 30 slots and has completed a review and notification process.

Consultant Gregory McKenzie, who has helped create other similar programs, is on contract to assist staff with implementation during the first year of the program.

The training program is designed to educate members of the community about the roles and function of municipal government.

Goals of the program include:

- To increase the number of informed and involved citizens in Wilsonville.
- To "put a face" on local government, making it more accessible to the community.
- To encourage future participation in City boards and commissions.
- Throughout the program participants will be taking on class projects that may include the following:
- Consider planning and hosting a Social Service Summit in June or July 2015
- Improve community engagement and develop the participants into "City Ambassadors" who are aware and help promote City events, policy discussions, open houses, new branding, provide feedback on BFM content, share information via social media, volunteer at City-sponsored events, and other related actions.

D. City Branding Initiative

The City of Wilsonville requested proposals from qualified consulting firms to provide branding and design services to create a unique logo, tag line, style guide manual, and other communication means and methods that capitalizes on the community's assets and attributes. Through this process the City selected Manifesto, a Portland-based creative firm that specializes in branding and marketing strategy. The firm is finalizing the logo, tag lines, and related material for present**tation to City Council** on February 2, 2015.

Prior to launching the new brand, project sponsors need to develop an implementation strategy and secure any needed resources to promote and transition to the new brand throughout 2015. This will need to include a plan to replace all current logos and tag lines used on all related City property, material and communications assets such as the Boones Ferry Messenger, City-owned websites, social media sites, letterhead, envelopes, signage, and everywhere the old logo and branding are used.

The rebranding initiative includes the adoption of a new branding/style guide which will guide the rebranding initiative and includes the types of colors, fonts, and logos that are acceptable and conform to the new standard. Training and integration of the new styles, logos, and standards will need to be the responsibility of all City staff to ensure the rebranding is completed as soon as possible throughout the City.

Implementation of the new brand and style guide includes:

- Updating *The Boones Ferry Messenger* to conform to new brand and style guide.
- Updating the City website.
- Updating City Vehicles, signage, and anywhere else city logos are present.
- Updating letterhead, business cards, and marketing material.

· All other uses of the city logo throughout the City and communications channels.

E. 2015 City Hosted Events and Key Dates

Throughout and often many times a month, the year the City's various departments sponsor, organize and promote over 30 events a year and more events seem to be added all the time. A listing of these events is included in Appendix A in order to call attention to and adequately help promote the events via the City's various communications channels. Major City-sponsored and organized events during the year include: the annual Daddy Daughter Dance, Wilsonville Egg Hunt, WERK Day, Neighborhood BBQs, Movies in the Park, Volunteer Recognition Event, Fall Harvest Festival, Community Tree Lighting, Reindeer Romp and the Holiday Fun Fest.

F. 2015 City-Hosted Meetings, Task Forces and Open Houses

Throughout the year and often many times a month, the various City Department's host a wide variety of meetings, task forces and open house events covering a wide range of topic. Some of the events are planned and implemented better than others. When events are not planned well in advance, some communications channels are no longer an option if various deadlines are missed or adequate advance notice is not provided. In order to provide accurate and timely promotion of the events via the City's various communications channels, event organizers s need to proactively work with communications staff to develop communications plans for the major events months ahead of the event to ensure the City communications team has the capacity to support and promote the events to the fullest extent possible.

G. Willamette River Water Supply Outreach and Education

Continue to work in partnership with communications staff and consultants from Tualatin Valley Water District to promote events and information related to the Willamette River Water Supply project, plant and pipeline to be built in Wilsonville.

H. Annual Water Quality Report (July 1, 2015)

Each year the City is required to produce and distribute an Annual Water Quality Report by July 1, 2015. This past year in 2014 the report transitioned from being a mailed publication to an online report and was completely redesigned to accommodate the online distribution. By July 1, 2015 the report will need to be updated with current information and drinking-water testing results for 2014. In addition to the release of the report promotion of the report via the web site, Boones Ferry Messenger, social media, and a press release will be implemented as well.

I. 2015 Annual Report for Our Community (August 1, 2015)

On or around August 1, the Communications staff publishes and distributes to all residents and businesses in Wilsonville an Annual Report for the fiscal year ending June 30. The report provides community members an update on key city-sponsored initiatives and progress toward City Council goals. Availability of the report will be shared via the web site, social media, a press release, and the Boones Ferry Messenger.

J. Increase Issuance of Media Releases and Development of Schedule

In order to garner increased local and regional news coverage the Communications team has increased the number and range of media releases issued. For the upcoming year the communication team will strive to issue on average two to three releases a week. In 2014 the Communications staff has issued a total of 74 media releases and has developed a draft schedule. A full listing of the media release issued in 2014 are included in the appendix. During 2015 Communications staff seeks to further increase the number of releases issued and to further refine a media release schedule.

K. Increase Usage and Engagement via Social Media

In order to increase community engagement and awareness of City events and news, the Communications staff has increased utilization of the City's social media assets particularly the City's Facebook page and Twitter feed. Community member engagement and activity on the two social media platforms is increasing as measured by the number of "likes", "shares"

L. Leveraging City Communications on Multiple Channels

The City is taking steps to improve overall communications with citizen volunteers, residents and business interests through more coordinated and thorough distribution of communications messages. That is, the City is leveraging to the greatest extent possible content by repurposing and delivering content through as many communications channels as possible. For example often an article composed for the newsletter is reformatted as a media release, posted on the City's website and shared on both Facebook and Twitter in order to reach as many people possible in a way that they prefer to be contacted.

M. Special Outreach to Businesses - Business Roundtable Meetings

Consider planning and hosting or supporting additional business roundtable meetings for various sectors of Wilsonville's businesses such as the High-Tech/Advance Manufacturing Roundtable the City and OIT sponsored in August 2014. Members of our Congress have expressed interest in having forums like this to meet with local employers and government officials. Topics of these meetings have included transportation issues, workforce development and federal issues of concern; companies attending have included leading Wilsonville employers, including FLIR, Mentor Graphics, Rockwell Collins, Sysco Food Services, Xerox and others. The Mayor and City Council members have attended these meetings in the past in order to better understand the business needs of government services.

10. Initiatives for Additional Consideration

There are several new initiatives and other issues for consideration that the City Council, Planning Commission/CCI and staff may seek to have incorporated into the Communications Plan. This section reviews potential options and how they may be incorporated into the City's overall communications strategy.

A. *The Boones Ferry Messenger* —Improvements/Modifications

Staff is always seeking for ways to improve the quality, content and readability of the City's newsletter. Future changes to the city-wide newsletter include:

- General Q & A, "person-on-the-street" Column: This new feature could feature common questions fielded by City officials on a wide variety of topics along with responses and additional resources information as is appropriate.
- Research and Implement new e-magazine option for displaying *The Boones Ferry Messenger* online as an E-zine which essentially allows the document to be viewed online like a magazine with the ability to turn the pages as if the publication were a magazine.
- As a component of developing improving the consistency and professionalism of the BFM, staff will develop a "Style Manual" that guides the overall appearance or "look" and style of the publications. Consider changing the BFM' Masthead slightly to identify the month of the issue and to distinguish it from the prior issue.
- Obtain a graphic designer on contract to produce monthly infographics to run in the BFM.
- Feature articles on area business clusters: A suggestion from City Council has been to consider featuring various business clusters (e.g., 'high-tech' firms, medical-products businesses, retail grocery outlets, etc.) in Wilsonville in order to increase public understanding of employers located in city. With over 900 business licenses registered to the City and a wide range of small, medium and large employers, there are many opportunities to profile local businesses.

B. City Unified Event Calendar

Currently, no single City event calendar exists to provide the public with a comprehensive listing of all City-sponsored or hosted events. Four different departments each maintain their own websites and calendars and none of them are able to share event content with one another. Parks and Recreation, SMART, and the Library as well as the main City website all have separate calendars that are not able to share or aggregate content. This is very inefficient since in order to populate a single event across all four websites the event must be re-entered four separate times. To avoid unnecessary duplication of effort and redundancy, the City should create a City unified event calendar in order to allow community members a single website where they get an accurate view of all the City's offerings and meetings.

C. Increase and Improve Use of Online Community Engagement and Public Participation Tools

Ongoing adoption and evolution of social media, online advertising and other online community engagement tools now offer the City new ways of marketing City services and reaching community members that have not existed previously. In order to more fully realize these opportunities the City should invest time and money in exploring and testing these tools in order to see if they can lead to improved community engagement and participations. Related tasks include:

- Review Social Media policies and procedures to determine a way to engage in two-way communication with community members through social media tools like Facebook, Twitter, Instagram and other social media platforms.

- Begin testing the use of online advertising through Facebook, Twitter, Google Adwords and other online marketing tools to reach residents, recruit businesses, attract visitors and promote City events and meetings.
- Review and consider adoption of new online Community Engagement tools such as MindMixer.com that will allow and foster more and improved online engagement with community members.

D. Key Performance Indicators (KPI)

Develop and begin utilizing Key Performance Indicators (KPI) to measure effectiveness of the public affairs and community relations efforts. Examples include the number of subscribers to the e-news service, the number of the City's Facebook fans (likes), number of Twitter followers, number of retweets, Facebook comments, Facebook shares, and similar community engagement measurements.

E. Youth Leadership Academy

Consider allocating staff time and resources to develop a Youth Leadership Academy similar to the Wilsonville Leadership Academy, but targeted to school-aged children. The purpose of this new academy would be to educate and prepare youth for increased engagement with the City of Wilsonville and increased civic engagement in general. The new academy could leverage the content developed for the Wilsonville Leadership Academy but then be tailored to the needs of the younger audience. The academy should be developed with the support of local schools.

F. New Resident Welcome Packet

For new residents to Wilsonville Develop the City should develop and provide new residents a packet of basic information about accessing the various services, events and amenities provided by the City. The packet should also include information about other local service providers, events, amenities and other information new residents would need or want to know. The packet could also include the following types of information:

- A brief history and overview of Wilsonville
- Welcome letter from the Mayor
- Contact information the City's various departments and services
- Detailed information about the City's retail departments
  - SMART
  - Wilsonville Public Library
  - Parks and Recreation Department
- An overview map of the community, neighborhoods, parks and main roads
- Information about City Council and other City Boards and Commissions
- City and other Utility service providers
- Overview and contact information about local school districts
- Annual City- and community-sponsored events
- Contact information for other related governmental bodies and leaders
- Information about Police and Fire protection services
- Other community information of needed by new residents

A packet like this has used previously but the material and presentation need to be renewed and updated which is why it is now on the list of new initiatives for additional consideration.

G. Video Productions

Public Video Studio and Initiative w/ Schools and Library – Consider using City PEG funds to support local community members self-produce videos that promote either promote or cover local community events, news, or other content of interest to community members. This may be done by creating a video editing center at the Wilsonville Community Library or another location with easy year round access to community members. The City should also explore this initiative with the West Linn Wilsonville Public Schools as a potential new class and assignment to produces something like a weekly or monthly show featuring news, events and information about Wilsonville.

Also consider developing promotional videos on specific topics, such as:

- Road construction projects
- Stormwater management and new master plan
- Parks & recreation programs hosted by City
- Business recruitment
- Welcome video for new residents
- SMART to encourage youth ridership
- Other video projects that are of interest to other City Departments

Once produced these videos can be aired on WCGTV cable channel 30 and shared on the City's various websites and social media outlets including Facebook, Twitter and YouTube.

H. Establish a Stand-Alone Wilsonville Tourism Website with new Community Calendar

In 2015-16 a top priority for the tourism development strategy is to establish a stand-alone Wilsonville tourism, mobile-ready (responsive design) tourism web site that is highly interactive and is the portal for city marketing not only for visitor information, but to also feature a blog, capture customer information, community event calendar, and provide opportunities for partners to reach audiences. The site should be integrated with social media programs and Wilsonville's YouTube channel. The mobile capacity of the site is essential to the future growth of tourism in the city. City staff will need to conduct a solicitation process to select and contract with a web design firm to design the new site.

In order to attract and promote tourism the Wilsonville Tourism Website should include a calendar that provides the public and visitors to the community with comprehensive listings and information on all events occurring in and near Wilsonville. The City's websites tend to list only city-produced events, and may periodically list city-sponsored events. This new calendar should include not only City-sponsored and hosted- events that are appropriate, but also other non-City community events held on private property that do not appear on the City website.

11. Appendix

A. 2015 City-Sponsored Events

- **January**
  - Volunteer Planting and Tree Care Event
  - Leadership Academy
- **February**
  - Shredding Event co-sponsored with U.S. Bank
  - Volunteer Planting and Tree Care Event
  - Daddy Daughter Dance
  - Leadership Academy
- **March**
  - Community Garden - Registration Opens
  - Leadership Academy
- **April**
  - Wilsonville Egg Hunt at Memorial Park
  - Arbor Day Tree Planting Event
  - Leadership Academy
- **May**
  - WERK Day, Memorial Park
  - 2nd Annual Spa Day
  - Hazardous Waste Day
  - Bulky Waste Day
  - Leadership Academy
- **June**
  - Water Feature Season Begins
  - SMART Trolley Tour
  - Walk on Wednesdays
  - Leadership Academy
- **July**
  - Neighborhood Barbeque at Courtside Park.
  - Movies in the Park
  - SMART Trolley Tour
  - Walk on Wednesdays
- **August**
  - Movies in the Park
  - National Night Out August
  - Walk on Wednesdays
  - SMART Trolley Tours Ends
  - Neighborhood Barbeque at River Fox Park.
  - Volunteer Recognition Event
- **September**
  - Water Feature Season Ends
- **October**
  - Antique Appraisal Day
  - Fall Harvest Festival
- **November**
  - Leaf Drop Off Day
- **December**
  - Community Tree Lighting
  - Reindeer Romp
  - Holiday Fun Fest-Holiday
  - SMART Winter Wonderland Tour

B. 2014 Media Releases By Month

- **January**
  - City Council Approves Budget Adjustments and Request for Economic Benefits Study, Denies Support for Change in Metro Industrial Lands Designation
  - Single-Family Dwelling Permitting Hits Record High
  - 2014 Mayors State of the City Address
  - City Council Approves Changes to Business License Code and Authorizes Extension of Comcast Cable Franchise
  - Wilsonville Hire New Community Relations Coordinator
- **February**
  - Mayor Gives 'State of the City Address,' City Council Approves Changes to Business License Code and Streamlined Contracting for Technical Services
  - City Closes on Friday, February 7
  - City Clears Main Streets and Garbage Service Resumes
  - City Council Recognizes Two for Exceptional Service, Adopts Ordinance to Streamline Contracting and Advances Potential Bus-Shelter Smoking Ban
- **March**
  - City Council Hears Ordinance to Vacate SW 110th Avenue and Sets Hearing Date for DRB Appeal
  - Lieutenant Jeff Smith Appointed as Wilsonville's New Chief of Police
  - City Council Overturns DRB Denial, Adopts Ordinance to Vacate SW 110th Avenue, and Recognizes New Police Chief
  - City Seeks Public Comment on 'Draft Wilsonville Tourism Development Strategy'
- **April**
  - City Council Advances Moratorium on Medical Marijuana Facilities and Bus-Shelter Smoking Ban
  - City Seeks Input on Proposed Budget
  - City Recognized for Financial Reporting
  - City Council Adopts Moratorium on Medical-Marijuana Facilities, Bus-Shelter Smoking Ban and Considers Expansion of the Dog-Leash Law
  - City Awards Grants to Fund Local Events and Programs
- **May**
  - Annual WERK Day Seeks Volunteers for Sat, May 10
  - Bulky Waste Day Set for Saturday, May 10
  - City Council Adopts Expanded Dog-Leash Law, Advances Grande Pointe Residential Development and Adopts Tourism Strategy
  - City Accepting Applications for Library Board

- City Council Approves Grande Pointe Residential Development and Considers Urban Renewal Plan
- Wilsonville Not Impacted by Portland Boil-Water Notice

· **June**

- City Council Approves Annual Budget and Advances Annexation
- City Council Approves Polygon's Calais at Villebois and Funding for Wilsonville Community Sharing
- South Metro Area Regional Transit (SMART) Wins $60,000 Grant for Alternative-Fueling Infrastructure
- City Encourages "National Night Out 2014" Neighborhood Activities on August 5
- 2014 Annual Water Quality Report Released

· **July**

- Cities Seek Input to Plan Basalt Creek Area
- SW 110th Avenue Closed for Construction of New Villebois Subdivision and Access Road
- City Council Reappoints Library Board Members and Renews City Manager Contract
- Road Maintenance and Sidewalk Improvement Projects Begin Week of July 14
- City To Host July 30 Meeting on Proposed Charbonneau Infrastructure Repair Plan
- Mayor Declares August as Wilsonville Rotary/End Polio Now Month

· **Augu**st

- Vlahos Drive Closed Temporarily as part of Canyon Creek Road Extension Project
- City Council Amends TIF Zone Areas and Adopts Charbonneau Infrastructure Repair Projects
- City Releases 2014 Annual Report
- Hilly Alexander Receives 2014 Heart of the City Volunteer Award
- Volunteers Needed September 9 - 13 to Count Trail and Path Users
- Parks and Recreation Moves Staff to Town Center Park Building and Hosts Open House on September 11
- City Accepting Applications for Community Opportunity Grants

· **September**

- City Council Endorses College Bond Measure, Adopts New Public Works Standards, Amends TIF Zone Areas and Authorizes I-5 Landscaping Project and Bus Purchases
- Recreation and Aquatic Center Task Force to Review and Discuss Feasibility Study
- City Accepting Applications for Clackamas County Tourism Grants
- City Council Advances Tax on Marijuana Sales, Approves New Public Works Standards and Hears an Update on Basalt Creek Concept Planning
- Barber Street Road Extension and Bridge Construction to Begin
- Community Survey Results to be Presented to City Council on October 6
- City Council Adopts Tax on Marijuana Sales to Preserve Option If State Ballot Measure Passes in November

- City Seeks Input on Future of Frog Pond Area
- City Now Accepting Applications for Wilsonville Leadership Academy

· **October**

- Mayor Proclaims October as Manufacturing Month
- Wilsonville Residents Give High Marks to City Services and Quality of Community
- City Council Addresses Barking Dogs, Authorizes Purchase of Boeckman Dip Property and Approves Wastewater Outfall Pipe Repair
- Wilsonville Hires New City Finance Director
- Town Center Loop East to be Restriped Adding Buffered Bike Lanes
- Time for Public Input on Proposed Plans for Frog Pond Area
- City Receives Award for Distinguished Budget Presentation
- City Council Approves Barking Dog Ordinance and Purchase of Boeckman Dip Property, and also Hears Ordinance to Add Stormwater Rules to City Code
- Community Invited to Open House to Plan the Future of Memorial Park on Wednesday, Nov. 5
- Leaf Drop-Off Day Set for Saturday, Nov. 15, 9 am – 2 pm
- Don't Forget to Vote by Nov. 4 on Local Ballot Measures
- Rain Delays Completion of Two Road Projects
- Barber Street Bridge Construction Begins with a Bang
- Wilsonville Hires New Long-Range Planning Manager

· **November**

- City Council Sets Time Limit for Sleeping in Vehicles and Provides Police with Ability to Exclude Law Violators from Public Places
- Wilsonville Projects Receive Awards and Recognition
- City Council Updates Specialty Codes, Public Works Standards, “Call-up” Time for Development Decisions and Public Safety Laws
- New Sections of Villebois Drive North and Costa Circle East are Now Open
- Community Invited to Participate in Tree-Lighting and Toy Drive

· **December**

- Council Approves Annexation and Rezoning of Parcels Near Villebois and Numerous Other Ordinances and Resolutions
- City Council to Consider Rate Increase to Replenish Stormwater Fund at Meeting on Jan. 5
- Council Accepts Recreation and Aquatic Center Feasibility Study and Thanks Councilor Goddard for Service
- City Seeks Community Feedback to Plan Park’s Future

C. Inventory of the City of Wilsonville Publications

Lead Dept.	Publication Name	Type	Circulation	Frequency	Page-Count	Publication Date
Admin	Boones Ferry Messenger	Newsletter	12,500 [1]	12x/year	6-8	Last week of month
PW	Annual Water Quality Report	Online Brochure	100	1x/year	4	April-June (By July 1)
CD	Capital Improvement Program Report	Newsletter	12,500 [1]	One time report in 2009	4	Individual project fact sheets began in 2012.
P&R	Wilsonville Activity Guide	Newsletter	12,500 [1]	3x/year	32-40	
CS	Center Gazette	Newsletter		12x/year	10	
Fin	Proposed Budget	Book	30 hard copies	1x/year	350	April
Fin	Proposed Budget for web	E-doc / PDF	Online	Same	Same	Same
Fin	Adopted Budget	Book	30 hard copies	1x/year	350	August
Fin	Adopted Budget for web	E-doc / PDF	Online	Same	Same	Same
Fin	5-Year Financial Forecast	Book	35 in-house	1x/year	60	Late October
Fin	5-Year Forecast for web	E-doc / PDF	Online	Same	Same	Same
Fin	Annual Financial Report	Book	30 hard copies	1x/year	170	December
Fin	Annual Financial Report for web	E-doc / PDF	Online	Same	Same	Same

Notes

[1] 97070 zip code.

Lead Dept. key:

- Admin = Administration
- CD = Community Development
  - CD/NR = Community Development, Natural Resources program
- P&R = Parks and Recreation Department
- Fin = Finance Dept.
- PW = Public Works

D. 2014 *The Boones Ferry Messengers* Articles

January 2014 Issue	
p 1	· Wilsonville Library Reaches Highest Percentage of Children Participating in 2013 Reading Program · Mayor's Message: 2014 Promises to Be a Good Year · New Road Project to Increase Community Connectivity Canyon Creek Road Extension to Link Eastside of Wilsonville · City Invites Public Comment on Residential Land Study
p 2	· Library news · SMART news
p 3	· Canyon Creek Road Extension to Link Eastside of Wilsonville Continued from page 1 · City Accepting Applications for Community Grant Programs · Kiwanis Club Volunteers Clean 'Beauty and the Bridge' Artwork
p 4	· Parks and Recreation News · City Council Amends Code for Commercial Trash Enclosures, Approves SMART Transit Projects List and Authorizes Road Construction for New North-South Community Link · Chamber Offers Free Disaster-Planning Kit for Businesses
p 5	· Task Force Reviews Strategic Use of Urban Renewal · Urban Renewal Strategy Task Force Members
p 6	· City Council Approves Revised Water-Rates Structure and Future Rate Increases · Stream Temperature Is Crucial for Aquatic Life · Community Calendar

February 2014 Issue	
p 1	· Local Artists and Students Create Art Sculpture · Mayor's Message: · Council Names Volunteers to Serve on City Boards · City Council Recognizes Girl Scout for Accomplishment · Single-Family Home Construction Hits Record-High Level in Wilsonville During the Past Year
p 2	· Library news · SMART news
p 3	· Major Public Projects Advance Successfully · Project to Provide Water to Sherwood Completed · Choral Group Seeks Male Voices · Dog Owners Reminded to Use a Leash in City Parks · Call for 2014 Tourism Events Listings to Be Promoted for Free
p 4	· Parks and Recreation News · OSU Extension Center Installs Solar-Power Panels · Bumblebee Incidents Result in Pesticide Violations

p 5	· Reports from City Boards and Commissions · Xerox Foundation Makes $5,000 Donation to City · DRB Approves Parking Lot Changes, New Coffee Kiosk · Citizens Committee Reviews City's Housing Needs · Parks and Recreation Board Reviews Programs and Roles · City Accepting Applications for Community Grant Program
p 6	· Oregon Tech Students Sponsor 'Clean Energy Forum' for Community and Businesses · Art Show at Wilsonville Community College Campus · Rummage Sale to Benefit Community Groups · County Commissioners to Hold Wilsonville Town Hall Meeting · City Calendar

March 2014 Issue

p 1	· City promotes Bicycle and Pedestrian Connectivity Action Plan to encourage healthy living and mobility · Mayor's Message: '2014 State of the City Address' shows a vibrant community · City celebrates home-delivered meals program · School district forges partnership with Oregon Tech · World of Speed Ground-Breaking
p 2	· Library news · SMART news
p 3	· Wilsonville hires community relations coordinator · City Council look ahead—City Council to consider bus-stop smoking ban · Hats off to Public Works staff during the big snow storm · Parks and Recreation News
p 4-5	· Map and highlights of the Bicycle and Pedestrian Connectivity Action Plan
p 6	· Mayor Knapp highlights recent key developments, trends and community accomplishments in the "2014 State of the City Address"
p 7	· Reports from City Boards and Commissions · City accepting applications for Community Grant Program
p 8	· ART EXTRAVAGANZA! Tools & Techniques Trade Show · Volunteers needed care for trees, help with "pollinator hedgerow" · Rummage sale to benefit community groups · SMART appreciates passengers · City Calendar

April 2014 Issue

p 1	· City Council recognizes, praises exceptional service to others by members of the community · Lieutenant Jeff Smith appointed as new Chief of Police · City Police Department offers free child car-seat consultations · Mayor's Message: volunteers improve the community through service · Oregon Tech Highlights Clean Energy
p 2	· Library news · SMART news

p 3	· City Council recognizes those who give freely of their time during Volunteer Appreciation Month · City Council Raises Awareness about Parkinson's Disease
p 4	· Spring tips for reducing or eliminating pesticide use · Recreation and Aquatics Center Task Force begins analysis · Parks and Recreation News
p 5	· Reports from City Boards and Commissions
p 6	· Pastel art works featured at CCC Wilsonville · Wastewater Treatment Plant public dedication set for April 24 · Arbor Day community tree-planting event at Villebois · Bazaar to benefit primary school · April 22 is Earth Day · City Calendar

May 2014 Issue

p 1	· Annual WERK day seeks volunteers for Saturday, May 10 · Wilsonville Festival of Arts May 31 and June 1 · Mayor's Message: Planning the Frog Pond Area · City Awards Grants to Fund Local Events and Projects
p 2	· Proposed bike/ped bridge over the Willamette River would also facilitate emergency responders' capability · Library news
p 3	· Chief's Corner with Police Chief Jeff Smith – bike safety tips · May is Bike Month in Wilsonville · Recreation and Aquatics Center Task Force underway · SMART news
p 4	· City launches new websites · Main parking lot at Memorial Park is new and improved · Parks and Recreation News
p 5	· Happy Public Works Week—City infrastructure underwrites daily life · Wilsonville's water exceeds federal standards · Don't be a drug flusher: dispose of medications properly · Water features open May 31
p 6	· Reports from City Boards and Commissions · CCC hosts forum on bond measures
p 7	· Councilor's Corner: Julie Fitzgerald · City leaders to develop next year's budget · Voters to consider replacement levy for fire and medical services · City financial reporting recognized
p 8	· Local tree to be dedicated as a State Heritage Tree · Got bulky waste that doesn't fit in your garbage can? · Wilsonville Garden Club hosts annual plan sale on May 10 · Annual run to benefit schools · Lowrie Primary to hold auction · City Calendar

June 2014 Issue	
p 1	· Community Calendar City Residents Prep for a Summer of Fun · Summer Reading Program for All Ages Starts Monday, June 9 · Hundreds of Volunteers Got a Lot Done on WERK Day · Mayor's Message: Innovative Approach to Wastewater Facility Project Guarantees Positive Result for Public · Summer Events Poster Ad
p 2	· Local Albertsons Store Gives Back to the Community · 10,000 Books in Two Years —Dolly Parton's Imagination Library Celebrates a Milestone · Library news
p 3	· Summer Tips from Police Chief Jeff Smith · City Council Election Filing Procedures · Hydrant Flushing Underway · SMART news
p 4	· Anatomy of Wilsonville's Wastewater Treatment Plant · Parks and Recreation News
p 5	· Public Workshop in June for Basalt Creek Urban-Area Planning · Volunteer Spotlight: Mary Fierros Bower · City Automates Utility Billing and Water Shut-Off Notification Process · Dog-Leash Laws Expanded to all Public Property
p 6	· Reports from City Boards and Commissions
p 7	· Highlights of the Tourism Development Strategy · City Council Advances Tourism Development Strategy · Tourism Development Strategy Task Force Members
p 8	· Wilsonville Festival of Arts, Saturday May 31, Sunday June 1 · Annual Run to Benefit Schools Sunday, June 1 · Lunch to Honor Local Veterans · Korean War Remembrance to be held June 21 · Oregon Tech Students Share Projects at Symposium · Research Firm Conducting Survey · City Calendar

July - August 2014 Issue	
p 1	· New Report Verifies City's High-Quality Drinking Water · Mayor's Message: Keep Safe While Enjoying Summer Fun · SMART Seeks Input on Extending Service to Portland and Medical Trips to Increase Efficiency and Ridership · Run on Over to the 11th Annual Kiwanis Kids Fun Run · WWII Vets Honored at 70th Anniversary of D-Day Lunch (photo)
p 2	· New Transportation Project to Improve Eastside Community Connectivity Canyon Creek Road Extension to Link Boeckman and Town Center Loop · Library news
p 3	· Electrical Reliability Improvements in Wilsonville · Summertime Tip: Call 8-1-1 Before You Dig

	· Bathroom Wipes Blamed for Costly Sewer Clogs · SMART news
p 4	· Parks and Recreation News (full page)
p 5	· Goats are Coming to a Park Near You · Volunteer Spotlight: Ben Altman · Door-to-Door Solicitors Heat Up During the Summer · Wilsonville's Equestrian Heritage Comes to Life · OSU Extension Hosts "Ag" Tours All Summer · Sister City Program Seeks Volunteers
p 6	· Reports from City Boards and Commissions
p 7	· Got Fireworks? Keep it Legal, Keep it Safe! · Window-Fall Safety for Children Urged During Hot Months · Local Water-Rescue Teams Offer Swimming and Boating Safety Tips · Chief's Corner: National Night Out in August Offers Neighbors Opportunity · Bike Patrol Photo · Local Water-Rescue Teams Offer Swimming and Boating Safety Tips
p 8	· Thursday Nights are Fun at the Farmers Market · Rotary Concert Series Offers Four Concerts in Four Weeks · City to Host Neighborhood Gatherings · 14th Annual Fun In the Park Festival · City Calendar

September 2014 Issue

p 1	· Community Calendar Hilly Alexander Receives 2014 "Heart of the City" Volunteer Service Award · Mayor's Message: City Acts Responsibly in Use of Urban Renewal Tool · Parks and Recreation Moves Staff to Remodeled Town Center Park Building
p 2	· College Expands Energy and Resource Management Program · City Tests Buffered Bike Lanes to Address Speeding and Bike Safety · New Principal and Assistant Principal at Wood Middle School · Library news
p 3	· ODOT Back-to-School Safety Tips · Chief's Corner - Back to School · SMART news
p 4	· Grants Available to Promote Tourism and Community Programs · CCC Board Refers Bond Measure to Voters for Fall Election · Parks and Recreation News
p 5	· New Economic Development Website Promotes Business and Job Growth · Councilor's Corner: Scott Starr · 2014 Annual Report Released · Recreation and Aquatic Center Task Force Prepares Recommendation · Wastewater Treatment Plant Receives National Merit Award
p 6	· Reports from City Boards and Commissions
p 7	· Charbonneau Utility Projects Added to Long-Term Plan · Open House Features Draft Recommendations for Frog Pond Area · Vlahos Drive Closed as part of Canyon Creek Road Extension Project · Regional Water Partners Look to Willamette River and Water Plant for Long-Term

	Supply · National Night Out Photos
p 8	· Last Call for Farmers Market · 2014 Water Feature Season Ends · New Academy to Groom Leaders · Antique Appraisal Day · Harvest Festival · Charbonneau Arts Festival Set for October 25 and 26 · City Calendar

October 2014 Issue	
p 1	· City Celebrates Grand Opening of New Parks and Recreation Office at Town Center Park · Mayor's Message: City Seeks Community Members for Leadership Academy · City Initiates Branding Strategy · Survey Shows Residents Continue to Enjoy a High Quality of Life and Satisfaction with City Services
p 2	· Barber Street Road Extension and Bridge Construction Starts · Library news
p 3	· City Urges Caution in Obscured Intersections · Chief Smith Shares Halloween Safety Tips · SMART news
p 4	· Water Pipeline Route Options Presented to City Council · Willamette Water Supply Project Open Houses · Parks and Recreation News
p 5	· OIT Gets Top 10 Ranking in Region · Former Wilsonville City Councilor Confirmed as Oregon Tech Trustee · Volunteer Spotlight: Ken Rice · City Contractor Named Oregon Operator of the Year · City Accepting Applications for Clackamas County Tourism Grants · Murase Plaza Playground to Receive Update
p 6	· Reports from City Boards and Commissions
p 7	· Help Plan Frog Pond Area's Future at Open House on October 16 · Coffee Creek Industrial Area Form-based Code · Q & A on the City's Stormwater Utility Fee: What's in it for Me? · City Staff Donate Supplies to Women Leaving Coffee Creek · Proper Use Your Yard Waste Cart
p 8	· CCC Wilsonville Campus Featuring Artwork by Bonnie White · Community Center to Host Spa Day and Antique Appraisal Day · Harvest Festival · Wood Middle School Fundraiser · Charbonneau Arts Festival Set for October 25 and 26 · City Calendar

November 2014 Issue	
p 1	· Volunteers Needed for City Boards and Commissions · Mayor's Message: Wilsonville is a Great Place to Live and Work—And We Know It! · Roads Open, Detours End and Circulation Improves as Transportation Projects are Completed
p 2	· Recreation and Aquatic Center · Memorial Park Master Plan · 1st Annual Spa Day a Success! · Parks and Recreation News
p 3	· Tips to Be Seen and Be Safe · Chief's Corner - Welcoming Our New School Resource Officer · Freeze the Grease—Save the Drain · SMART news
p 4	· Library News
p 5	· Wilsonville Residents Give High Marks to City Services and Quality of Community
p 6	· Reports from City Boards and Commissions
p 7	· Local Ballot Measures · Volunteer Spotlight: Andrew KARR · City Retains Top Bond Rating Due to Strong Financial Practices · City Hires Susan Cole as New Finance Director
p 8	· Wilsonville Leaf Drop-Off Day Set for Saturday, November 15 · Open Houses Set for Willamette Water Supply's Proposed Pipeline · Chamber Hosts 1st Annual Santa's Winter Wonderland · Christmas Decoration Sale Saturday, December 6 · City Calendar

December 2014 Issue	
p 1	· Barber Street Begins with a Bang · Mayor's Message: Managing Stormwater Protects Property and Environment · Charbonneau Arts Festival Donates to High School Arts · Town Center Loop East Gets New Buffered-Bike Lanes · All Local Ballot Measures Pass Except One; Staff and Lehan Elected
p 2	· Wilsonville Festival of Arts Looking for Planning Committee Members · Metro Seeks Applicants for 'Nature in Neighborhoods" conservation Education Grants · Library news · Volunteer Opportunity to Deliver Meals to Homebound Seniors · Volunteer Delivers Meals Since 1995Voluneer
p 3	· Chief's Corner – Holiday Shopping Tips · Energy Trust Helps Household save While Staying Warm with Free Energy Savings Kits · SMART news
p 4	· Local Trees Protect and Enhance Water Quality of Streams and Rivers · How Can you help? Plant Trees · Parks and Recreation Projects Move Forward

	· Parks and Recreation News
p 5	· Mayor Welcomes Delegation from Myanmar on Behalf of Local Manufacturer · Councilor's Corner Richard Goddard · Wilsonville Hires New Long-Range Planning Manager
p 6	· Reports from City Boards and Commissions
p 7	· Council Considers Rate Increase to Replenish Stormwater Fund on Jan. 5 · Wilsonville Projects Receive Awards and Recognition
p 8	· Reindeer Romp 5k and Kids Dash · Community Tree Lighting and Toy Drive · Garden Club Holds Christmas Decoration Sale, Saturday, Dec. 6 · Chorus to Perform Holiday Concert · Get in the Spirit and Help Kids at "Homes for the Holidays" · Community Calendar

E. 2013 The Boones Ferry Messengers Articles

January 2013 Issue	
p 1	· City Welcomes Two New Councilors (City Councilors Fitzgerald and Stevens) · Mayor's Message: 2013 Offers New Opportunities for Community 2013 Projects - Top 10 List · Planning Commission and DRB Meetings On Air in January · City Says "Thank You" to City Councilor Celia Núñez for her service to the community 2007-2012
p 2	· Library and SMART news
p 3	· 2013 Wilsonville Festival of Arts Applications Now Available Community Center Kitchen Expansion Project Completed · Economic Development Task Force Recommends Advisory Vote on Incentive Proposal
p 4	· Reports from the City Council, DRB and Planning Commission Clackamas Community College Hosts Online Survey · Community Calendar

February 2013 Issue	
p 1	· City to Dedicate New SMART Fleet Operations Facility · Mayor's Message: City Works Strategically to Improve Quality of Life · SMART Awarded $2 Million in State Grant Program · SMART & City Fleet Operations Center Public Dedication and Open House
p 2	· Library and SMART news
p 3	· Parks and Recreation News · The Cost of Speeding · Clackamas Community College Presents Artists of Albany · OIT Students Invite Public to Forum on Renewable Energy Technology

	· Exercise Tips for the New Year
p 4	· City Council Seeks Community Input on Proposed Economic Development Incentive Program · City of Wilsonville Ballot Measure 3-421 for the Special Election on March 12, 2013
p 5	· Parking Lot at Memorial Park to See Improvements · City is Updating Traffic Signal Controllers on Main Corridors · City Working on Several Stormwater and Construction Projects · Improvements on Boones Ferry Road to Occur from Norwood Road to Day Road · Did You Know?
p 6	· Reports from the City Council and Planning Commission · Boards and Commissions Appointments · Community Calendar · Community Center Open House

March 2013 Issue

p 1	· City Sees Near-Record $125 Million in 2012 Building Activity, with Mostly Private-Sector Investment · Mayor's Message: City's Growth and Development Are Carefully Thought Out · City Council Says "Thank You" to Board and Commission Members · March 12 Special Election Ballot Measure 3-421"Business Incentive Program for Investment and Job Creation by Manufacturers."
p 2	· Library and SMART news
p 3	· Parks and Recreation news · Library Offers Distinctive Area For Teens · Volunteers Plant Trees at Two Wilsonville Parks · Transportation System Plan Update Draft Available On-Line
p 4	· City Council Seeks Community Input on Proposed Economic Development Incentive Program · City of Wilsonville Ballot Measure 3-421 for the Special Election on March 12, 2013
p 5	· Wilsonville and Sherwood Water Partnership Advances · Wilsonville to Offer $25,000 Community Services Opportunity Grant · Volunteer Focus: Ray Phelps · Councilor Corner: Councilor Richard Goddard · Exercise and HIIT
p 6	· Reports from the City Council, Planning Commission and DRB · Community Calendar · Wilsonville Community Rummage Sale

April 2013 Issue

p 1	· Wilsonville Named First "Healthy Eating, Active Living" City in Oregon · Mayor's Message: Aspiring to Be a Healthy · Community with Public Planning · Celebrate Oregon Arbor Week April 7-13

	· Special Election held March 12 Measure 3-421
p 2	· Library and Smart news
p 3	· Parks and Recreation News · Wastewater Treatment Plant Construction Project Reaches One Year Mark · City to Relocate Memorial Park Lift Station · Gifts Lift Community Programs Two Wilsonville non-profits received gifts recently to support important community programs. · Portland General Electric and Clackamas County Community Connections Team Up on Tree Planting Event ·
p 4	· City Employee Selected as Water Operator of the Year · Public Works Begins Water System Flushing Program · Spring is a Good Time to Change Your Smoke Alarm Battery · City Unveils Draft Transportation Plan · Tonkin Dealership Schedules 2nd Annual For The Love Of Schools Running Event
p 5	· City Offers Online Open House on Memorial Park Parking Lot Project · Wilsonville to Offer $25,000 Community Services Opportunity Grant Program · Volunteer Focus: Hilly Alexander · April is Stress Awareness Month · City Councilor Susie Stevens Participates in March for Meals Campaign
p 6	· Reports from the City Council, Planning Commission and DRB Community Calendar · 2nd Annual Boeckman Creek Primary School Bazaar

May 2013 Issue	
p 1	· International Call-Center to Relocate Over 1,000 Jobs to Wilsonville · Mayor's Message: Wilsonville is "a-happenin" Place · Community Members Join Forces During W.E.R.K. Day Clean-up Activities · Bulky Waste Day Scheduled for May 11 Republic Services · Wilsonville Festival of Arts Ad
p 2	· Library and SMART news
p 3	· Parks and Recreation News · City Hires New Parks and Recreation Director · Library Seeks Volunteers to Hel with Heritage Collection · City Works with Other Agencies on Wildfire Protection Plan · Library Board Vacancy
p 4	· Construction Begins On Villebois Piazza · May is National Bike Month · Important Bike Riding Tips · Volunteer Focus: Eric Bohard · Wilsonville Police Officers Receive Life Saving Award · Auto Dealer to Host Annual Run to Benefit Schools
p 5	· Reports from the City Council, Planning Commission and DRB · Council Corner: Scott Starr · News from the Planning Division

	· Legend at Villebois Park Celebration · Metro Schedules 3rd Annual Regional Trails Fair
p 6	· Wilsonville Designated Tree City USA for 15th Consecutive Year · City of Wilsonville Incorporates Smarter Traffic Signal Controllers · City Provides New "Projects Around the City" Webpage · Community Calendar

June 2013 Issue

1	· Better Public Transit Service at Lower Cost SMART "Transit Integration" Project Seeks Public Input · Mayor's Message: City Council Sets Goals · City Presents Grant Awards to Community Groups · Summer Events Posters Inside this Issue!
2	· Library and SMART news
3	· Parks and Recreation news · Reports from City Boards and Commissions
4	· School District Seeks Urban Growth Boundary Amendment for New Schools, City Park · Planning a Deck or Outbuilding? Check First to Avoid Complications · Proper Use of Pesticides and Herbicides Important to Protect Human Health, Water Quality · Community Calendar
Insert	· Summer Events Posters

July - August 2013 Issue

p 1	· City Council Praises Retiring Police Chief Nick Watt · Summer Starts with Famers Market, Water Features and More · Wilsonville Company Honored as a 'Small Business of the Year' · Mayor's Message: Council and Planning Commission to Review Long-Term Policy Issues · Summer Events Poster Ad
p 2	· Library and SMART news
p 3	· New Police Chief Rhodes Assumes Command · Wilsonville Delegation to Visit Sister City Kitakata · City Volunteer Profile: Alan Steiger · Wilsonville Festival of Art presents art, music and culture (pictures)
p 4	· Wilsonville Construction Update: Grahams Ferry Road Slated for 10-Day Closure this Summer · Community Volunteers Pitch-in to Help on WERK Day · City Advances Voter-Approved Economic Development "TIF Zone Incentive Program · Dog Walkers Reminded to Use a Leash In City Parks
p 5	· Parks and Recreation News
p 6	· Reports from City's Boards and Commissions

p 7	· City to Engage in “Climate Smart Communities” Effort · City Council and Planning Commission to Review City’s Housing Needs · City Council Continues Public Hearing to Consider Solid-Waste Collection Rate Increase · Is your lawn chemical free? Ad
p 8	· OSU Extension Service Hosts July community Open House, Offers Local ”Ag Research” Tours All Summer · Tribes Host ”Gathering of Oregon’s First Nations” in July · City Host Neighborhood Barbecue Gatherings · Community Calendar

September 2013 Issue

p 1	· Councilors Present Hear of the City Volunteer Award (Jerry Greenfield) · World of Speed to Open Motorsports Exposition in Wilsonville · City Expands SMART Transit Service to Accommodate Schedules of New Major Employer and University · Mayor’s Message: City Thanks Volunteers, Moves on Economic Development Issues
p 2	· Library and SMART news
p 3	· World of Speed to Open (continued from page 1) · City Expands SMART Transit Service (continued from page 1)
p 4	· Photos of Summer Event at Town Center Park · Parks and Rec News
p 5	· Improvements Coming to Memorial Park Parking Lot
p 6	· Reports from Boards and Commissions
p 7	· City Appoints New Economic Development Manager · Chamber Now Provides Online Resource · Clackamas County Tourism Accepting Grant Applications to Promote ‘Oregon’s Mt Hood Territory’ · City Wins Financial Reporting Award · Utility Assistance is Available
p 8	· City Swings Into Action to Save Bees from Misapplied Pesticide on Flowering Trees at Shopping Center · Music Group Seeks New Members · Safely Disposing of Unwanted Medications is Easy Now · Community Calendar

October 2013 Issue

p 1	· Wilsonville Delegation Visits Japanese Sister City · City Wins Community Development Award · City Council to Consider Creating TIF Zone Urban Renewal Districts · Mayor’s Message: City Plan for New Areas with Public Input and Guidance · SMART Seeks Public Input with Online Open House on Transit Services with the Wilsonville to Portland I-5 Corridor
p 2	· Library and SMART news

p 3	· Kitakata Students to Visit Wilsonville in October · Photos from Kitakata Trip · October Deadline for Tourism Community Grant Program · Boones Ferry Road Work Update
p 4	· NW Supply Chain Conference Offers Business Opportunities · "OktoberPest" Pest Management Workshops · Businesses Focus on Workforce · Parks and Rec News
p 5	· Reports from Boards and Commissions · City Forms Urban Renewal Strategic Plan Task Force, Plans to Hole Open House · Tualatin and Wilsonville City Councils to Hold Joint Meeting · Library Board Elects Officers, Works on Strategic Plan
p 6	· SMART Conducting Online Open House on Transit Services Within the Wilsonville to Portland I-5 Corridor · Stream to Host Wilsonville Job Fair · Public Invited to Piazza Villebois Dedication Ceremony · 'Hiring Our Heroes' Veterans Job Fair · Community Calendar

November 2013 Issue

p 1	· A Day to Recognize that "America Recycles" · Task Forces Look Strategically at Tourism and Urban Renewal in Wilsonville for Future Growth · City Receives Award for Wastewater Treatment Project · Mayor's Message: City Advances Many Efforts with Volunteer Guidance
p 2	· Library and SMART news
p 3	· Metro Council Unanimously Approves Wilsonville School Boundary Expansion Request · Wilsonville Welcomes Student Delegation from Japan · Businesses Celebrate Grand Openings in Wilsonville
p 4	· Ribbon-Cutting and Remembering: Wilsonville's Villebois Community Integrates Housing for Mentally Ill · Parks and Rec
p 5	· Reports from City Boards and Commissions · City Boards Seek Volunteers · Nature in Neighborhoods Conservation Grants Available · Clackamas County Announces HEAL Grants to Promote Community Health
p 6	· Leaf Collection Day · Rein Deer Rom · The Ballad of Cate Parks' on Display at CCC Wilsonville · Oregon Passenger Rail Open House to Look at Alternatives · Community Calendar

December 2013 Issue

p 1	· New Major Employer Celebrates Grand Opening

	· Local Family Business Recognized by OSU for Excellence · Wilsonville Douglas-Fir Accepted as a State Heritage Tree · Mayor's Message: City Advances Range of Issues
p 2	· Library and SMART News
p 3	· Wilsonville Medical Products Manufacturer Receives "Top Innovation Award" for Revolutionary · Wilsonville Host Student Delegation from Japan · Major Capital Projects Update
p 4	· Oregon Tech Fall Enrollment Increases 10 Percent · Park and Rec Panel
p 5	· Cold Weather & Winter Holiday Preparation Ideas · 2014 Emergency Preparedness Calendars Now Available · Don't Let Grease Clogs Ruin Your Holidays · Tips for Home, Landscape and Sprinkler Winterization
p 6	· Reports from City Boards and Commissions · Planning Commission Looks at Community's Housing Needs
p 7	· Wilsonville Tourism Development Strategy Advances · Tourism Development Strategy Task Force Members · Tourism Meeting Reviewed Internet Marketing and Other Issues · Parks and Rec Board Update · Parks and Rec Grants Applications Due in Early 2014 · Library Conducts Strategic Planning to Improve Services
p 8	· Reindeer Romp · City Council to Consider Water Rates Structure and Rates · Holiday Sponsors Needed to "Adopt a Family" · Volunteers Needed for 2014 Wilsonville Festival of Arts

F. Relevant Awareness Days, Weeks and Months

January

- National Volunteer Blood Donor Month
- National Mentoring Month
- Staying Healthy Month
- Winter Storm Preparation

February

- Black History Month
- Go Direct' Month

March

- American Red Cross Month
- March for Meals
- The Great American Cleanup
- National Women's History Month
- Tornadoes; Tsunami Awareness

April

- Volunteer Appreciation Month
- Arbor Week
- National 9-1-1 Education Month
- National Financial Literacy Month
- Parkinson's Awareness Month
- Child Abuse Prevention
- Earth Day

May

- National Public Works Week
- National Bike Month
- National Drinking Water Week
- Tourism Month
- National Police Week;

June

- Flag Day
- National CPR & AED Awareness Week

July/August

- National Picnic Month
- Fire Safety Awareness)
- Heat Wave
- Water Conservation
- Annual National Night Out

September

- Back to School Activities
- National Preparedness Month
- Banned Book Week (Last week)
- Deaf Awareness Week
- Citizenship Day

October

- National Arts and Humanities Month
- Great Shakeout (earthquake preparedness)
- Crime Prevention Month
- Celebrate Safe Communities
- Fire Prevention Week – NFPA
- America's Safe Schools Week
- National School Bus Safety Week
- Make a Difference Day
- Manufacturing Month
- Cyber Security Awareness Month;

November

- Veterans Day
- America Recycles Day
- National Hunger and Homelessness Awareness Week

December

- Winter Storm Awareness

G. 2014-2013 Chief's Corner, Volunteers and Councilors Corner Articles

February 2015

- Chief's Corner: ID Theft Prevention
- Volunteer Spotlight: Wes Morris

January 2015

- Chief's Corner: Inclement Weather Driving Tips
- Councilor's Corner: Susie Stevens

December 2014

- Chief's Corner: Holiday Shopping Tips
- Councilor's Corner: Richard Goddard

November 2014

- Chief's Corner: New School Resource Officer
- Volunteer Spotlight: Andrew Karr

October 2014

- Chief's Corner: Halloween Safety
- Volunteer Spotlight: Ken Rice

September 2014

- Chief's Corner: Back-to-School Safety
- Councilor's Corner: Scott Starr

July/August 2014

- Chief's Corner: National Night Out
- Volunteer Spotlight: Ben Altman

June 2014

- Chief's Corner: Summer Safety Tips
- Volunteer Spotlight: Mary Fierros Bower

May 2014

- Chief's Corner: Bike Safety Tips
- Councilor's Corner: Julie Fitzgerald

April 2014

- Volunteer Spotlight: Hilly Alexander, Dick Spence, Gale Lasko, Alan Steiger, Helen Meade

Jan. to Mar. 2014

- Chief's Corner: N/A
- Councilor's Corner: N/A

Sep. to Dec. 2013

- Chief's Corner: N/A
- Councilor's Corner: N/A

July/August 2013

- Volunteer Spotlight: Alan Steiger

June 2013

- Chief's Corner: N/A
- Councilor's Corner: N/A

May 2013

- Volunteer Spotlight: Eric Bohard
- Councilor's Corner: Scott Starr

April 2013

- Volunteer Spotlight: Hilly Alexander

March 2013

Councilor's Corner: Richard Goddard

Jan. to Feb. 2013

- Chief's Corner: N/A
- Councilor's Corner: N/A

H. 2015 Chief's Corner, Volunteers and Councilors Corner Articles

January 2015

- Councilor's Corner: Susie Stevens
- Chief's Corner: Inclement Weather Driving Tips

February 2015

- Chief's Corner: Identity Theft Prevention Tips
- Volunteer Spotlight: Library Board Member: Caroline Berry

March 2015

- Chief's Corner: Common Violations
- Volunteer Spotlight: TBD

April 2015

- Chief's Corner: TBD
- Councilor's Corner: Charlotte Lehan

May 2015

- Chief's Corner: Bike Safety Tips
- Volunteer Spotlight: Development Review Board Panel A Chair

June 2015

- Chief's Corner: Summer Safety Tips
- Volunteer Spotlight: Planning Commission Chair

July/August 2015

- Chief's Corner: National Night Out
- Volunteer Spotlight: Development Review Board Panel B Chair

September 2015

- Chief's Corner: Back-to-School Safety
- Councilor's Corner: Julie Fitzgerald

October 2015

- Chief's Corner: Halloween Safety
- Volunteer Spotlight: Parks and Recreation Board Chair

November 2015

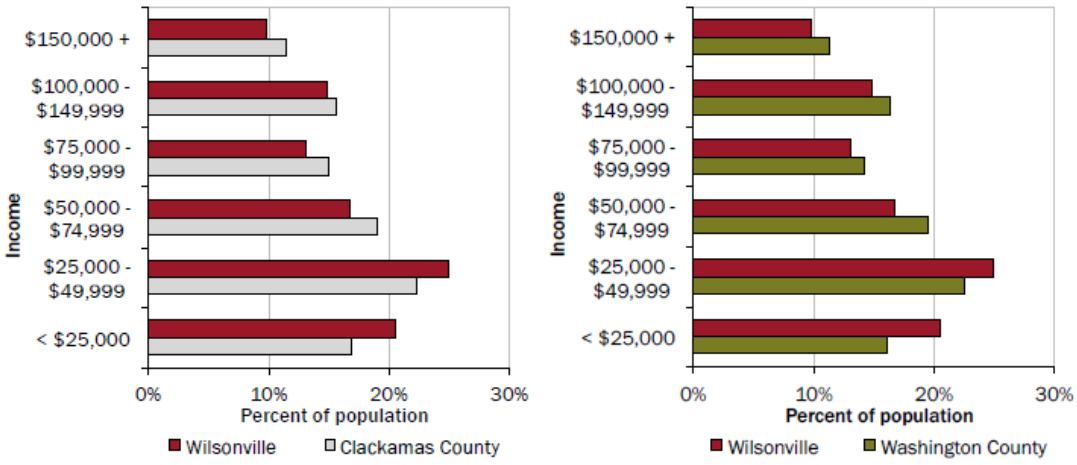
- Chief's Corner: TBD
- Councilor's Corner: Scott Starr

December 2015

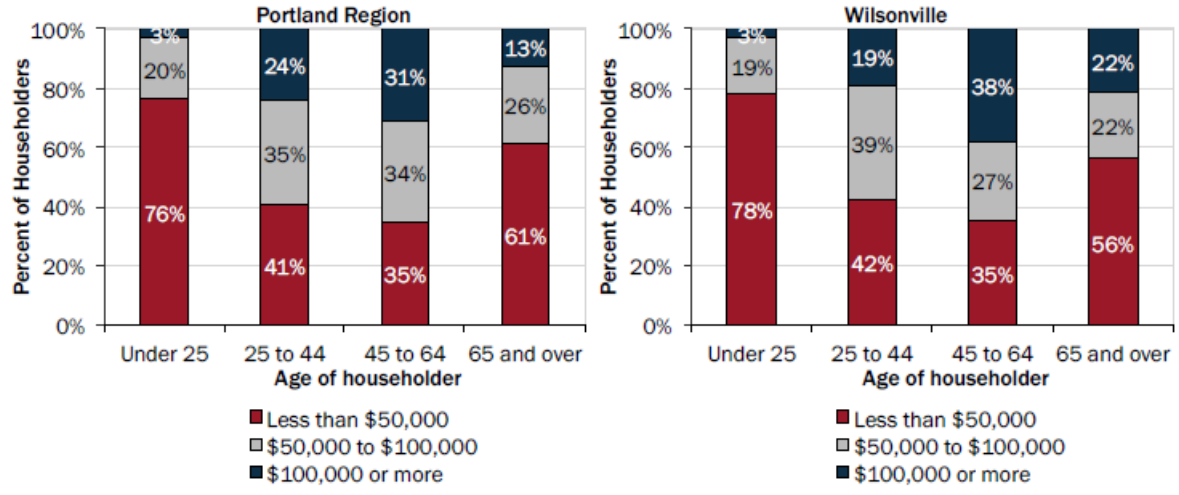
- Chief's Corner: Holiday Shopping Tips
- Volunteer Spotlight: TBD

I. Demographics Important Facts

- 62.8% of the total population is in the prime working ages of 20 - 64, higher than the national average of 52.9%.
- The median age in Wilsonville is 36.2 compared to 47.4 in the State of Oregon.
- Sex: 46.6% male and 53.4% female
- Race: 79.4% White, 12.1% Hispanic, 1.4% Black, 3.8% Asian, and 3.3% other
- The income per capita in 2011 was $30,187, well above the Oregon average of $26,561.
- Median household income in 2011 was $55,316, well above the Oregon average of $49,850.
- Wilsonville resident's educational attainment (population 25 and older) for those who have bachelor's degrees or higher is 25.9%, exceeding the Portland average of 22%.
- The median house value is $335,365.
- The median gross rent is $912 per month.



Source: American Community Survey 2007-2011, B19001.
Note: The income data was gathered in 2007-2011. Respondents were asked to report their income for the previous year. All incomes are reported in 2011 dollars.

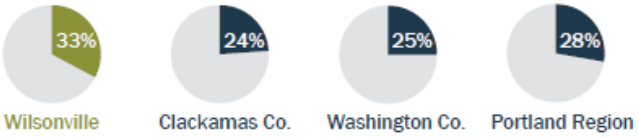


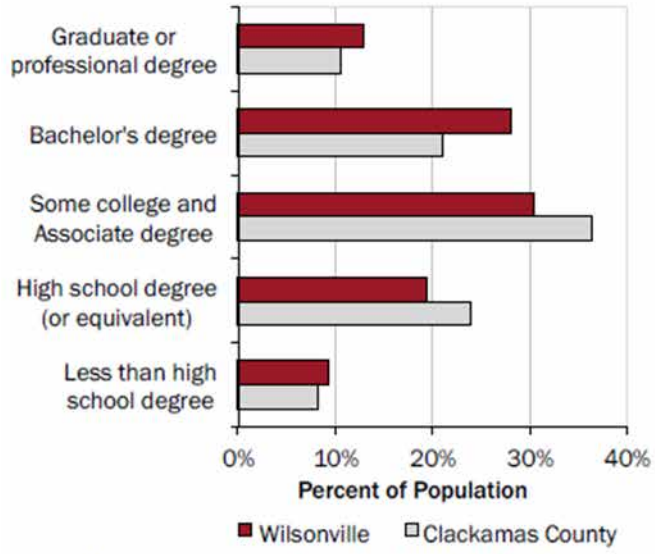
Source: 2007-2011 American Community Survey B19037

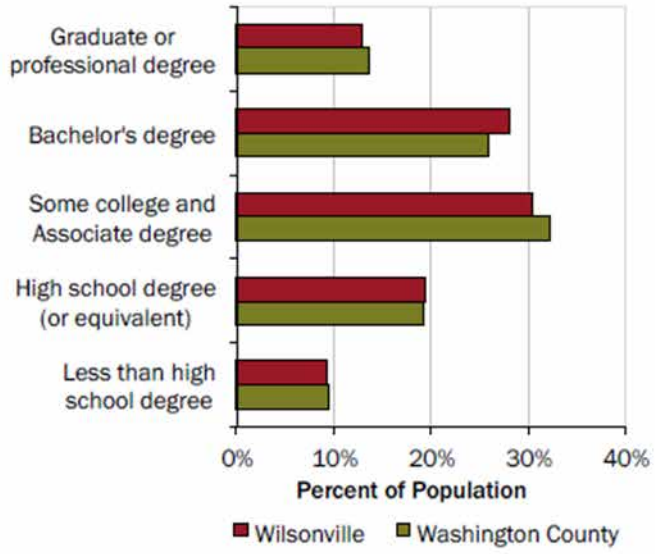
AVERAGE NUMBER OF PEOPLE PER HOUSEHOLD, 2010

Wilsonville	Clackamas Co.	Washington Co.	Portland Region
2.3	2.6	2.6	2.5

PERCENT OF HOUSEHOLDS THAT ARE SINGLE-PERSON, 2010







Source: American Community Survey 2007-2011 B15002

MEDIAN AGE, 2010

Wilsonville	Clackamas Co.	Washington Co.
36	41	35

PERCENT OF RESIDENTS WHO ARE 18-39 YEARS OLD, 2010

PERCENT OF WORKERS WHO COMMUTE IN, 2010

92%	93%	85%	92%
(16,029 out of 17,072)	(18,827 out of 20,142)	(10,221 out of 11,961)	(34,142 out of 37,034)
Wilsonville	Tualatin	Oregon City	Tigard

PERCENT OF WORKING RESIDENTS WHO COMMUTE OUT, 2010

83%	88%	86%	86%
(5,114 out of 6,157)	(9,501 out of 10,816)	(10,589 out of 12,329)	(17,917 out of 20,809)
Wilsonville	Tualatin	Oregon City	Tigard

AVERAGE PAY PER EMPLOYEE, 2011

Source: Oregon Employment Department, Quarterly Census of Employment and Wages

$54,534	$43,400	$56,600	$49,400
Wilsonville	Clackamas Co.	Washington Co.	Portland Region

6 out of Wilsonville's 10 largest employers are manufacturers.

WILSONVILLE JOBS BY SECTOR OF FIRM, 2011

1 square represents 100 jobs. Source: Oregon Employment Department, Quarterly Census of Employment and Wages

Manufacturing (4,600 jobs / 26%)
Wholesale Trade (2,300 jobs / 13%)
Other Industrial (1,600 jobs / 9%)
Retail Trade (1,900 jobs / 10%)
Other Services (6,300 jobs / 35%)
Government (1,100 / 6%)

AVERAGE PAY PER EMPLOYEE, WILSONVILLE, 2011

Source: Oregon Employment Department, QCEW

Manufacturing: $69,700
Wholesale Trade: $60,300
Other Industrial: $51,900
Retail Trade: $31,200
Other Services: $49,900
Government: $49,700

AVERAGE POPULATION GROWTH PER YEAR, 2000-2012

Wilsonville	Clackamas Co.	Washington Co.	Portland Region

POPULATION, 2012

Source: Portland State University, Population Research Center

20,515	381,680	542,845	1,672,970
Wilsonville	Clackamas Co.	Washington Co.	Portland Region

Subject	Wilsonville city, Oregon					
	Occupied housing units		Owner-occupied housing units		Renter-occupied housing units	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Occupied housing units	7,795	+/-308	3,673	+/-261	4,122	+/-312
HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2012 INFLATION-ADJUSTED DOLLARS)						
Less than $5,000	2.2%	+/-1.5	1.0%	+/-1.5	3.3%	+/-2.2
$5,000 to $9,999	5.3%	+/-2.0	3.0%	+/-2.4	7.3%	+/-3.3
$10,000 to $14,999	3.3%	+/-1.7	0.7%	+/-0.8	5.6%	+/-3.0
$15,000 to $19,999	4.8%	+/-1.8	1.3%	+/-1.0	8.0%	+/-3.5
$20,000 to $24,999	4.3%	+/-1.8	2.3%	+/-1.5	6.1%	+/-3.1
$25,000 to $34,999	9.3%	+/-2.8	4.5%	+/-2.5	13.5%	+/-4.9
$35,000 to $49,999	16.4%	+/-3.0	11.1%	+/-3.5	21.1%	+/-4.6
$50,000 to $74,999	17.3%	+/-3.0	15.7%	+/-3.5	18.6%	+/-4.6
$75,000 to $99,999	12.3%	+/-2.9	15.7%	+/-4.4	9.2%	+/-3.7
$100,000 to $149,999	15.3%	+/-2.7	26.8%	+/-4.6	5.0%	+/-2.6
$150,000 or more	9.6%	+/-2.2	18.0%	+/-3.7	2.2%	+/-2.3
Median household income (dollars)	55,443	+/-3,411	91,114	+/-10,407	37,342	+/-3,775
MONTHLY HOUSING COSTS						
Less than $100	0.0%	+/-0.4	0.0%	+/-0.9	0.0%	+/-0.8
$100 to $199	0.4%	+/-0.5	0.0%	+/-0.9	0.8%	+/-0.9
$200 to $299	0.7%	+/-0.6	0.9%	+/-1.0	0.5%	+/-0.6
$300 to $399	0.8%	+/-0.8	1.4%	+/-1.6	0.3%	+/-0.5
$400 to $499	1.8%	+/-1.0	3.8%	+/-2.0	0.0%	+/-0.8
$500 to $599	3.3%	+/-1.3	5.5%	+/-2.5	1.4%	+/-1.1
$600 to $699	3.8%	+/-1.1	5.5%	+/-2.0	2.2%	+/-1.3
$700 to $799	10.8%	+/-2.7	4.1%	+/-1.8	16.8%	+/-4.5
$800 to $899	11.5%	+/-2.9	3.4%	+/-1.7	18.7%	+/-5.2
$900 to $999	11.4%	+/-2.5	2.3%	+/-1.4	19.5%	+/-4.6
$1,000 to $1,499	20.3%	+/-3.7	9.7%	+/-2.8	29.8%	+/-6.3
$1,500 to $1,999	12.6%	+/-3.0	21.0%	+/-4.4	5.1%	+/-3.4
$2,000 or more	21.7%	+/-2.9	42.5%	+/-4.7	3.2%	+/-1.8
No cash rent	0.9%	+/-0.9	(X)	(X)	1.7%	+/-1.7
Median (dollars)	1,108	+/-70	1,777	+/-128	943	+/-32
MONTHLY HOUSING COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME IN THE PAST 12 MONTHS						
Less than $20,000	14.3%	+/-3.3	5.9%	+/-2.8	21.7%	+/-5.1
Less than 20 percent	0.0%	+/-0.4	0.0%	+/-0.9	0.0%	+/-0.8
20 to 29 percent	0.7%	+/-0.5	0.0%	+/-0.9	1.4%	+/-1.0
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30 percent or more	4.7%	+/-1.5	10.0%	+/-3.2	0.0%	+/-0.8
$75,000 or more	37.2%	+/-3.7	60.5%	+/-4.8	16.4%	+/-4.5
Less than 20 percent	23.8%	+/-3.0	33.8%	+/-4.4	14.8%	+/-4.1
20 to 29 percent	7.8%	+/-1.8	15.1%	+/-3.5	1.3%	+/-1.1
30 percent or more	5.6%	+/-1.8	11.6%	+/-3.5	0.3%	+/-0.5
Zero or negative income	0.4%	+/-0.3	0.0%	+/-0.9	0.8%	+/-0.7
No cash rent	0.9%	+/-0.9	(X)	(X)	1.7%	+/-1.7
PERCENT IMPUTED						
Tenure	0.6%	(X)	(X)	(X)	(X)	(X)
Monthly housing costs	(X)	(X)	28.3%	(X)	(X)	(X)
Gross rent	(X)	(X)	(X)	(X)	19.9%	(X)

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Subject	Wilsonville city, Oregon					
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20 to 29 percent	7.8%	+/-1.8	15.1%	+/-3.5	1.3%	+/-1.1
30 percent or more	5.6%	+/-1.8	11.6%	+/-3.5	0.3%	+/-0.5
Zero or negative income	0.4%	+/-0.3	0.0%	+/-0.9	0.8%	+/-0.7
No cash rent	0.9%	+/-0.9	(X)	(X)	1.7%	+/-1.7
PERCENT IMPUTED						
Tenure	0.6%	(X)	(X)	(X)	(X)	(X)
Monthly housing costs	(X)	(X)	28.3%	(X)	(X)	(X)
Gross rent	(X)	(X)	(X)	(X)	19.9%	(X)

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Subject	Wilsonville city, Oregon					
	Occupied housing units		Owner-occupied housing units		Renter-occupied housing units	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Occupied housing units	7,795	+/-308	3,673	+/-261	4,122	+/-312
HOUSEHOLD SIZE						
1-person household	34.5%	+/-3.4	21.0%	+/-4.2	46.6%	+/-5.8
2-person household	32.5%	+/-4.0	34.7%	+/-4.6	30.5%	+/-5.6
3-person household	16.1%	+/-3.1	19.4%	+/-4.2	13.2%	+/-4.6
4-or-more-person household	16.9%	+/-2.4	24.9%	+/-4.2	9.7%	+/-3.7
OCCUPANTS PER ROOM						
1.00 or less occupants per room	96.5%	+/-1.7	98.9%	+/-0.9	94.3%	+/-3.4
1.01 to 1.50 occupants per room	3.3%	+/-1.7	0.7%	+/-0.7	5.7%	+/-3.4
1.51 or more occupants per room	0.2%	+/-0.3	0.4%	+/-0.6	0.0%	+/-0.8
HOUSEHOLD TYPE (INCLUDING LIVING ALONE) AND AGE OF HOUSEHOLDER						
Family households	58.5%	+/-3.8	76.3%	+/-4.2	42.5%	+/-6.3
Married-couple family	44.7%	+/-3.6	66.6%	+/-4.8	25.1%	+/-5.5
Householder 15 to 34 years	9.9%	+/-2.6	7.3%	+/-2.6	12.2%	+/-4.6
Householder 35 to 64 years	25.6%	+/-3.0	43.1%	+/-5.2	10.0%	+/-3.7
Householder 65 years and over	9.2%	+/-1.7	16.3%	+/-3.3	2.9%	+/-1.3
Other family	13.8%	+/-3.1	9.7%	+/-3.0	17.4%	+/-5.2
Male householder, no wife present	2.6%	+/-1.4	0.8%	+/-0.9	4.2%	+/-2.5
Householder 15 to 34 years	0.6%	+/-0.7	0.0%	+/-0.9	1.0%	+/-1.3
Householder 35 to 64 years	1.9%	+/-1.2	0.8%	+/-0.9	2.9%	+/-2.3
Householder 65 years and over	0.2%	+/-0.3	0.0%	+/-0.9	0.3%	+/-0.5
Female householder, no husband present	11.2%	+/-2.6	8.9%	+/-3.0	13.2%	+/-4.4
Householder 15 to 34 years	2.8%	+/-1.7	0.4%	+/-0.7	5.0%	+/-3.0
Householder 35 to 64 years	8.2%	+/-2.3	8.2%	+/-2.8	8.2%	+/-3.6
Householder 65 years and over	0.2%	+/-0.3	0.4%	+/-0.5	0.0%	+/-0.8
Nonfamily households	41.5%	+/-3.8	23.7%	+/-4.2	57.5%	+/-6.3
Householder living alone	34.5%	+/-3.4	21.0%	+/-4.2	46.6%	+/-5.8
Householder 15 to 34 years	7.3%	+/-2.3	0.7%	+/-1.0	13.1%	+/-4.4
Householder 35 to 64 years	14.8%	+/-2.8	9.1%	+/-3.7	19.8%	+/-4.5
Householder 65 years and over	12.5%	+/-1.9	11.1%	+/-2.7	13.7%	+/-3.0
Householder not living alone	7.0%	+/-2.7	2.7%	+/-1.6	10.9%	+/-5.0
Householder 15 to 34 years	4.2%	+/-2.2	0.0%	+/-0.9	8.0%	+/-4.1
Householder 35 to 64 years	2.1%	+/-1.4	1.3%	+/-1.0	2.9%	+/-2.5
Householder 65 years and over	0.7%	+/-0.5	1.4%	+/-1.1	0.0%	+/-0.8
FAMILY TYPE AND PRESENCE OF OWN CHILDREN						
With related children under 18 years	30.3%	+/-3.0	36.6%	+/-4.7	24.7%	+/-5.0
With own children under 18 years	29.1%	+/-3.1	35.5%	+/-4.6	23.5%	+/-5.1
Under 6 years only	7.2%	+/-1.9	5.6%	+/-2.3	8.6%	+/-3.3
Under 6 years and 6 to 17 years	5.1%	+/-1.6	5.9%	+/-2.6	4.4%	+/-2.6
6 to 17 years only	16.8%	+/-2.8	23.9%	+/-4.2	10.5%	+/-3.9
No own children under 18 years	1.2%	+/-0.8	1.2%	+/-1.0	1.2%	+/-1.2
No related children under 18 years	69.7%	+/-3.0	63.4%	+/-4.7	75.3%	+/-5.0
PERCENT IMPUTED						
Tenure	0.6%	(X)	(X)	(X)	(X)	(X)

Source: U.S. Census Bureau, 2008-2012 American Community Survey

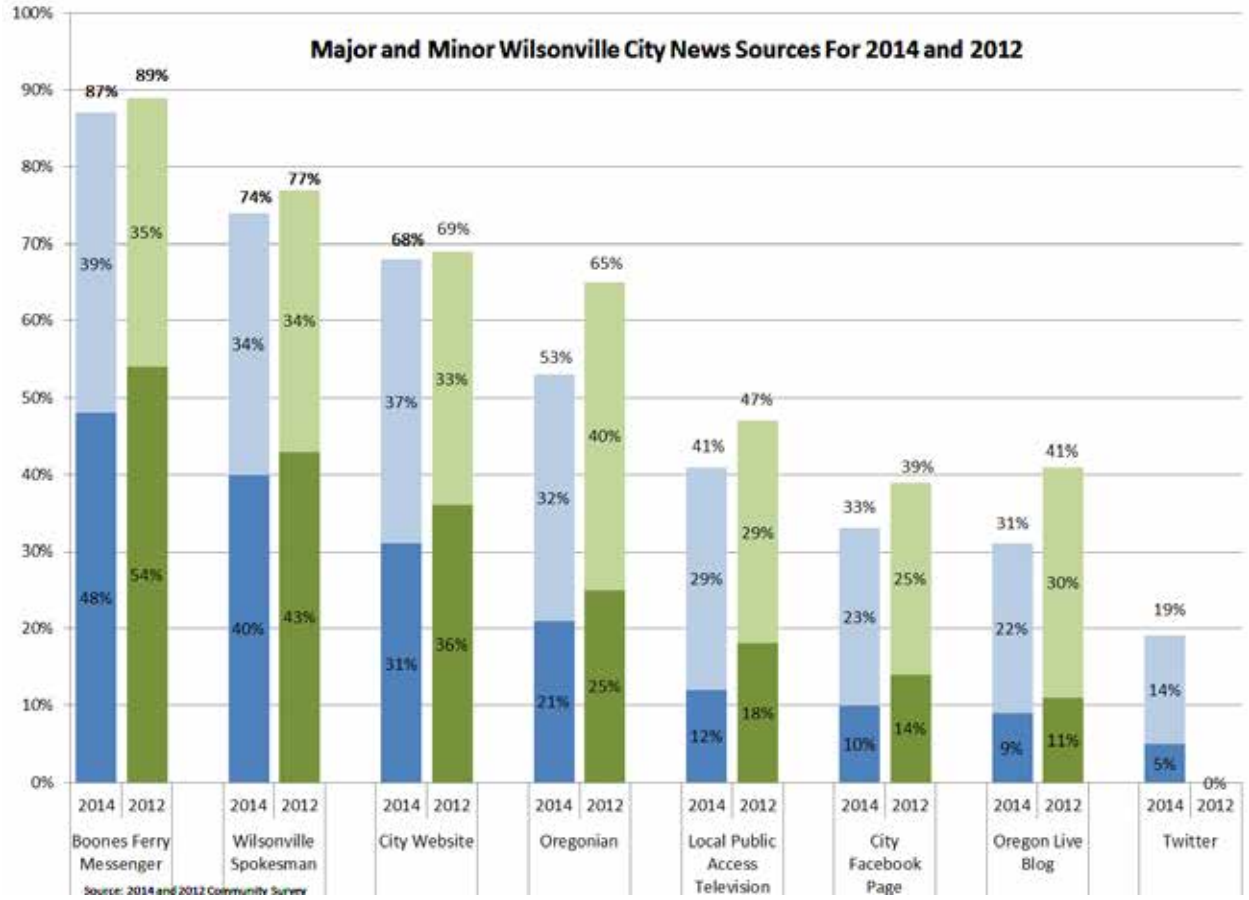
Subject	Wilsonville city, Oregon					
	Total		Male		Female	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population 18 to 24 years	1,926	+/-340	1,062	+/-262	864	+/-220
Less than high school graduate	14.9%	+/-6.0	20.8%	+/-9.1	7.6%	+/-6.9
High school graduate (includes equivalency)	21.3%	+/-7.2	12.6%	+/-6.8	31.9%	+/-12.3
Some college or associate's degree	41.7%	+/-9.1	40.8%	+/-13.3	42.9%	+/-16.1
Bachelor's degree or higher	22.1%	+/-9.1	25.8%	+/-15.7	17.5%	+/-9.3
Population 25 years and over	13,186	+/-445	5,753	+/-351	7,433	+/-324
Less than 9th grade	2.9%	+/-1.2	3.6%	+/-1.5	2.3%	+/-1.3
9th to 12th grade, no diploma	5.8%	+/-1.8	4.8%	+/-2.4	6.5%	+/-1.9
High school graduate (includes equivalency)	20.8%	+/-2.6	21.1%	+/-3.8	20.5%	+/-3.2
Some college, no degree	25.0%	+/-3.1	21.6%	+/-3.9	27.6%	+/-3.9
Associate's degree	7.0%	+/-1.7	6.7%	+/-2.6	7.2%	+/-2.1
Bachelor's degree	25.9%	+/-3.3	29.2%	+/-4.6	23.2%	+/-3.9
Graduate or professional degree	12.8%	+/-2.1	12.9%	+/-2.8	12.7%	+/-2.5
Percent high school graduate or higher	91.4%	+/-2.4	91.6%	+/-2.8	91.2%	+/-2.5
Percent bachelor's degree or higher	38.6%	+/-3.4	42.1%	+/-4.2	35.9%	+/-4.0
Population 25 to 34 years	3,173	+/-387	1,451	+/-246	1,722	+/-235
High school graduate or higher	89.9%	+/-3.8	86.6%	+/-5.5	90.9%	+/-4.8
Bachelor's degree or higher	32.7%	+/-7.9	31.4%	+/-9.3	33.9%	+/-9.2
Population 35 to 44 years	2,673	+/-373	1,187	+/-241	1,486	+/-217
High school graduate or higher	89.5%	+/-5.7	89.6%	+/-7.8	89.4%	+/-5.6
Bachelor's degree or higher	38.1%	+/-7.8	32.8%	+/-11.1	42.3%	+/-8.9
Population 45 to 64 years	4,656	+/-410	2,022	+/-260	2,634	+/-275
High school graduate or higher	93.0%	+/-3.4	92.4%	+/-4.2	93.4%	+/-3.7
Bachelor's degree or higher	41.8%	+/-5.5	48.7%	+/-7.2	36.6%	+/-7.3
Population 65 years and over	2,684	+/-262	1,093	+/-186	1,591	+/-178
High school graduate or higher	92.2%	+/-3.7	96.1%	+/-3.7	89.6%	+/-5.4
Bachelor's degree or higher	40.6%	+/-6.6	54.4%	+/-8.5	31.1%	+/-8.2
POVERTY RATE FOR THE POPULATION 25 YEARS AND OVER FOR WHOM POVERTY STATUS IS DETERMINED BY EDUCATIONAL ATTAINMENT LEVEL						
Less than high school graduate	25.0%	+/-21.8	27.5%	+/-23.8	22.8%	+/-21.3
High school graduate (includes equivalency)	15.0%	+/-5.7	9.5%	+/-6.3	20.8%	+/-9.5
Some college or associate's degree	5.5%	+/-2.7	2.4%	+/-2.4	7.8%	+/-4.5
Bachelor's degree or higher	3.7%	+/-2.3	3.3%	+/-3.3	4.1%	+/-3.1
MEDIAN EARNINGS IN THE PAST 12 MONTHS (IN 2012 INFLATION-ADJUSTED DOLLARS)						
Population 25 years and over with earnings	40,874	+/-3,973	45,120	+/-5,067	34,573	+/-4,297
Less than high school graduate	21,667	+/-7,782	21,987	+/-10,129	19,375	+/-12,980
High school graduate (includes equivalency)	32,424	+/-5,785	41,201	+/-4,910	21,098	+/-7,373
Some college or associate's degree	32,637	+/-5,236	38,220	+/-3,889	26,283	+/-3,959
Bachelor's degree	61,364	+/-8,378	70,964	+/-8,306	49,698	+/-6,782
Graduate or professional degree	55,551	+/-13,285	66,827	+/-17,776	52,236	+/-8,662
PERCENT IMPUTED						
Educational attainment	4.3%	(X)	(X)	(X)	(X)	(X)

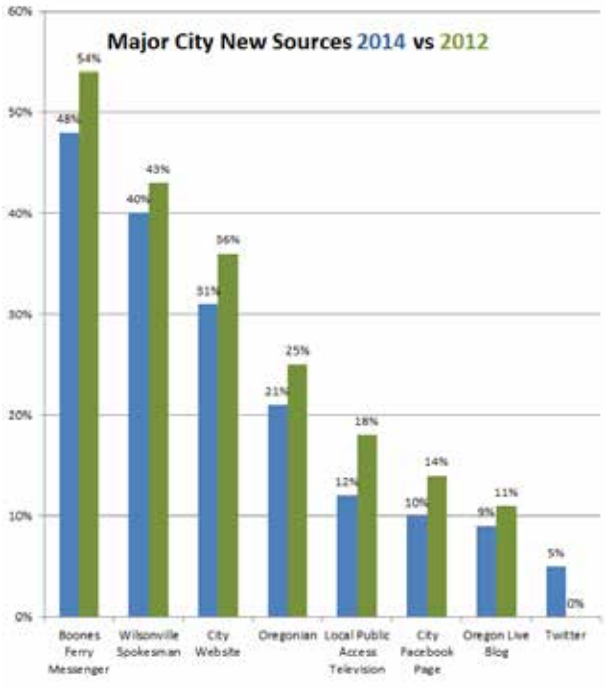
Source: U.S. Census Bureau, 2008-2012 American Community Survey

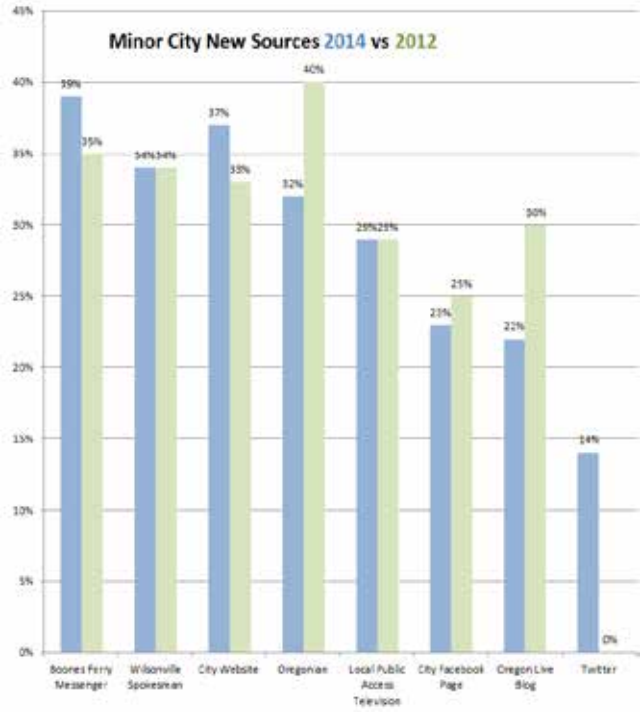
Subject	Wilsonville city, Oregon					
	Total		Male		Female	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total population	19,262	+/-203	9,142	+/-368	10,120	+/-366
AGE						
Under 5 years	5.5%	+/-1.3	5.9%	+/-1.9	5.2%	+/-1.5
5 to 9 years	6.4%	+/-1.2	9.2%	+/-2.0	3.9%	+/-1.4
10 to 14 years	5.7%	+/-1.2	6.4%	+/-1.9	5.1%	+/-1.5
15 to 19 years	6.2%	+/-1.4	7.4%	+/-1.9	5.1%	+/-1.6
20 to 24 years	7.7%	+/-1.6	8.2%	+/-2.6	7.3%	+/-2.0
25 to 29 years	7.9%	+/-1.6	7.3%	+/-1.9	8.5%	+/-1.9
30 to 34 years	8.6%	+/-1.7	8.6%	+/-2.1	8.5%	+/-1.9
35 to 39 years	8.1%	+/-1.6	6.3%	+/-2.0	9.7%	+/-2.0
40 to 44 years	5.8%	+/-1.3	6.7%	+/-2.2	5.0%	+/-1.5
45 to 49 years	7.7%	+/-1.8	7.3%	+/-2.2	8.1%	+/-1.9
50 to 54 years	7.7%	+/-1.2	7.1%	+/-1.5	8.3%	+/-1.6
55 to 59 years	4.8%	+/-1.2	3.5%	+/-1.5	5.9%	+/-1.6
60 to 64 years	4.0%	+/-0.9	4.2%	+/-1.1	3.7%	+/-1.2
65 to 69 years	3.4%	+/-0.8	3.1%	+/-1.0	3.7%	+/-1.3
70 to 74 years	2.9%	+/-0.7	2.8%	+/-1.1	3.0%	+/-0.9
75 to 79 years	2.9%	+/-1.0	2.8%	+/-1.2	3.0%	+/-1.1
80 to 84 years	2.3%	+/-0.7	1.8%	+/-0.9	2.7%	+/-1.0
85 years and over	2.5%	+/-0.9	1.4%	+/-1.1	3.4%	+/-1.2
SELECTED AGE CATEGORIES						
5 to 14 years	12.1%	+/-1.5	15.5%	+/-2.4	9.0%	+/-1.8
15 to 17 years	3.9%	+/-1.0	4.0%	+/-1.3	3.9%	+/-1.3
18 to 24 years	10.0%	+/-1.8	11.6%	+/-2.8	8.5%	+/-2.2
15 to 44 years	44.3%	+/-2.0	44.5%	+/-2.9	44.1%	+/-2.5
16 years and over	81.4%	+/-2.1	77.2%	+/-3.0	85.2%	+/-2.6
18 years and over	78.5%	+/-2.1	74.5%	+/-2.9	82.0%	+/-2.8
60 years and over	17.9%	+/-1.6	16.2%	+/-2.1	19.5%	+/-2.2
62 years and over	16.2%	+/-1.5	14.4%	+/-2.0	17.8%	+/-1.9
65 years and over	13.9%	+/-1.3	12.0%	+/-2.0	15.7%	+/-1.8
75 years and over	7.7%	+/-1.3	6.1%	+/-1.8	9.1%	+/-1.7
SUMMARY INDICATORS						
Median age (years)	36.2	+/-1.6	34.0	+/-1.6	39.0	+/-1.7
Sex ratio (males per 100 females)	90.3	+/-6.6	(X)	(X)	(X)	(X)
Age dependency ratio	55.0	+/-4.9	(X)	(X)	(X)	(X)
Old-age dependency ratio	21.6	+/-2.4	(X)	(X)	(X)	(X)
Child dependency ratio	33.4	+/-4.1	(X)	(X)	(X)	(X)
PERCENT IMPUTED						
Sex	0.0%	(X)	(X)	(X)	(X)	(X)
Age	1.3%	(X)	(X)	(X)	(X)	(X)

Source: U.S. Census Bureau, 2008-2012 American Community Survey

J. 2012 and 2014 Community Survey —Major and Minor News Sources







K. 2015-2017 City Council Goals

The City Council's goals will be added here when in final form.

Attachment B — New Initiatives for Additional Consideration

2/19/2015

A. The Boones Ferry Messenger — Improvements/Modifications

- o New branding (logo, tag line and branding guide).
- o "Person-on-the-street" Column/Q & A
- o Display as an e-magazine
- o develop a "Style Manual"
- o Begin using infographics
- o Feature articles on area business clusters

B. City Unified Event Calendar

C. Increase and Improve Use of Online Community Engagement and Public Participation Tools such as social media and tools like Mind Mixer.

D. Review Social Media policies and procedures to determine a way to engage in two-way communication with community members through social media tools like Facebook, Twitter, Instagram and other social media platforms.

E. Begin testing the use of online advertising through Facebook, Twitter, Google Adwords and other online marketing tools.

F. Develop Key Performance Indicators (KPI) for Communications

G. Youth Leadership Academy

H. New Resident Welcome Packet

I. Video Productions

- o Public Video Studio
- o Develop promotional videos
- o Road construction projects
- o Stormwater management and new master plan
- o Welcome video for new residents
- o SMART to encourage youth ridership

J. Establish a Stand-Alone Wilsonville Tourism Website with new Community Calendar

DRAFT

Wilsonville Key Performance Areas and Council Goals
City of Wilsonville
2015-2017

Initiative	Problem/Opportunity	Success
Open the Willamette River to Commercial and Recreational Opportunities	Identify land available for purchase that is contiguous to existing public land and incorporate assessment of commercial and recreational opportunities in Parks Master Plan.	· Easy access to river for Parks space · Food equipment concession – recreational programming · River walk · Connection to Memorial Park · Potential boat tie up area
Launch French Prairie bike bridge task force	The community lacks secondary access, bike and emergency access across the river.	A complete report with recommendations that would be made to all parties, but particularly back to Council within two years.
Interconnect our parks, trails and sidewalks	The City lacks usable paths and bikeways and walkways due to lack of connection among different pieces in different parts of town.	Development of a strategic plan for interconnecting paths, plans and walkways and beginning implementation of that strategic plan where feasible.
Convene a meeting to lobby ODOT regarding the Bypass – update the traffic counts	There is not an updated analysis of the impacts of Wilsonville Road of the change planned for Dundee Bypass.	Empanel a committee that includes the City, Schools, TVF&R, Ladd Hill, Sheriffs et al to discuss the impacts and identify their concerns and then meet with ODOT to see if concerns can be addressed.
Pursue Town Center Master Plan	Underutilization, vacant land, traffic problems, poor layout and business visibility, parking lots with no landscaping.	Redevelopment begins with communicating with the company/owners and helping them understand the economic benefits to a redevelopment plan. Bring folks along to create a vibrant, fully occupied, visually attractive Town Center with community spaces (and incorporating the park)
Advocate for an Auxiliary Lane on I5	Excessive congestion in Wilsonville resulting from the South Brown I5 Bridge slow down.	Lobby ODOT to schedule and fund a feasibility and preliminary design study.

Plan an "Old Town Escape" to provide connection to west side commercial areas.	Traffic congestion in Old Town and a need for connectivity to Old Town to other parts of the City and a link for the entire transportation network.	Better access to and from businesses in old town – easier access to I5, less traffic on Wilsonville Road and a safer Wilsonville Road/Boones Ferry interchange. Determine design phase for alignment and negotiate with property owners.
Update the Parks Master Plan to include new and developing areas	In the past development has occurred without taking into consideration connectivity to adjacent areas.	Identify and preserve connections when new development occurs.
Articulate what the City does to support vulnerable residents and assess efforts to determine additional measures as appropriate		
Initiate a Wayfinding program		
Name bikeways and mile markers	Wilsonville bike and pedestrian pathways are poorly marked and lacking in identification which leads to underutilization. Opportunity – potentially integrate with Wayfinding initiative.	Clearly delineated pathways with names and mileage to destinations. Budget, schedule, survey other communities for examples and best practices.
Increase Willamette Valley view points in Memorial Park Trails	We have no viewpoints in Memorial Park except the Boat Dock.	Multiple river viewpoints in Memorial Park addressed in the Memorial Park Master Plan.
Bring funding for taking the Aquatic/Recreation Center to a vote		

DRAFT

Key Performance Areas and Critical Initiatives

Quality Education: Wilsonville creates a life-long learning environment that prepares productive, successful citizens.

Fiscal Discipline: Wilsonville exercises fiscal discipline through strategic investments, adequate reserves, sound financial plans and policies with innovative service delivery.

Environmental Stewardship: The most important things for life are clean air, water and soil. Seven generations from now the people living in Wilsonville are thankful that prior decisions and actions preserved these elements as well as our natural systems.

Clear Vision and Community Design: Wilsonville's clear vision and community design engages citizens to ensure a cohesive community with a high quality of life, physically, economically and socially.

Thoughtful Land Use: Wilsonville balances land uses to create a sense of community that preserves our historical identity.

Well-Maintained Infrastructure: Wilsonville is innovative in proactively building and maintaining clean, attractive and cost effective infrastructure.

Community Amenities and Recreation: Wilsonville has opportunities and facilities for leisure activities, entertainment and social interaction that interest people of all ages.

Welcoming Engaged and Satisfied Residents: The City of Wilsonville embraces diversity and engages and communicates with residents, and responds to changing expectations as technology evolves.

Multi-Modal Transportation Network: Wilsonville's multi-modal transportation network is safe, inviting and easy to navigate, connecting the City's neighborhoods to each other and to its commercial areas, employment centers and public and recreational facilities.

Safe, Healthy and Aesthetically Pleasing Community: The ideas of public safety, healthy living and aesthetic values are intertwined in all decision making.

Economic Development: Wilsonville's economic development promotes an environment that enables existing and new business – small, medium and large – to flourish!

Regional Awareness and Influence: Wilsonville is proactively involved at county, regional, state and federal levels to influence decisions that impact the City.

CITY COUNCIL ROLLING SCHEDULE

Board and Commission Meetings 2015

Items known as of 02/09/15

February

2/23	Monday	6:30 p.m.	DRB Panel B	Council Chambers

March

DATE	DAY	TIME	MEETING	LOCATION
3/2	Monday	7 p.m.	Council Meeting	Council Chambers
3/9	Monday	6:30 p.m.	DRB Panel A	Council Chambers
3/11	Wednesday	1 p.m.	Wilsonville Community Seniors Inc.	Community Center
3/11	Wednesday	6 p.m.	Planning Commission	Council Chambers
3/12	Thursday	6:30 p.m.	Parks and Recreation	Parks & Recreation Admin Building
3/16	Monday	7 p.m.	Council Meeting	Council Chambers
3/23	Monday	6:30 p.m.	DRB Panel B	Council Chambers
3/25	Wednesday	6:30 p.m.	Library Board	Library

COMMUNITY EVENTS

Daddy Daughter Dance: Friday, February 27 **SOLD OUT**

Volunteer Planting and Tree Care Event
Saturday, February 28 – Forest Shelter
Join community members of all ages and abilities in this annual tree planting and invasive plant removal opportunities. The Friends of Trees helpful crew leaders will guide small groups of volunteers. Dress appropriately for the weather conditions. Tools and snacks provided! Contact Jenny from Friends of Trees at 503-595-0213 to RSVP or for more information.

Community Garden Open Registration
Thursday March 19 -- 8:00 A.M. Park & Recreation Administrative Offices

CITY OF WILSONVILLE
CITY COUNCIL MEETING MINUTES

A special meeting of the Wilsonville City Council was held at the Wilsonville City Hall beginning at 7:30 p.m. on Thursday, January 22, 2015. Mayor Knapp called the meeting to order at 7:45 p.m., followed by roll call and the Pledge of Allegiance.

The following City Council members were present:

Mayor Knapp
Councilor Starr
Councilor Fitzgerald
Councilor Stevens
Councilor Lehan

Staff present included:

Bryan Cosgrove, City Manager
Jeanna Troha, Assistant City Manager
Mike Kohlhoff, City Attorney
Sandra King, City Recorder
Nancy Kraushaar, Community Development Director
Chris Neamtzu, Planning Director
Susan Cole, Finance Director
Kristin Retherford, Economic Development Manager
Jon Gail, Community Relations Coordinator
Miranda Bateschell, Planner
Eric Mende, Engineer

Motion to approve the order of the agenda.

Motion: Councilor Starr moved to approve the order of the agenda. Councilor Fitzgerald seconded the motion.

Vote: Motion carried 5-0.

MAYOR'S BUSINESS

A. Reappoint Mary Fierros Bower to the Development Review Board Panel A

Motion: Councilor Fitzgerald moved to reappoint Mary Bower to the Development Review Board Panel A for a term beginning January 22, 2015 and ending December 31, 2016. Councilor Lehan seconded the motion.

Vote: Motion carried 5-0.

B. Appointment of Andrew Karr to the Budget Committee to fill the unexpired term of Glenn Ohl.

Motion: Councilor Starr moved to appoint Andrew Karr to the Budget Committee to fill the unexpired term of Glenn Ohl. Councilor Fitzgerald seconded the motion.

Vote: Motion carried 5-0

C. The Mayor announced meetings scheduled for the next two weeks, and listed the regional meetings he attended on behalf of the City. Mayor Knapp indicated he had been elected chair of JPACT to represent the cities of Clackamas County. He distributed a draft letter for Council consideration and comment from Metro JPACT Chair Craig Dirksen seeking local jurisdictions to sign onto a letter to Oregon's federal delegation urging action to stabilize the Highway Trust Fund with new user-fee revenues and provide more control of federal dollars.

CITIZEN INPUT & COMMUNITY ANNOUNCEMENTS

This is an opportunity for visitors to address the City Council on items ***not*** on the agenda. It is also the time to address items that are on the agenda but not scheduled for a public hearing. Staff and the City Council will make every effort to respond to questions raised during citizens input before tonight's meeting ends or as quickly as possible thereafter. Please limit your comments to three minutes.

Karen and Keith Kaiser, Advance Rad, expressed concern about the number of traffic accidents that occur at the "S" curves on Advance Road near their home and the potential for an increase in accidents after development occurs at Frog Pond/Advance Road with the additional number of bicycle riders and joggers. To help reduce the number of accidents, they offered to donate property to improve the road, and stated since the location is in the County, City police does not respond.

Mr. Kohlhoff suggested having staff compare the accident prone area to the road standard matrix and provide the findings to the County along with some key questions.

Victoria VonTagen, Cascara Court, did not want to see the Frog Pond/Advance Road area be developed in a thoughtless manner and suggested filling the empty offices and buildings before extending development into the country areas. She felt the decisions had already been made.

The Mayor assured Ms. VonTagen much planning and coordination was needed prior to any development occurring, and that appropriate planning needed to take place to forego problems. Mayor Knapp pointed out the number of vacant commercial buildings had decreased the past two years since the turnaround.

Lyneil Vandermolen, Stafford Road, was concerned about eminent domain, and thought final decisions had already occurred. Ms. Vandermolen spoke against sprawl and not respecting the current Town Center development.

Councilor Starr explained the state mandate of having a 20-year growth plan for the City and that any development in the area would take years of planning before development occurred.

Mayor Knapp said the city council has never used eminent domain to take property.

Lori Loen, Wagner Street, spoke against high density and homes on small lots, and the demand for lots of 10,000 square feet. She urged using small developers and builders to build high end custom homes rather than production builders.

Debi Laue, Wilsonville Road, said her experience as a real estate broker showed there was demand for lots greater than 10,000 square feet, and that home buyers want yards and homes with large lots. She suggested allowing a variety of single family home lot sizes in the Frog Pond area.

Cathy Ericson, Landover resident, stated her experience as the PTA president at Wood Middle School showed that homeowners were more invested in the schools and community. She thought a majority of people wanted low density and large lots and homes with backyards.

COUNCILOR COMMENTS, LIAISON REPORTS & MEETING ANNOUNCEMENTS

Council President Starr – (Park & Recreation Advisory Board Liaison) reported the response to the online survey posed by the Parks and Recreation Department yielded 617 responses. The preferred concept plan for redeveloping Memorial Park will be shown in February.

Councilor Fitzgerald – (Development Review Panels A & B Liaison) announced the next meeting date of DRB Panel-B, and that DRB Panel-A continued the decision on the Ridder House offices conditional use permit at the request of the applicant.

Councilor Stevens – (Library Board and Wilsonville Seniors Liaison) spoke about the fire in the book drop that occurred in the Library. The Wilsonville Seniors selected two of their board members to sit on the Transportation Task Force, and the Oregon Zoo will bring its "animal mobile" to the Community Center in March.

Councilor Lehan– (Planning Commission and CCI Liaison) stated at their last meeting the Commission received a report on Metro's Climate Smart initiative, and they will discuss transportation performance measures at their February meeting.

CONSENT AGENDA

Mr. Kohlhoff read the Consent Agenda items for the record.

A. Adopt 2015-16 State Legislative Agenda

Motion: Councilor Fitzgerald moved to approve the Consent Agenda. Councilor Starr seconded the motion.

Vote: Motion carried 5-0.

PUBLIC HEARING

Mr. Kohlhoff read the title of Ordinance No. 766 for the record and noted the item was to be continued to date certain of February 2, 2015 to allow time to present the matter to the Council in a work session.

A. **Ordinance No. 766** 1st Reading – *To be continued to date certain of February 2, 2015*
An Ordinance Of The City Of Wilsonville Adopting The 2014 Update To The Wastewater Collection System Master Plan And Replacing The 2001 Wastewater Collection System Master Plan.

Motion: Councilor Stevens moved to continue the public hearing on Ordinance No. 766 to a date certain of February, 2, 2015. Councilor Lehan seconded the motion.

Vote: Motion carried 5-0.

NEW BUSINESS

A. **Resolution No. 2493**
A Resolution Of The City Of Wilsonville Authorizing The City Manager To Transfer Title Of The Property Located At 11650 SW Tooze Road To The City's Urban Renewal Agency.

The title of Resolution No. 2493 was read into the record by the City Attorney

Ms. Retherford presented the staff report. In 2006 the City, through its Urban Renewal Agency, acquired property located at 11650 SW Tooze Road (tax lot 3S1W15 01100) for a new west-side primary school in Villebois. This acquisition is identified as a project in the West Side Urban Renewal Plan, and is part of an agreement between the West Linn-Wilsonville School District to exchange 10 acres of City-owned land in the Villebois area for 10 acres of District-owned land east of the City at Advance Road so that the District can construct a primary school and the City can construct sports fields.

Subsequent to this purchase, the proposed school site was relocated to the east side of the Villebois neighborhood and the Urban Renewal Agency acquired an alternate school site in 2011. This change in location was due to the slow-down in the economy which affected the pace of development in the Villebois and the installation of necessary infrastructure. Meeting the District's schedule for opening the school at the original location would have required several million dollars of public investment to expedite the installation of critical infrastructure. Relocating the school to an area that was already served with much of the needed infrastructure became a more cost-effective and expeditious option.

While this property was purchased by the Urban Renewal Agency using urban renewal funds, the authorizing resolution, URA Resolution No. 144, allowed title of the acquired property to be vested with the City of Wilsonville. At the time of this acquisition, it was anticipated that the City would be exchanging this property for property owned by the West Linn-Wilsonville

School District and it made sense that title be taken in by the City as party to this anticipated future exchange.

Given that circumstances have changed over the years and this property is no longer the subject of an exchange agreement, it is appropriate to transfer title of this property to the Urban Renewal Agency. The original acquisition funds were from the West Side Urban Renewal Area and future sale proceeds should revert to this urban renewal area as program income. Conveying title to the Urban Renewal Agency will streamline accounting efforts related to a future sale and capture of program income, as well as annexation processes, land use activities, and property disposition efforts.

Mayor Knapp noted this did not change the percentage of city land contained in the urban renewal areas.

Motion: Councilor Stevens moved to approve Resolution No. 2493. Councilor Lehan seconded the motion.

Vote: Motion carried 5-0.

B. **Resolution No. 2510**
A Resolution Of The City Council Authorizing Participation In The Willamette River Water Treatment Plant Master Plan Update And Establishing The City's Maximum Financial Contribution To The Plan.

The title of Resolution No. 2510 was read into the record by the City Attorney

Mr. Mende presented the staff report. Council has been previously briefed on the ongoing coordination efforts between the City of Wilsonville, the Tualatin Valley Water District (TVWD), the City of Hillsboro, and other partners pertaining to the use of future expansion of the Willamette River Water Treatment Plant as a regional facility. That coordination effort includes joint participation in a master plan update to determine the scope, costs, and timing for potential expansion of the existing facility (Lower Site) as well as the scope, cost, and timing for potential construction of a new facility (Upper Site).

Based on direction from Council, the City Manager executed a Memorandum of Understanding (MOU) with TVWD in October 2014 that outlined the City's participation, including cost share percentages for various Master Plan task items which are primarily related to the Lower Site. At that time, the City's cost share was assumed to not exceed $100,000 as was established in the MOU.

Subsequently, TVWD conducted a formal Request for Proposal process with active participation by Wilsonville and the other partners. Carollo Engineers was unanimously selected as the most qualified consultant. The initial proposed cost was approximately $2.1M. Negotiations conducted in November and December reduced the final cost to $967,552 primarily by eliminating proposed scope additions that provided for more detailed analyses and evaluations

than what the review team felt was necessary. Wilsonville's resulting cost share (per the formula in the MOU) is $112,647 which requires City Council authorization.

Staff believes the $112,647 Wilsonville share represents a reasonable cost for the work to be performed. Staff also feels some of the proposed scope items that were deleted have potential merit, but we will not know if they are useful until other preliminary work is done. Staff is therefore requesting Council authorize a small (approximately 6.5 percent) contingency above the $112,647 for a total authorization of $120,000 to provide staff with the flexibility to conduct this work, if needed.

An updated master plan will establish the scope, costs, and timing of short term and long term expansion of the Water Treatment Plant. The master plan will identify treatment plant improvements needed to serve future growth of the City. The updated master plan will also define what is needed for the Willamette Water Supply Program's partners to provide long term water delivery. All of the information will be used to formulate future agreements among multiple partners for the treatment plant, including what the City's future role might be as a primary owner of the existing plant.

Motion: Councilor Lehan moved to approve Resolution No. 2510. Councilor Starr seconded the motion.

Vote: Motion carried 5-0.

CITY MANAGER'S BUSINESS

Mr. Cosgrove said to implement the new Council Goals the management team will need to get together to prepare departmental work plans. He expected to bring the finalized Goals to Council the second meeting in March.

LEGAL BUSINESS - There was no report.

ADJOURN

Mayor Knapp adjourned the meeting at 8:45 p.m.

Respectfully submitted,

_____
Sandra C. King, MMC, City Recorder

ATTEST:

_____
Tim Knapp, Mayor

CITY OF WILSONVILLE
CITY COUNCIL MEETING MINUTES

A regular meeting of the Wilsonville City Council was held at the Wilsonville City Hall beginning at 7:00 p.m. on Monday, February 2, 2015. Mayor Knapp called the meeting to order at 7:03 p.m., followed by roll call and the Pledge of Allegiance.

The following City Council members were present:

Mayor Knapp
Councilor Starr
Councilor Fitzgerald
Councilor Stevens
Councilor Lehan

Staff present included:

Bryan Cosgrove, City Manager
Jeanna Troha, Assistant City Manager
Mike Kohlhoff, City Attorney
Sandra King, City Recorder
Nancy Kraushaar, Community Development Director
Mark Ottenad, Government Affairs Director
Stephan Lashbrook, SMART Director
Jon Gail, Community Relations Coordinator
Mike Ward, City Engineer

Motion to approve the order of the agenda.

Motion: Councilor Starr moved to approve the order of the agenda. Councilor Stevens seconded the motion.

Vote: Motion carried 5-0.

MAYOR'S BUSINESS

Mayor Knapp reported on the meetings scheduled for the next few weeks, and talked about the New Partners for SMART Growth Conference he and members of the DRB and Planning Commission recently attended. The Mayor was particularly interested in the technology applications many cities are using across the country and how they may be used in Wilsonville.

COMMUNICATIONS

A. Report from the Office of Congressman Kurt Schrader by Whitlee Preim-Siddon, District Aide (staff – Ottenad)

Mr. Ottenad introduced Whitlee Preim-Siddon, Field Office Aid for Congressman Schrader. Ms. Preim-Siddon spoke about the legislative issues the Congressman has been involved with at the federal level.

Mayor Knapp invited the members of Scout Troop 528 to introduce themselves, and speak about the merit badge they were working toward. Scout member Moore introduced the leaders and members of his troop.

CITIZEN INPUT & COMMUNITY ANNOUNCEMENTS

This is an opportunity for visitors to address the City Council on items ***not*** on the agenda. It is also the time to address items that are on the agenda but not scheduled for a public hearing. Staff and the City Council will make every effort to respond to questions raised during citizens input before tonight's meeting ends or as quickly as possible thereafter. Please limit your comments to three minutes.

Jake Schwein introduced the new community center "Heart of the City" which provides a holistic approach in providing resources and services to those in the community who need assistance. A short video was shown which described the vision, initiatives and partners of Heart of the City Center.

Councilor Fitzgerald asked if there was a way to learn about the accomplishments and number of people served by the Center.

Councilor Lehan wanted to know if the Center worked closely with CCSD on domestic violence issues. Mr. Schwein stated one staff pastor regularly works with people involved in domestic violence.

COUNCILOR COMMENTS, LIAISON REPORTS & MEETING ANNOUNCEMENTS

Council President Starr – (Park & Recreation Advisory Board Liaison) had no meeting reports to share. He commented the Heart of the City Center provides an opportunity for people to help those in need in the community. The Councilor announced the third Memorial Park Master Plan meeting scheduled for February 18th.

Councilor Fitzgerald – (Development Review Panels A & B Liaison) reported on the decisions made by DRB Panel B, and date of the next DRB Panel A meeting.

Councilor Stevens – (Library Board and Wilsonville Seniors Liaison) noted she had attended her first Library Board and spoke about the fire in the book drop that occurred in January. The Library sponsored Willamette Falls Locks History event was very well received. She announced the upcoming Daddy/Daughter Dance scheduled for February 27th at the Community Center.

Councilor Lehan– (Planning Commission and CCI Liaison) announced the next meeting of the Planning Commission had been cancelled. The Councilor attended a meeting of the Ladd Hill Neighborhood Association where the impacts of the Dundee By-Pass on Wilsonville Road were discussed. Councilor Lehan announced the Volunteer Planting and Tree Care event scheduled for the end of the month.

CONSENT AGENDA

Mr. Kohlhoff read the title of the Consent Agenda items for the record.

A. Minutes of the January 5, 2015 City Council Meeting

Motion: Councilor Lehan moved to approve the Consent Agenda. Councilor Starr seconded the motion.

Vote: Motion carried 5-0.

PUBLIC HEARING

Mr. Kohlhoff read the title of Ordinance No. 766 into the record on first reading.

A. **Ordinance No. 766**
An Ordinance Of The City Of Wilsonville Adopting The 2014 Update To The Wastewater Collection System Master Plan And Replacing The 2001 Wastewater Collection System Master Plan.

Mayor Knapp opened the public hearing at 7:40 PM and read the hearing protocol.

The staff report was presented by Mike Ward, Engineering. Mr. Ward introduced Shad Roundy, and Michael Carr of Murray Smith and Associates.

The proposed Wastewater Collection System Master Plan has been prepared as an update to the 2001 master plan. The Planning Commission has reviewed the master plan and, after holding a public hearing, recommends that the updated master plan be adopted as a sub-element of the City of Wilsonville Comprehensive Plan.

Wilsonville uses a three-step approach to planning for public facilities. First, general Policies and Implementation Measures are contained in the Comprehensive Plan. Second, individual master plans are prepared and periodically updated to deal with specific facility requirements. Finally, the City annually updates a rolling five-year Capital Improvement Program, based on these master plans, for scheduling and budgeting of improvement projects. Among the individual master plans is the Wastewater Collection System Master Plan last updated in 2001. Before the City Council is an update to the Wastewater Collection System Master Plan, consistent with the second step of the City's approach to planning for public facilities.

The Wastewater Collection System Master Plan provides a 20-year blueprint for Wilsonville's wastewater collection system including sanitary trunk lines and pump stations. The Wastewater Collection System Master Plan update integrates past master planning efforts as well as new information such as population and job growth projections and the current condition of wastewater collection infrastructure. In summary, the updated Wastewater Collection System Master Plan does the following:

- Summarizes basic information describing the wastewater collection system.
- Describes how the system components function.
- Presents technical criteria required for evaluating the system.
- Identifies current system deficiencies and describes recommended improvements to correct them.
- Identifies future system needs to accommodate future growth.
- Contains planning-level cost information for general budgeting and developing a prioritized Capital Improvement Program (CIP).
- Documents for City leaders, technical staff, consultants, customers and other interested parties the existing system and future recommended improvements.
- Incorporates community values and priorities through input from a public open house process.
- Facilitates logical planning decisions and utility coordination relative to other City projects and programs.

The updated Wastewater Collection System Master Plan considers both short-term and long-term priority projects for the wastewater collection system and includes a list of the projects and related timelines.

Typically, after the completion of a master plan, a cost of service study and rate review is performed to ensure adequate cost recovery and that rates are set at an appropriate level. The City intends on doing this in FY 15-16.

A number of different media and venues have been used to encourage public involvement. Wastewater collection tends to be a subject in which the community does not express a lot of interest as long as the system is functioning well. While a reasonable effort has been made to notify and solicit community involvement, limited interest has been expressed. Information was published in the Boones Ferry Messenger, the Committee for Citizen Involvement hosted a community open house, the Planning Commission held work sessions and a public hearing, and project staff made information about the project available on the City's website. The City mailed public hearing notices citywide for the Planning Commission and City Council public hearings.

Ordinance No. 766 will updated the plan for the wastewater collection system to ensure the system provides for adequate service for current and future residents and businesses to ensure proper sanitation and conveyance of wastewater to the treatment plant.

Mr. Roundy presented the report via a PowerPoint presentation. He described the purposes for the Master Plan, which included identifying potential deficiencies in the system based on existing and future conditions, as well as identifying system improvements and their costs so the city could budget making those improvements over a 20-year period.

Mr. Ward explained System Development Charges were charged to developers for construction of new development and the accompanying systems in town.

Mr. Kohlhoff stated the attachments for the Ordinance need to be relabeled to conform to the recitals in the Ordinance and findings. The corrected exhibits will be brought forward on second reading.

Mayor Knapp invited public testimony, hearing none; he closed the public hearing at 7:50 PM

Motion: Councilor Fitzgerald moved to approve Ordinance No. 766 on first reading with the attachment corrections brought back on second reading. Councilor Starr seconded the motion.

Vote: Motion carried 5-0.

B. **Ordinance No. 767** – 1st reading
An Ordinance Of The City Of Wilsonville Amending Section 3.410 Of The Wilsonville City Code.

Mr. Kohlhoff read Ordinance No. 767 by title only on first reading. The proposed ordinance recognized the different categories of franchises that might use City right of way and have different impacts.

Mayor Knapp read the hearing procedure and opened the public hearing at 7:52 PM.

While the current version of the Code allows for imposition of different franchise terms to the extent allowed by law, the amendment seeks to prevent challenges to varying terms by codifying a common reason for varied terms. The City is increasingly encountering potential franchisees that vary widely in their impacts on City infrastructure, their goals in Wilsonville, and their relationship with the City. The proposed amendment will allow the City to better account for those differences when negotiating and implementing franchise agreements.

The amendment would explicitly allow the City of Wilsonville to vary the terms of franchise agreements according to the differing users' impacts on City infrastructure and any other reason allowed by law.

Mayor Knapp commented the code change will align City codes with how to deal with other peoples pipes/equipment buried under city streets.

Councilor Lehan said the city has worked hard to underground the utilities which gave the City a "clean" look.

Mayor Knapp invited public comment, hearing none he closed the public hearing at 7:55 PM.

Motion: Councilor Lehan moved to approve Ordinance No. 767 on first reading. Councilor Fitzgerald seconded the motion.

Vote: Motion carried 5-0.

CITY MANAGER'S REPORT

No report was made.

LEGAL DEPARTMENT REPORT

Mr. Kohlhoff stated a local artist, Gerry Martin, donated two mobiles to the City. One is located in the front lobby, the other on the second floor near the elevator.

ADJOURN

Mayor Knapp adjourned the meeting at 7:59 p.m.

Respectfully submitted,

_____
Sandra C. King, MMC, City Recorder

ATTEST:

_____
Tim Knapp, Mayor

ORDINANCE NO. 766

AN ORDINANCE OF THE CITY OF WILSONVILLE ADOPTING THE 2014 UPDATE TO THE WASTEWATER COLLECTION SYSTEM MASTER PLAN AND REPLACING THE 2001 WASTEWATER COLLECTION SYSTEM MASTER PLAN

WHEREAS, Oregon state law requires local jurisdictions to prepare public utility plans such as wastewater collection system master plan; and

WHEREAS, the City relies on utility master plans such as the Wastewater Collection System Master Plan to update its Capital Improvement Program; and

WHEREAS, an integrated and well-planned wastewater collection system benefits citizens and business by providing a safe, sanitary, and effective system for conveyance of wastewater from sources such as homes and businesses to the wastewater treatment plant; and

WHEREAS, adoption of an updated wastewater collection system master plan will support compliance with Statewide Planning Goal 11-Public Facilities and Services, as well as related administrative rules; and

WHEREAS, since the last Wastewater Collection System Master Plan update (2001), the City has experienced significant growth increasing demand on the wastewater collection system, necessitating a re-evaluation of the system; and

WHEREAS, since the last Wastewater Collection System Master Plan update, the City has evaluated and identified existing wastewater collection system infrastructure in need of repair or replacement including portions of the system in the Charbonneau district and the Memorial Park pump station; and

WHEREAS, the City is forecasted to continue to grow, necessitating additions and upgrades to the wastewater collection system; and

WHEREAS, preparation of the updated Wastewater Collection System Master Plan included extensive policy, planning, and engineering analysis to inventory current conditions and facilities and forecast future needs and identify projects and programs to meet the needs over a 20-year timeframe to support the City's capital improvement program; and

WHEREAS, the Wilsonville Planning Commission conducted work sessions, an open house was hosted by the Committee for Community Involvement, and information was included in a community newsletter as part of an effort to engage the community in shaping the updated Wastewater Collection System Master Plan; and

WHEREAS, the City provided notice of the updated Wastewater Collection System Master Plan public hearings before the Planning Commission and City Council by sending a Measure 56-compliant public hearing notice to 4,787 property owners within the city limits as well as interested citizens and agencies; additionally, the notice was posted in three locations throughout the City, on the City web site, as well as in a newspaper with local circulation; and

WHEREAS, on December 1, 2014, the Planning Commission conducted a duly noticed public hearing on the updated Wastewater Collection System Master Plan, affording all citizens an opportunity to be heard on the subject; and

WHEREAS, following the public hearing the Planning Commission deliberated and forwarded a unanimous recommendation of approval to the City Council; and

WHEREAS, on January 22, 2015 the City Council continued the Public Hearing on the updated Wastewater Collection System Master Plan to a time and date certain of 7:00 p.m. on February 2, 2015 to allow for additional discussion and time for a City Council work session; and

WHEREAS, on February 2, 2015, the City Council conducted a duly noticed public hearing on the draft updated Wastewater Collection System Master Plan considering the entire public record herein and finds that the proposed updated Wastewater Collection System Master Plan complies with the applicable review criteria and are in the best interest of the community by providing for a sanitary, environmentally friendly, and efficient conveyance of sanitary sewer wastewater to the wastewater treatment plant; and

WHEREAS, the City Council has considered the Planning Commission's recommendation, the staff reports in this matter, and testimony and evidence of interested parties, and has evaluated the draft Wastewater Collection System Master Plan against the Statewide Goals, state, county, and regional requirements, the Comprehensive Plan, and other applicable standards;

NOW, THEREFORE, THE CITY OF WILSONVILLE ORDAINS AS FOLLOWS:

Section 1. Findings. The City Council hereby adopts as findings and conclusions the foregoing recitals and the conclusionary findings in this matter attached hereto as Exhibit 1 and adopted as if set forth fully herein.

Section 2. Order. The City Council hereby adopts the 2014 updated Wastewater Collection System Master Plan attached as Exhibit 2 as a sub-element of the Comprehensive Plan to replace the 2001 update of the Wastewater Collection System Master Plan.

Section 3. Staff Directive. To reflect adoption of the updated Wastewater Collection System Master Plan, Staff is directed to make conforming changes to the Comprehensive Plan necessary to incorporate the amendments adopted herein.

SUBMITTED to the Wilsonville City Council and read for the first time at a regular meeting thereof on the 2nd day of February, 2015, at the hour of 7:00 p.m. at the Wilsonville City Hall, 29799 SW Town Center Loop East, Wilsonville, Oregon, and scheduled for second reading on the 19th day of February, 2015, commencing at the hour of 7:00 p.m. at Wilsonville City Hall.

_____
SANDRA C. KING, MMC, City Recorder

ENACTED by the City Council on the 19th day of February 2015, by the following votes:

YEAS: NAYS:

_____
SANDRA C. KING, MMC, City Recorder

DATED and signed by the Mayor this _____day of February 2015.

_____
TIM KNAPP, Mayor

SUMMARY OF VOTES:

Mayor Knapp -
Council President Starr -
Councilor Fitzgerald -
Councilor Stevens -
Councilor Lehan

Exhibits:

Exhibit 1 Conclusionary Findings dated February 2, 2015
Exhibit 2 Current draft of updated Wastewater Collection System Master Plan

December 10, 2014 Planning Commission Public Hearing Actions

- Notice of Decision – Recommendation to City Council
- Resolution No. LP14-0002
- Motion
- DRAFT Minutes

Planning Commission December 10, 2014 Public Hearing:

- PowerPoint presentation, "Wastewater Collection System Master Plan"
- Draft Resolution No. LP14-0002
- Staff Report for the Updated Wastewater Collection System Master Plan including:
  - Attachment A: Wastewater Collection System Master Plan, Planning Commission Hearing Draft dated November 2014.

Committee for Citizen Involvement:

November 12, 2014 Committee for Citizen Involvement Open House

- Distributed to PC prior to Open House:
  - Meeting Announcement
  - Draft Executive Summary to the Wilsonville Wastewater Collection System Master Plan.
  - PowerPoint to be presented at the Open House: November2014 Wilsonville Wastewater Collection System Master Plan

Planning Commission Work Session Documents:

October 8, 2014 Planning Commission Work Session:

- Meeting Minutes Excerpt
- Handout of draft tables and their related notes from the Capital Improvement Program (CIP), which included:
  - Table 7-1 Existing System Capacity Upgrades for Future Development
  - Table 7-2 Condition Based Improvements
  - Table 7-3 New Infrastructure for Future Development
  - Table 7-4 Capital Improvement Program (CIP) Summary
- Set of maps titled Figures 7-1, 7-2, and 7-3 reflecting the improvements identified in Tables 7-1 through 7-3.
- A memorandum for the October 8, 2014 Planning Commission meeting, from Mike Ward, regarding Wastewater Master Plan with attached:

- PowerPoint to be shown at the August 13, 2014 PC Work Session

August 13, 2014 Planning Commission Work Session:

- Meeting Minutes Excerpt
- PowerPoint shown at the August 13, 2014 PC Work Session
- A memorandum dated August 6, 2014, from Nancy Kraushaar, regarding: Sanitary Sewer Collection System Master Plan Update.

Planning Commission
Wastewater Collection System Master Plan Update
Record Index

December 10, 2014 Planning Commission Public Hearing Actions

- Notice of Decision – Recommendation to City Council
- Resolution No. LP14-0002
- Motion
- DRAFT Minutes

City of WILSONVILLE in OREGON
Planning Division
29799 SW Town Center L
Wilsonville, OR 97070
503-682-4960

NOTICE OF DECISION

PLANNING COMMISSION

RECOMMENDATION OF APPROVAL TO CITY COUNCIL

FILE NO.: **LP14-0002**

APPLICANT: **City of Wilsonville**

REQUEST: **Wastewater Collection System Master Plan Update**

After conducting a public hearing on December 10, 2014, the Planning Commission voted to recommend the update to the Wastewater Collection System Master Plan to the City Council by passing Resolution No. LP14-0002.

The City Council is scheduled to conduct a Public Hearing on this matter on Thursday, January 22, 2015, at 7:00 p.m., at the Wilsonville City Hall, 29799 SW Town Center Loop East.

For further information, please contact the Wilsonville Engineering Division, 29799 SW Town Center Loop East, or telephone (503) 682-4960.

PLANNING COMMISSION
WEDNESDAY, DECEMBER 10, 2014
6:00 P.M.

Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon

MOTION

VII. PUBLIC HEARING

A. **Wastewater Collection System Master Plan Update** (Kraushaar/Ward)
The Waste Water Collection System Master Plan is a City-wide plan that guides waste water collection policies and project schedule.

Planning Commission decisions are in the form of a recommendation to City Council.

Jerry Greenfield moved to adopt Resolution LP14-0002 recommending that the City Council adopt an Update to the Wastewater Collection System Master Plan. Peter Hurley seconded the motion, which passed unanimously.

PLANNING COMMISSION
RESOLUTION NO. LP14-0002

A WILSONVILLE PLANNING COMMISSION RESOLUTION RECOMMENDING THAT THE WILSONVILLE CITY COUNCIL ADOPT AN UPDATE TO THE WILSONVILLE WASTEWATER COLLECTION SYSTEM MASTER PLAN

WHEREAS, the Wilsonville Planning Commission has held two work sessions on August 13, 2014 and October 8, 2014, and the Committee for Citizen Involvement hosted an Open House on November 12, 2014, to discuss and take public testimony concerning a proposed update to the Wilsonville Wastewater Collection System Master Plan; and

WHEREAS, the Wilsonville Planning Director, taking into consideration input and suggested revisions provided by the Planning Commission members and the public, submitted the proposed update to the Wastewater Collection System Master Plan to the Planning Commission, along with a Staff Report, in accordance with the public hearing and notice procedures that are set forth in Sections 4.008, 4.010, 4.011 and 4.012 of the Wilsonville Code (WC); and

WHEREAS, the Planning Commission, after Public Hearing Notices were provided to 4,787 property owners within the City limits and a list of interested citizens and agencies, and were posted in three locations throughout the City and on the City website, held a Public Hearing on December 10, 2014, to review proposed update to the Wastewater Collection System Master Plan, and to gather additional testimony and evidence regarding the proposed Master Plan update; and

WHEREAS, the Commission has afforded all interested parties an opportunity to be heard on this subject and has entered all available evidence and testimony into the public record of their proceeding; and

WHEREAS, the Planning Commission has duly considered the subject, including the staff recommendations and all the exhibits and testimony introduced and offered by all interested parties.

NOW, THEREFORE, BE IT RESOLVED that the Wilsonville Planning Commission does hereby adopt the Planning Staff Report, as presented at the December 10, 2014, public hearing, including the findings and recommendations contained therein and does hereby recommend to the Wilsonville City Council that the Wilsonville City Council approve and adopt the proposed update to the Wastewater Collection System Master Plan as approved on December 10, 2014, by the Planning Commission; and

BE IT RESOLVED that this Resolution shall be effective upon adoption.

ADOPTED by the Planning Commission of the City of Wilsonville at a regular meeting thereof this 10th day of December 2014 and filed with the Planning Administrative Assistant on December 11, 2014.

Ben Altman

Wilsonville Planning Commission

Attest:

Linda Straessle, Administrative Assistant III

SUMMARY of Votes:

Chair Ben Altman:	Aye
Commissioner Marta McGuire:	Absent
Commissioner Jerry Greenfield:	Aye
Commissioner Peter Hurley:	Aye
Commissioner Al Levit:	Aye
Commissioner Phyllis Millan:	Absent
Commissioner Eric Postma:	Aye

PLANNING COMMISSION
WEDNESDAY, DECEMBER 10, 2014
6:00 P.M.

Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon

Minutes Excerpt

I. CALL TO ORDER - ROLL CALL

Chair Altman called the meeting to order at 6:01 p.m. Those present:

Planning Commission: Ben Altman, Eric Postma, Peter Hurley, Al Levit, Jerry Greenfield, and City Councilor Susie Stevens. Marta McGuire and Phyllis Millan were absent.

City Staff: Chris Neamtzu, Barbara Jacobson, Nancy Kraushaar, Daniel Pauly, Mike Ward

****

VII. PUBLIC HEARING

A. **Waste Water Collection System Master Plan Update** (Kraushaar/Ward)
The Waste Water Collection System Master Plan is a City-wide plan that guides waste water collection policies and project schedule.
Planning Commission decisions are in the form of a recommendation to City Council.

The public hearing was opened at 6:20 pm. Chair Altman read the conduct of hearing format into the record and called for the Staff report.

Chris Neamtzu, Planning Director, noted the applicable approval criteria, which respond to statewide planning goals, Oregon Revised Statutes, and Comprehensive Plan citations, were included in the Staff Report. He introduced the project team, noting Associate Planner Daniel Pauly and Civil Engineer Mike Ward, the Project Manager, had prepared the findings. He noted there had been a bit of a challenge obtaining citizen input on the project, and he hoped the citizens in attendance would share some of their thoughts about the plan.

- While the Commission had seen the presentation before, it was being presented again because it was important to get all of the information on the record. For anyone who might be new and watching from home, or for those who had not yet heard the presentation and were not familiar with the topic, the project team would go through the slides one more time. He appreciated the Commission's patience and indulgence.

Mike Ward, City Civil Engineer, introduced Michael Carr and Shad Roundy, consultants with Murray, Smith & Associates, who would brief the Commission on the work that had been done.

Shad Roundy, Murray, Smith & Associates, presented the Waste Water Collection System Master Plan via PowerPoint with these key additional comments:

- He described the purposes for the Master Plan, which included identifying potential deficiencies in the system, based on existing and future conditions, as well as identifying system improvements and their costs, so the City could budget making those improvements over a 20-year period.
  - The Master Plan itself was also a tool to inform the public, City leaders, Staff, and customers about the City's plans for the collection system and facilitated a logical decision process in implementing each of the improvements.

- The Study Area included areas within the existing urban growth boundary (UGB) that would develop as well as a potential expansion of the UGB to some urban reserves identified by Metro.
- The existing collection system included all of the piping and pump stations that convey wastewater to the treatment plant, but not the treatment facility itself. The map on Slide 4 showed the various basins where the flow was collected; the major piping system, called interceptors or trunk lines; some smaller piping; and the pump stations, which collect flow from a low elevation and convey it to a higher elevation.
- Various components of flow that impacted the collection system were defined as follows:
  - Dry Weather Flow (DWF): A base flow of wastewater collected from residents as well as commercial and industrial businesses.
  - Groundwater Infiltration (GWI): As the groundwater table rose, groundwater could infiltrate into the piping and contribute to the flow in the pipe.
  - Wet Weather Flow (WWF): Although the collection system was not intended to take in a lot of rainwater, it would receive some contribution from rainfall because of cracks and defects in the piping, so some contribution from a precipitation event had to be accounted for.
- A number of things were done to determine flow in the existing system and plan for the future system including flow monitoring which looked at existing contributions from customers as well as what occurred during a rain event. To determine future flows, a range of planning densities and land uses within the areas that had not developed were used to produce three scenarios that considered varied densities and the difference in the potential improvements required for the range of future growth density.
  - The table on Slide 6 described the range of the existing densities and the future flows based on different land use classifications.
- Capacity and condition evaluation criteria used to determine what deficiencies exist (Slide 7).
  - A capacity deficiency occurs when the flow exceeds the capacity of the pipeline and a surcharge condition is created where the water rises up in the manholes and a risk of overflow exists.
    - The top left profile showed a pipe with adequate capacity, where all of the water was contained within the pipe itself. The lower profile showed a pipe that did not have enough capacity, so as one went further upstream in the pipe, sewage could be seen in the manhole and rising close to the surface elevation with a potential for overflow. The City wanted to avoid such conditions and ensure the pipe was sized large enough to convey all of the flow within the pipe itself.
  - Two generic examples illustrating the condition evaluation were displayed on the right side of Slide 7. The top example showed cracks in the pipe itself, which meant water inflow was coming in, either from groundwater or rainwater. The bottom pipe showed root intrusion, as oftentimes roots come through the pipe and effectively block the flow causing potential upstream problems and overflows.
- Identifying the Existing System Capacity involved evaluating the depth of water in the pipeline and the legend on Slide 8 indicated that anything in green was less than 60 percent full. Under existing conditions, the collection system looked very good with no capacity issues to serve existing customers.
- Identifying Future System Capacity included growth within the UGB and the potential for UBG growth expansion. With that additional sanitary flow from future customers, the pipelines shown in red (Slide 9) would begin flowing full or exceeding their capacity and, therefore, some form of improvements would be needed. A few pump stations, also highlighted in red, would also require improvement.
- Improvement Types. Existing system upgrades and condition based improvements were considered for enlarging or replacing existing pipelines to serve more people. New infrastructure was also considered for areas not currently served, as new pipes or pump stations would be required to serve those areas.
- Prioritization Category. The improvements were prioritized by considering what was driving the improvement such as growth, condition, growth within the UGB, or expansion of the UGB. Based on those drivers, some priorities and timing, occurring in five-year increments, for the various improvements were developed.
- CIP Existing Upgrades UGB Only. Slide 12 showed the improvements required to serve growth within the UGB. The improvements were primarily located along the Coffee Creek interceptor and would serve development in the northern part of the city. The Memorial Park pump station was another key improvement that would be required for additional development in the Frog Pond area and infill growth on the east side.

    - These improvements were funded by a combination of system development charges (SDCs), so developers were paying to develop and contributing to the system, as well as rates based on existing customer flows for the pipe segments.
- When considering expansion of the UGB, more substantial improvements would be needed. Improvements shown in red on Slide 13 would be a higher priority because they were meant to serve future customers in the UGB versus those shown in green, which were meant to serve future customers in expansion areas. Those additional improvements were located along the Parkway Interceptor, which would serve areas to the north, and the Boeckman Interceptor, which would serve areas in the northeast, as well as the Advance Rd urban reserve, in addition to customers in Frog Pond. A few additional improvements would be made to pump stations, including the Canyon Creek Pump Station.
- CIP – Condition Based. The City had two programs for condition based improvements, which were identified through closed-circuit television, where a television camera was sent into a pipeline to actually inspect for defects. The Charbonneau area had already been analyzed by the City and had been included in the Capital Improvement Program and Master Plan. This improvement program included various projects slated over a 20-year period.
    - The other program, covering the rest of the city, was for repair and replacement, primarily of concrete piping where condition issues had been identified through the TV inspection.
    - Condition based improvements would be funded through rates.
    - When pump stations exceed their useful life, they need to be replaced and so they were also lumped into the condition based improvements.
- CIP – New Infrastructure for Future Development. A number of new basins were identified and while some of the areas already had concept plans, such as Frog Pond, others did not. Specific improvements from those concept plans were highlighted, as well as placeholder improvements in areas that had not yet been planned. These new infrastructure improvements were developer funded, either through direct contributions or SDCs.
- The cost summary consisted of the various components, such as existing system upgrades, condition based improvements and new infrastructure.
    - Growth within the UGB, which was partially funded by SDCs and partially funded by rates, cost approximately $10 million over the 20-year horizon. Costs outside of the UGB would be another $19 million over that period.
    - The condition based improvements cost $15.7 million over the 20-year period.
    - The Master Plan broke all the costs out a little more specifically by timeframes: zero to five years, five to ten, and then, ten to 20 years, which was also depicted in the final slide.

Commissioner Levit:
- Noted the maps for both the Waste Water Collection System Master Plan and Basalt Creek were included in the meeting packet, but it did not appear that the Master Plan included all of Basalt Creek.
    - Mr. Ward confirmed it did not, and explained the Master Plan predominantly covered the same amount of area covered in the Water Master Plan as well as a bit more on the east side along I-5, where gravity flowed in Wilsonville's direction as a conservative approach. The City knew Tualatin would want some of that land, but regardless of what happened, Staff wanted to be confident that the City could service an appropriate area, so that was what they considered, more or less. He added it was an average, and the City would want to refine the model as soon as Basalt Creek had defined areas.
- Asked if the numbers on Slide 15 indicated a rough guess of when they would be developed sequentially.
    - Mr. Roundy replied not necessarily. Other than Frog Pond and Coffee Creek, he was not sure a complete understanding existed of when the areas would develop.
    - Mr. Ward agreed, adding they were included more for readability.
- Commended the consultants on a great report.
    - Mr. Ward agreed, adding the report was very readable, followed one step to the next logically, and made it very easy to understand what was needed and how they got there.

Chair Altman called for public testimony on the Waste Water Collection System Master Plan. Seeing none, he closed the public hearing at 6:42 pm and called for Commissioner comments. There were none.

Jerry Greenfield moved to adopt Resolution LP14-0002 recommending that the City Council adopt an Update to the Waste Water Collection System Master Plan. Peter Hurley seconded the motion, which passed unanimously.

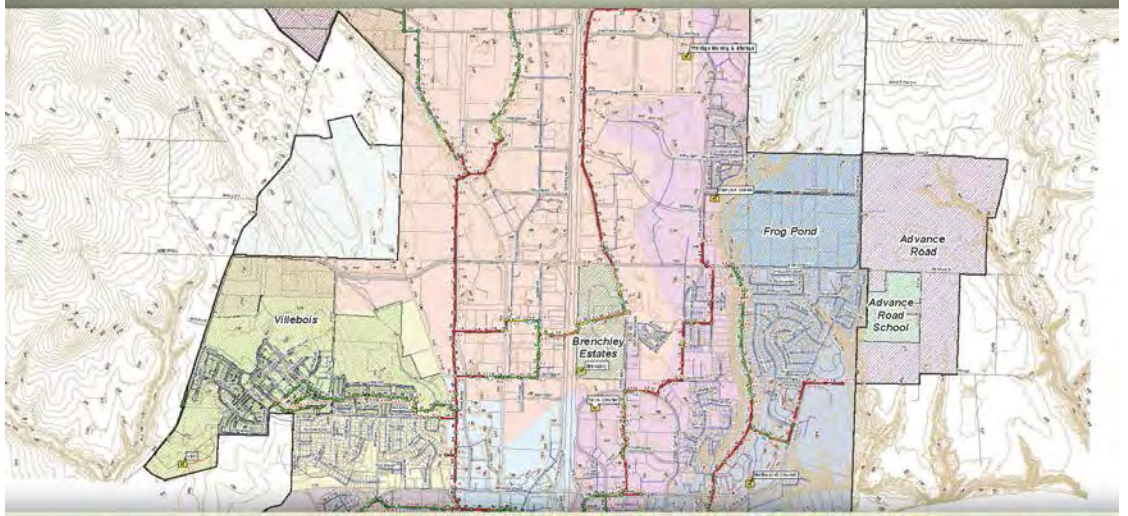
****

Planning Commission
Wastewater Collection System Master Plan Update
Record Index

Planning Commission December 10, 2014 Public Hearing:

- PowerPoint presentation, "Wastewater Collection System Master Plan"
- Draft Resolution No. LP14-0002
- Staff Report for the Updated Wastewater Collection System Master Plan including:
  - Attachment A: Wastewater Collection System Master Plan, Planning Commission Hearing Draft dated November 2014.

MSA MURRAY, SMITH & ASSOCIATES, INC. ENGINEERS | PLANNERS



CITY OF WILSONVILLE

WASTEWATER COLLECTION SYSTEM MASTER PLAN

December 2014

WILSONVILLE IN OREGON

Wastewater Collection System Master Plan

- Describes the existing wastewater collection system
- Present criteria for evaluating the system
- Identifies current and future system deficiencies & improvements
- Develops a prioritized Capital Improvement Program
- Contains planning level cost information for budgeting
- Provides a tool for informing City leaders, staff, customers, and others
- Facilitates logical planning decisions and utility coordination
- Incorporates community values and priorities through public process

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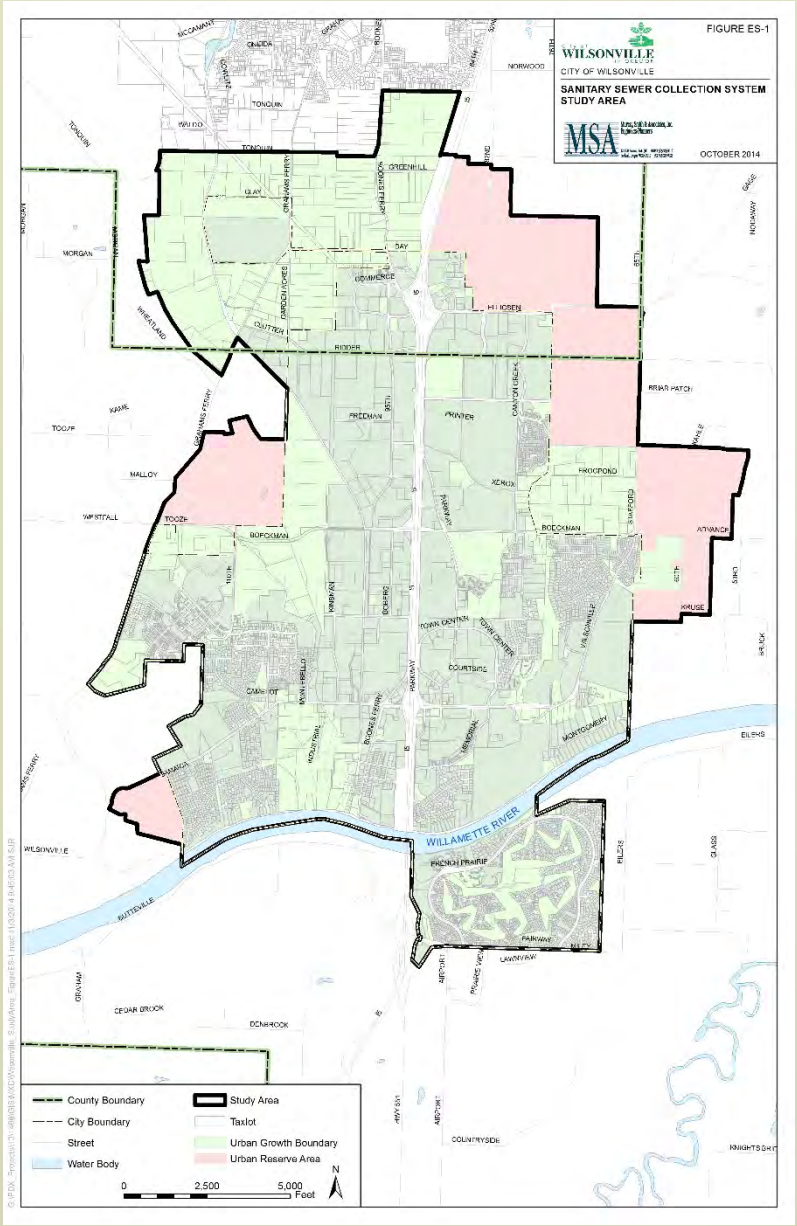
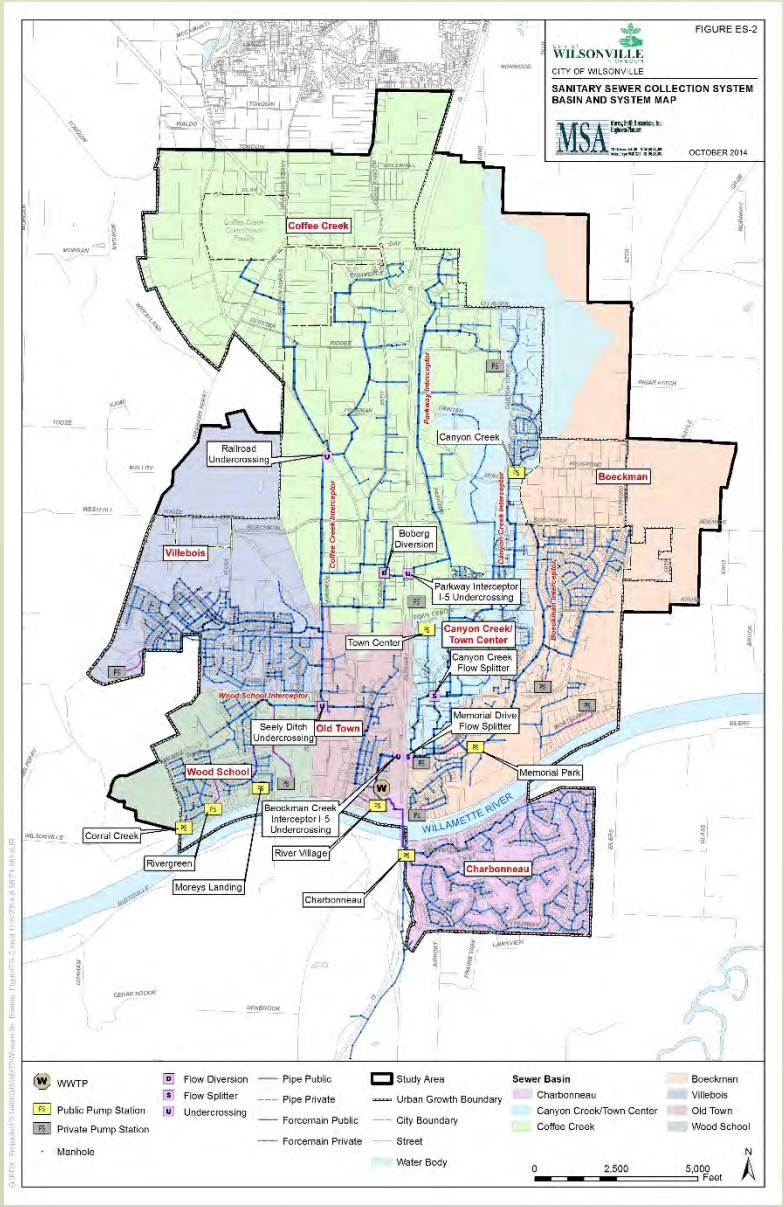
Study Area

- Existing Development
- Future Development
  - Urban Growth Boundary
  - Urban Reserve



Existing System Description

- Basins
- Interceptors
- Piping
- Pump Stations



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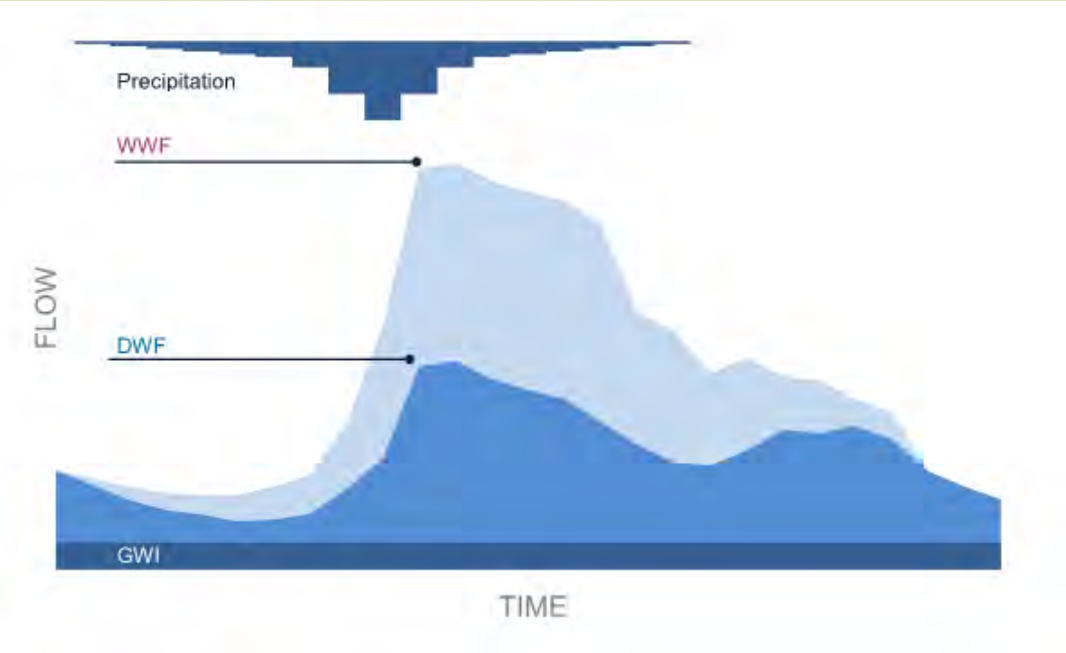
City of Wilsonville in Oregon

Flow Definition



- Dry Weather Flow (DWF) – base flow contributed by residents and businesses
- Groundwater Infiltration (GWI) – groundwater enters system through pipe joints and walls
- Wet Weather Flow (WWF) – stormwater enters the system through leaky manholes or defective pipes

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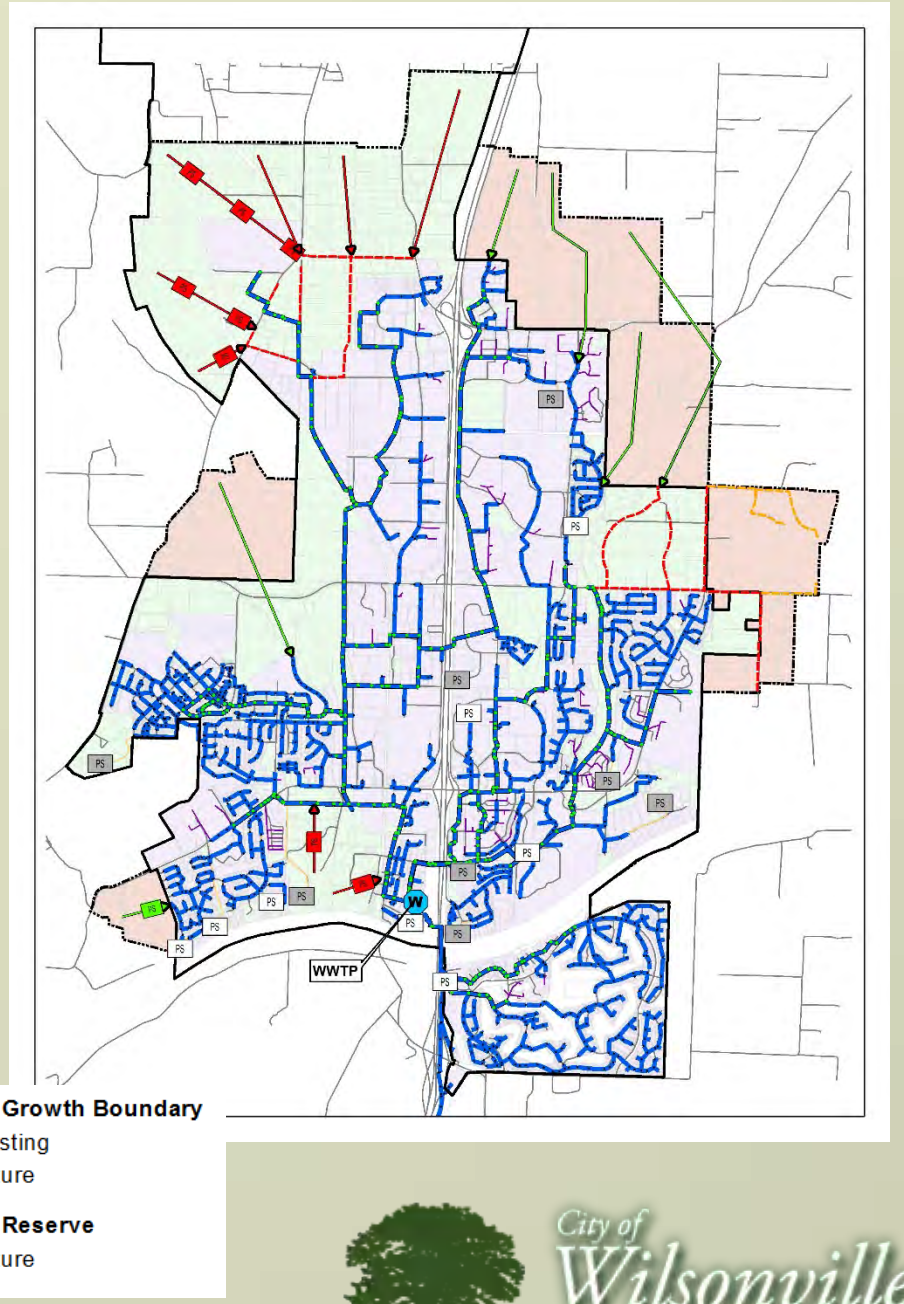
Existing and Future Flows

- Flow Monitoring
- Future Unit Flow Factors
- Sensitivity Analysis
- Design Storm

Land Use	Land Use Description	High Density		Medium Density		Low Density	
		Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)
Commercial							
CN	Neighborhood Commercial		1,000		750		500
PF	Public Facilities		1,000		750		500
Industrial							
IC	Campus/Industrial/Business Park		1,000		500		350
IH	Heavy Industrial		1,000		500		350
IL	Light Industrial		1,000		500		350
RI	Rural Industrial		1,000		500		350
Residential and Mixed-Use							
SFR1	Single Family 1 acre lot	1	166	1	166	1	166
SFR3	Single Family 10,000 sqft lot	3	498	3	498	3	498
SFR5	Single Family 7,000 sqft lot	5	831	5	831	5	831
SFR7	Single Family 5,000 sqft lot	7	1,163	7	1,163	7	1,163
SFR10	Single Family 3,500 sqft lot	10	1,662	10	1,662	10	1,662
MFR1	Multi-family Very Low Density	12.3	2,044	12.3	2,044	12.3	2,044
MFR2	Multi-family Low Density	17.8	2,958	17.8	2,958	17.8	2,958
MUR1	Mixed Use	11.2	1,861	11.2	1,861	11.2	1,861
Variable Density (Re-Zoning)							
EFU	Exclusive Farm or Forest Use	15	2,492	10	1,662	6	997
FUD	Future Urban Development	15	2,492	10	1,662	6	997
RRFU	Rural Residential	15	2,492	10	1,662	6	997

Note: Unit loads for land use classifications with equivalent dwellings units are calculated assuming 67 gpcd and 2.48 people per unit.



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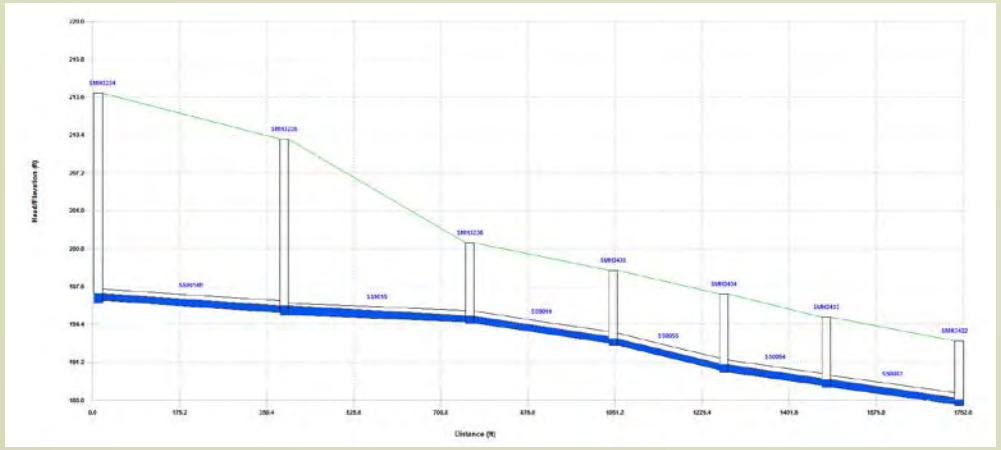
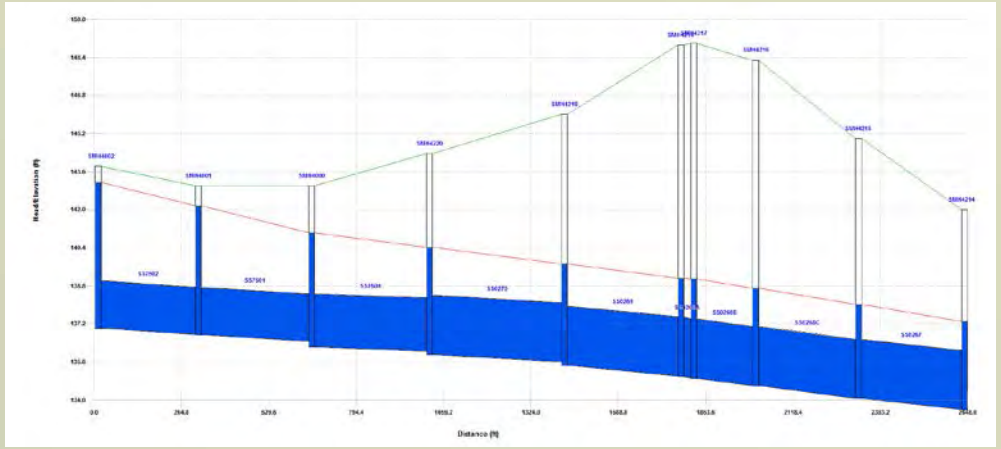
Evaluation Criteria

Capacity





Condition

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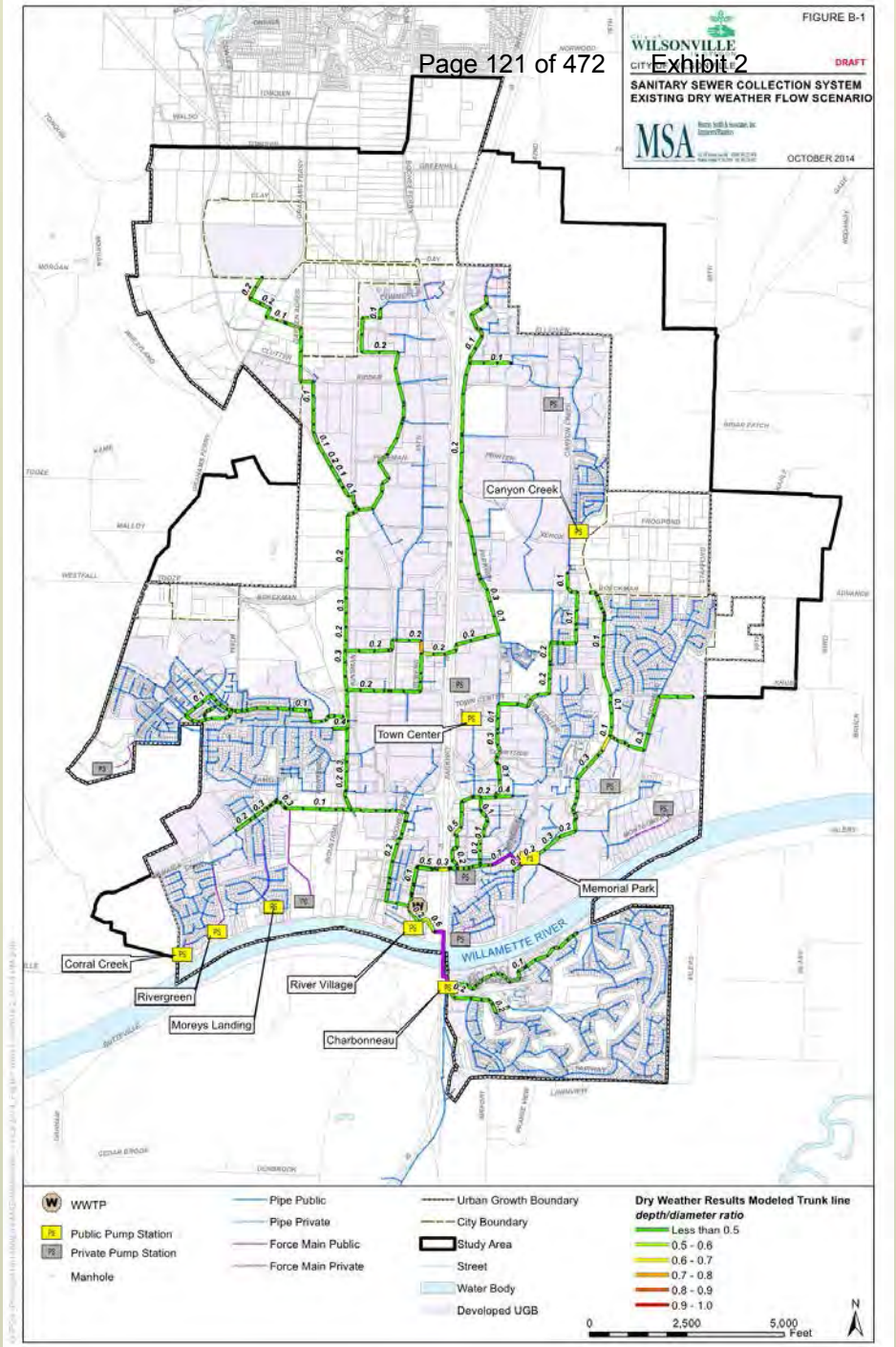
Existing System Capacity



DEPTH RATIO

- < 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

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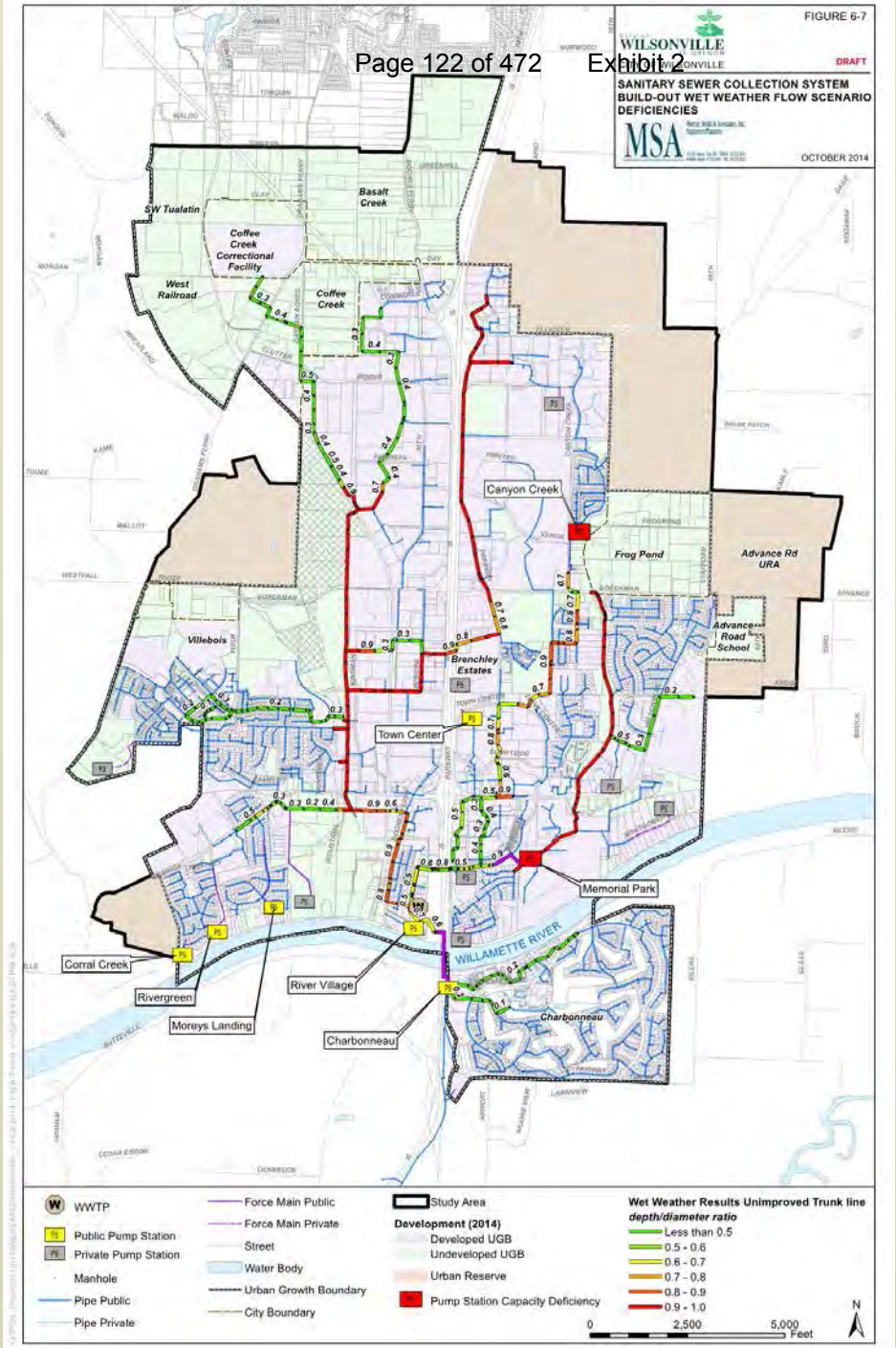
Future System Capacity



DEPTH RATIO

- < 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

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Improvement Types

- Existing System Capacity Upgrades
- Condition Based
- New Infrastructure for Future Development

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Prioritization Category

DEVELOPMENT AREA

- UGB
- Advanced Road URA
- URA

TIMING

- 0-5 Years
- 5-10 Years
- 10-20 Years

OTHER INFORMATION

- Project Drivers
- Growth Percentage

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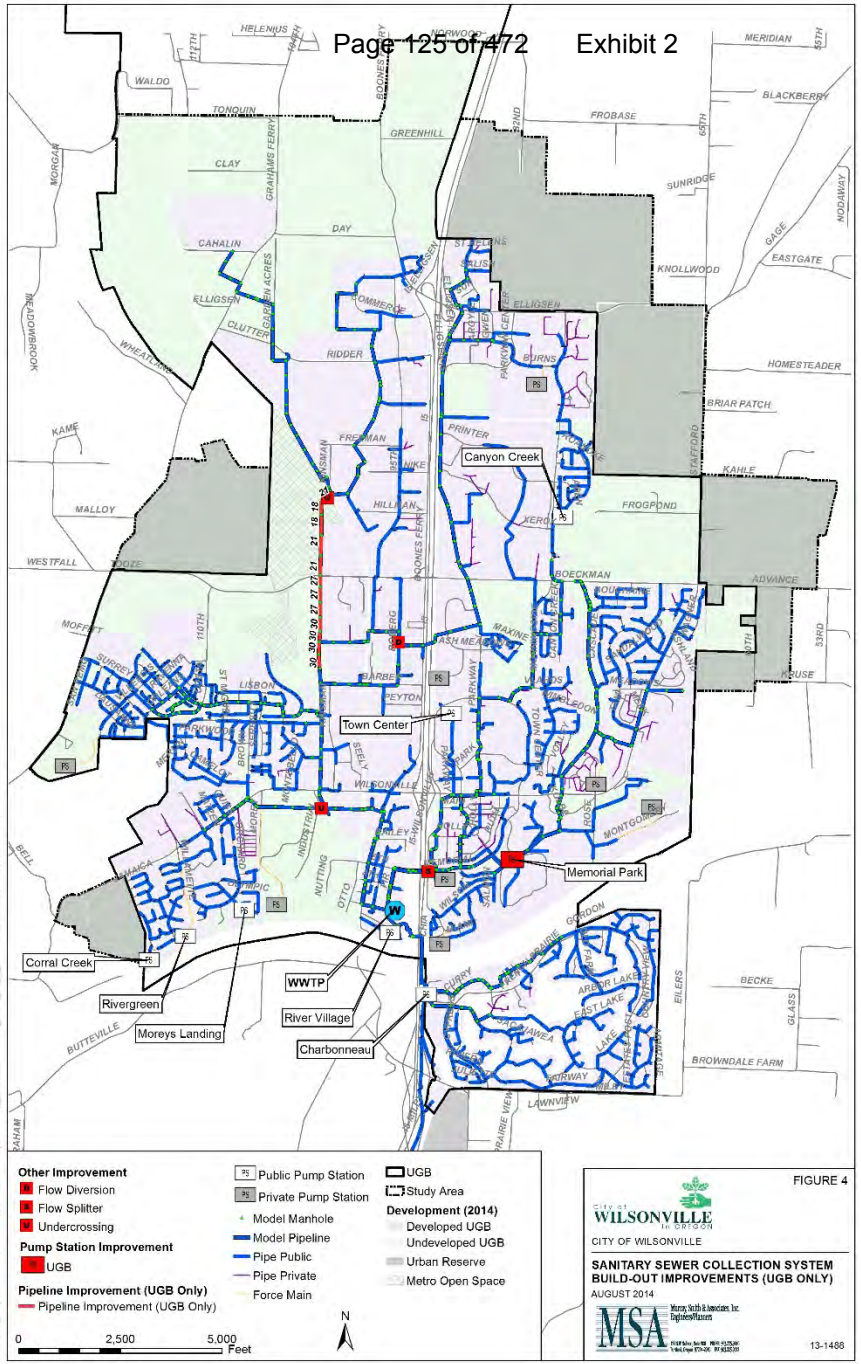
CIP Existing System Upgrades UGB Only

$9.9 Million over 10 years

SDC and Rate Funded

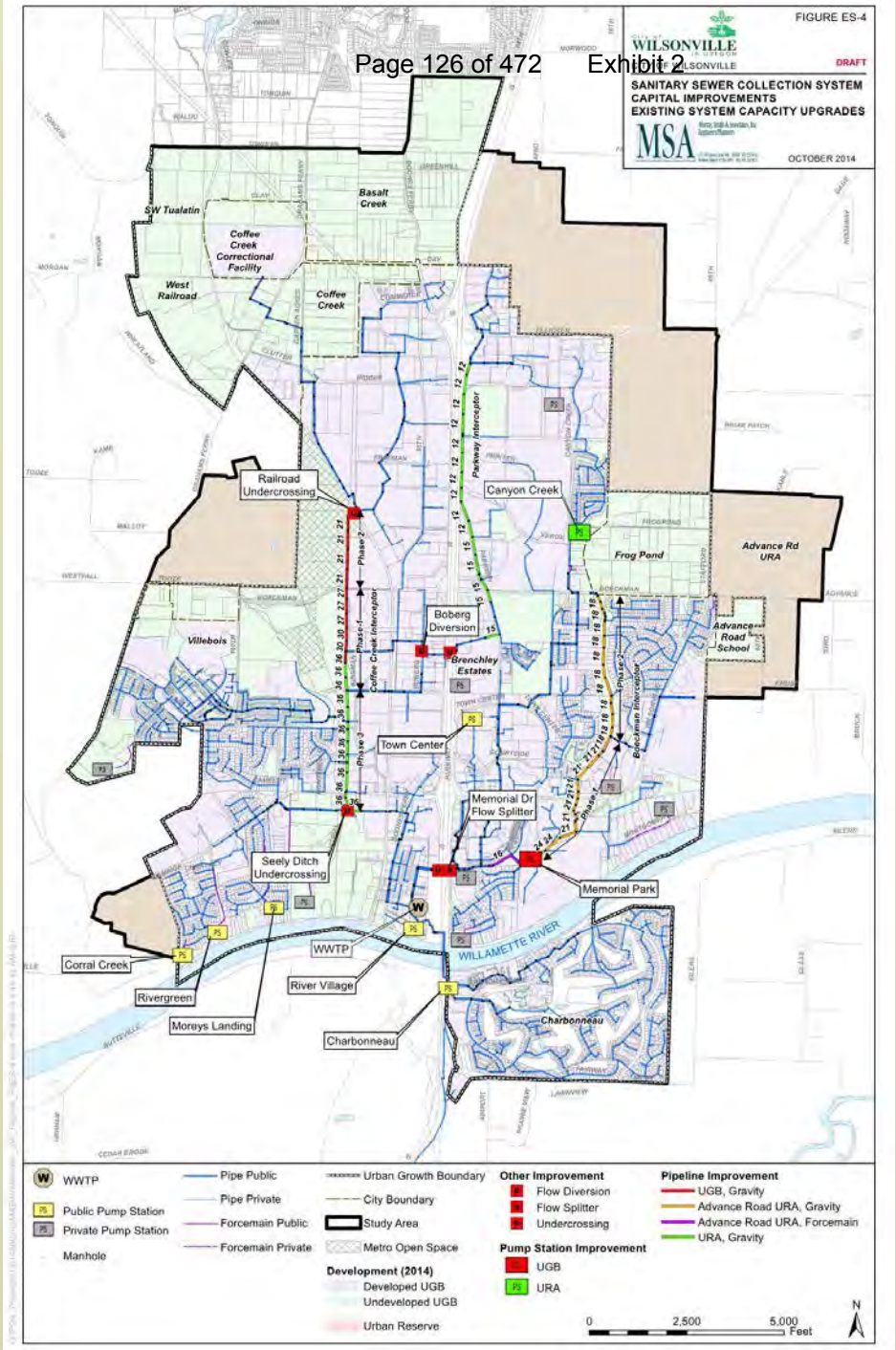


CIP – Existing System Upgrades

$9.9 Million over 10 years within UGB

$19.0 Million over 20 years outside UGB (URA)

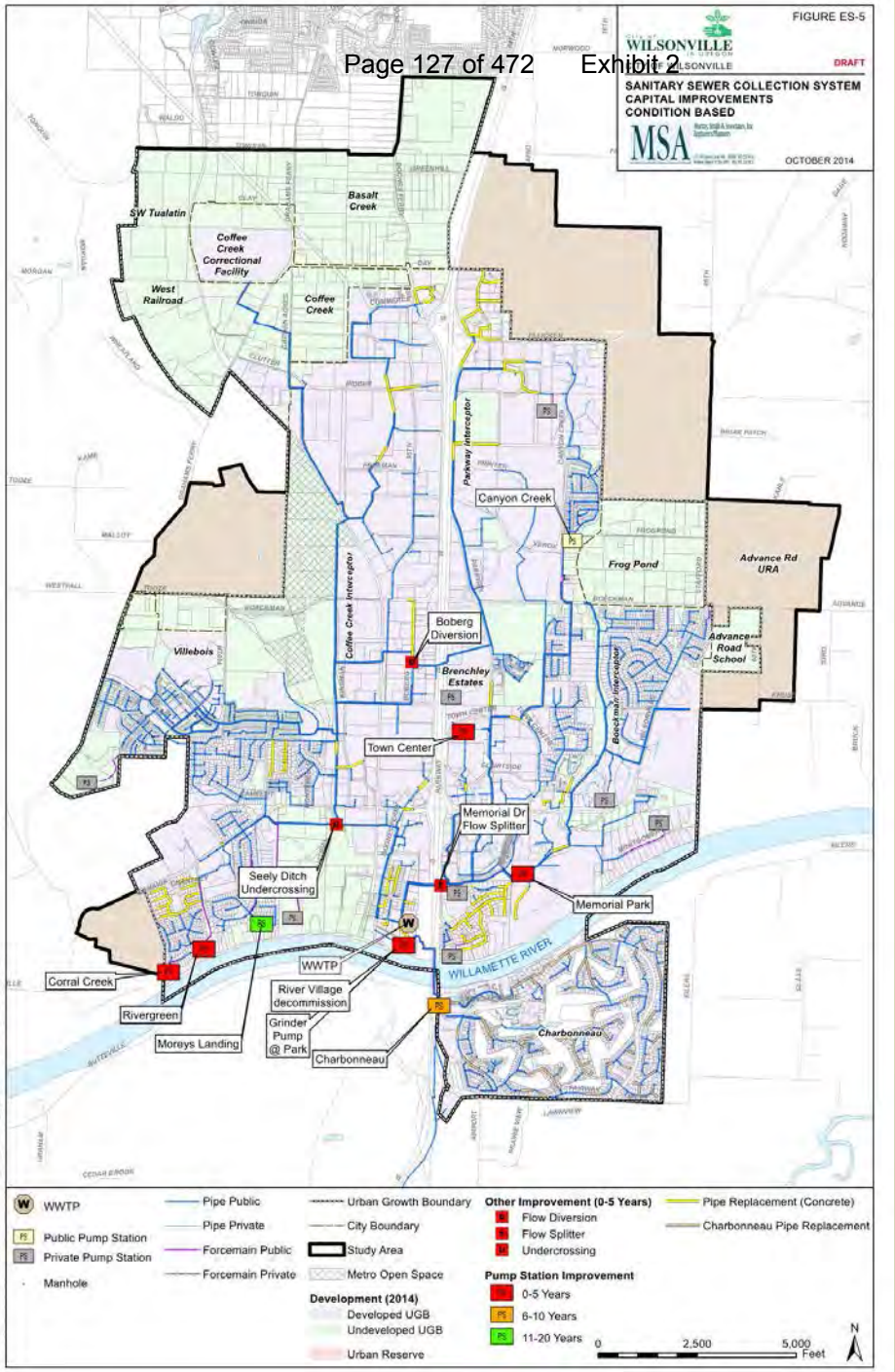
SDC and Rate Funded



CIP – Condition Based

$15.7 Million over 20 years

Rate Funded



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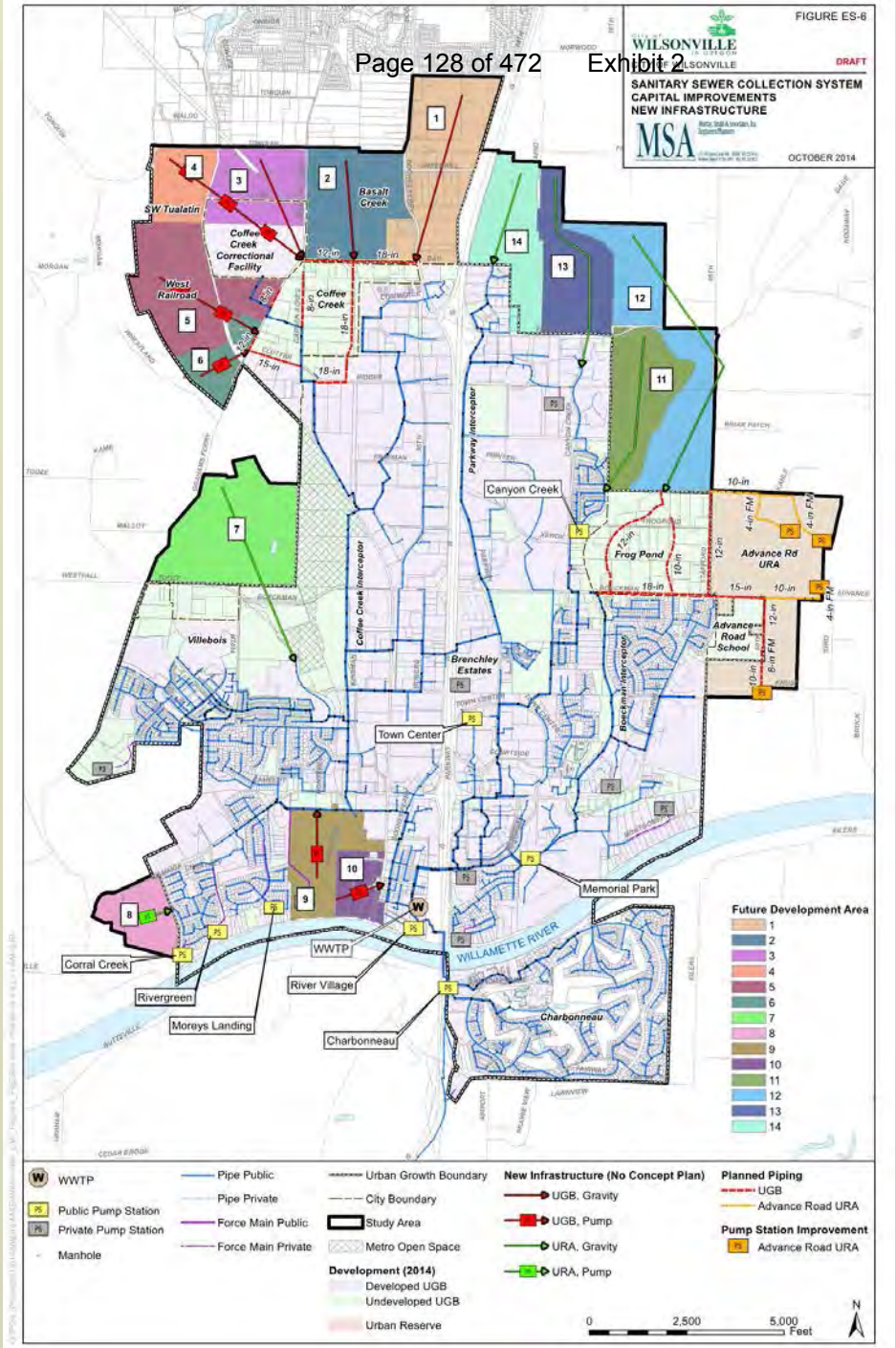
CIP – New Infrastructure for Future Development

Development Funded



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City of Wilsonville in Oregon

Cost Summary

Capital Improvement Program Summary (Estimated Costs)			
Improvement Category	**Prioritization Category**	**Time Frame (Cost)**	**Comment**
Existing System Upgrades for Future Development	UGB	$9.91 million	SDC and Rate Funded
	Advance Road URA	$7.51 million	
	URA	$11.53 million	
	Total	$28.95 million	
Condition Based	UGB	$15.7 million	Rate Funded
New Infrastructure for Future Development	Development Funded		Developer Improvements and SDCs

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City of Wilsonville in Oregon

Capital Improvement Program Summary (Estimated Total Costs)					
Improvement Category	Prioritization Category	Time Frame (Cost)			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
Existing System Upgrades for Future Development	UGB	$3,080,000	$6,830,000	---	$9,910,000
	Advance Road URA	---	$7,510,000	---	$7,510,000
	URA	---	$300,000	$11,225,000	$11,525,000
	Total	$3,080,000	$14,640,000	$11,225,000	$28,945,000
Condition Based	UGB	$5,566,000	$3,125,000	$6,993,000	$15,684,000
New Infrastructure for Future Development	UGB	$29,170,000	$32,620,000	---	$61,790,000
	Advance Road URA	---	$7,440,000	---	$7,440,000
	URA	---	---	$44,840,000	$44,840,000
	Total	$29,170,000	$40,060,000	$44,840,000	$114,070,000

Note 1. Cost estimates represent a Class 5 budget estimate, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

PLANNING COMMISSION
RESOLUTION NO. LP14-0002

A WILSONVILLE PLANNING COMMISSION RESOLUTION RECOMMENDING THAT THE WILSONVILLE CITY COUNCIL ADOPT AN UPDATE TO THE WILSONVILLE WASTEWATER COLLECTION SYSTEM MASTER PLAN

WHEREAS, the Wilsonville Planning Commission has held two work sessions on August 13, 2014 and October 8, 2014, and the Committee for Citizen Involvement hosted an Open House on November 12, 2014, to discuss and take public testimony concerning a proposed update to the Wilsonville Wastewater Collection System Master Plan; and

WHEREAS, the Wilsonville Planning Director, taking into consideration input and suggested revisions provided by the Planning Commission members and the public, submitted the proposed update to the Wastewater Collection System Master Plan to the Planning Commission, along with a Staff Report, in accordance with the public hearing and notice procedures that are set forth in Sections 4.008, 4.010, 4.011 and 4.012 of the Wilsonville Code (WC); and

WHEREAS, the Planning Commission, after Public Hearing Notices were provided to 4,787 property owners within the City limits and a list of interested citizens and agencies, and were posted in three locations throughout the City and on the City website, held a Public Hearing on December 10, 2014, to review proposed update to the Wastewater Collection System Master Plan, and to gather additional testimony and evidence regarding the proposed Master Plan update; and

WHEREAS, the Commission has afforded all interested parties an opportunity to be heard on this subject and has entered all available evidence and testimony into the public record of their proceeding; and

WHEREAS, the Planning Commission has duly considered the subject, including the staff recommendations and all the exhibits and testimony introduced and offered by all interested parties.

NOW, THEREFORE, BE IT RESOLVED that the Wilsonville Planning Commission does hereby adopt the Planning Staff Report, as presented at the December 10, 2014, public hearing, including the findings and recommendations contained therein and does hereby recommend to the Wilsonville City Council that the Wilsonville City Council approve and adopt the proposed update to the Wastewater Collection System Master Plan as approved on December 10, 2014, by the Planning Commission; and

BE IT RESOLVED that this Resolution shall be effective upon adoption.

ADOPTED by the Planning Commission of the City of Wilsonville at a regular meeting thereof this 10th day of December 2014 and filed with the Planning Administrative Assistant on December 11, 2014.

Wilsonville Planning Commission

Attest:

Linda Straessle, Administrative Assistant III

SUMMARY of Votes:

Chair Ben Altman: _____

Commissioner Marta McGuire: _____

Commissioner Eric Postma: _____

Commissioner Peter Hurley: _____

Commissioner Al Levit: _____

Commissioner Phyllis Millan: _____

Commissioner Jerry Greenfield: _____

City of Wilsonville

PLANNING COMMISSION
WEDNESDAY, DECEMBER 10, 2014
6:00 PM

VII. PUBLIC HEARING

A. Wastewater Collection System Master Plan Update
(Kraushaar/Ward)

The Waste Water Collection System Master Plan is a City-wide plan that guides waste water collection policies and project schedule.

Planning Commission decisions are in the form of a recommendation to City Council.

PLANNING COMMISSION
RESOLUTION NO. LP14-0002

A WILSONVILLE PLANNING COMMISSION RESOLUTION RECOMMENDING THAT THE WILSONVILLE CITY COUNCIL ADOPT AN UPDATE TO THE WILSONVILLE WASTEWATER COLLECTION SYSTEM MASTER PLAN

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Commissioner Marta McGuire: _____

Commissioner Eric Postma: _____

Commissioner Peter Hurley: _____

Commissioner Al Levit: _____

Commissioner Phyllis Millan: _____

Commissioner Ray Phelps: _____

City of
WILSONVILLE
in OREGON

PLANNING COMMISSION
STAFF REPORT

Meeting Dates: December 10, 2014	**Subject:** Updated Wastewater Collection System Master Plan **Staff Members:** Mike Ward PE and Daniel Pauly AICP **Contact:** 503-682-4960 or ward@ci.wilsonville.or.us, pauly@ci.wilsonville.or.us
Applicant: City of Wilsonville	
Action Required: Conduct Public Hearing, Make Recommendation to City Council	
Staff Recommendation: Recommend approval of the proposed update to the Wastewater Collection System Master Plan to the City Council.	
Recommended Language for Motion: The Planning Commission recommends approval of LP14-0002, proposed updated Wastewater Collection System Master Plan, to the City Council (with or without specific changes).	

ISSUE BEFORE THE COMMISSION:

Wilsonville uses a three-step approach to planning for public facilities. First, general Policies and Implementation Measures are contained in the Comprehensive Plan. Second, individual master plans are prepared and periodically updated to deal with specific facility requirements. Finally, the City annually updates a rolling five-year Capital Improvement Program, based on these master plans, for scheduling and budgeting of improvement projects. Among the individual master plans is the Wastewater Collection System Master Plan last updated in 2001. Before the commission is an update to the Wastewater Collection System Master Plan, consistent with the second step of the City's approach to planning for public facilities. The wastewater treatment plant is considered a separate facility and is not included within the scope of the current project.

EXECUTIVE SUMMARY/ INTRODUCTION:

The Wastewater Collection System Master Plan provides a 20-year blueprint for Wilsonville's wastewater collection system including sanitary trunk lines and pump stations. The Wastewater Collection System Master Plan update integrates past master planning efforts as well as new information such as population and job growth projections and the current condition of wastewater collection infrastructure. In summary, the updated Wastewater Collection System Master Plan does the following:

- Summarizes basic information describing the wastewater collection system.
- Describes how the system components function.

- Presents technical criteria required for evaluating the system.
- Identifies current system deficiencies and describes recommended improvements to correct them.
- Identifies future system needs to accommodate future growth.
- Contains planning-level cost information for general budgeting and developing a prioritized Capital Improvement Program (CIP).
- Documents for City leaders, technical staff, consultants, customers and other interested parties the existing system and future recommended improvements.
- Incorporates community values and priorities through input from a public open house process.
- Facilitates logical planning decisions and utility coordination relative to other City projects and programs.

TIMELINE:

The updated Wastewater Collection System Master Plan considers both short-term and long-term priority projects for the wastewater collection system and in Section 7 provides a list of the projects and related timelines.

COMMUNITY INVOLVEMENT PROCESS:

A number of different media and venues have been used to encourage public involvement. Wastewater collection tends to be a subject in which the community does not express a lot of interest as long as the system is functioning well. While a reasonable effort has been made to notify and solicit community involvement, limited interest has been expressed. Information was published in the Boones Ferry Messenger, a community newsletter mailed to every address within Wilsonville's 97070 zip code, the Committee for Citizen Involvement hosted a community open house, the Planning Commission held work sessions, and project staff made information about the project available on the City's website. The City mailed public hearing notices citywide for the Planning Commission and upcoming City Council public hearings.

DISCUSSION TOPICS:

Aging Infrastructure, Especially in the Charbonneau District

Being a relatively young City, Wilsonville has not historically focused a lot on replacing aging and failing infrastructure. Currently, and more so during the latter parts of the planning horizon for the updated Wastewater Collection System Master Plan, a need exists to update parts of the system to keep them functional, which will involve significant capital costs. The Charbonneau district especially needs repairs to aging infrastructure.

Planning for Continued Growth

While additional attention is needed to maintain and replace existing aging infrastructure, Wilsonville will continue to grow during the planning horizon and the updated plan incorporates the most up to date growth forecast information to plan capacity for the expected growth.

PLANNING COMMISSION'S FINDINGS AND RECOMMENDATION

The Commission finds that the proposal meets the criteria for approval as an amendment to the City's Comprehensive Plan by updating the Wastewater Collection System sub-element.

ATTACHMENTS

A. Draft Plan (under separate cover)

CONCLUSIONARY FINDINGS

The updated Wastewater Collection System Master Plan has been found to be consistent with the applicable criteria as follows.

COMPREHENSIVE PLAN COMPLIANCE

Standards for Approval of Plan Amendments

In order to grant a Plan amendment, the City Council shall after considering the recommendation of the Development Review Board (quasi-judicial) or Planning Commission (legislative), find that:

a. Conformance with Other Portions of the Comprehensive Plan

CP1. **Review Criteria:** "The proposed amendment is in conformance with those portions of the Plan that are not being considered for amendment."
Finding: These criteria are satisfied.
Explanation of Finding: The proposed updated Wastewater Collection System Master Plan has been found to be in conformance with the Comprehensive Plan. See Findings CP2 through CP31 below.

b. Amendment is in the Public Interest

CP2. **Review Criterion:** "The granting of the amendment is in the public interest."
Finding: This criterion is satisfied.
Explanation of Finding: Development Code Subsection 4.198 (.01) A. implements this standard. It is in the public interest to periodically update the master plans for critical public facilities such as the wastewater collection system to ensure the system provides for adequate service for current and future residents and businesses to ensure proper sanitation and conveyance of wastewater to the treatment plant.

c. Public Interest and Timing of Amendment

CP3. **Review Criterion:** "The public interest is best served by granting the amendment at this time."

Finding: This criterion is satisfied.
Explanation of Finding: Facility master plans such as the wastewater collection system must be updated periodically to provide updated current condition information and use updated data to forecast future needs. The last update to the Wastewater Collection System Master Plan was in 2001, so the public interest is best served by updating the master plan as soon as possible making the current timing appropriate.

d. Adequately Addressing Specific Factors

CP4. **Review Criteria:** "The following factors have been adequately addressed in the proposed amendment: the suitability of the various areas for particular land uses and improvements; the land uses and improvements in the area; trends in land improvement; density of development; property values; the needs of economic enterprises in the future development of the area; transportation access; natural resources; and the public need for healthful, safe and aesthetic surroundings and conditions."
Finding: These criteria are satisfied.
Explanation of Finding:
Suitability of the Various Areas for Particular Land Uses and Improvements: The plan only considers serving areas otherwise acknowledged as future growth areas. The plan includes analysis of the current location of the largest pump station in the City in a flood zone, Memorial Park pump station, and the need to relocate the pump station to a more appropriate location. Otherwise specific location and impacts to natural areas and other resources has not been evaluated, but will be evaluated during the design phase of individual improvements.

Land Uses and Improvements in the Area: The updated Wastewater Collection System Master Plan considers the current land uses throughout the city as well as potential land uses in future growth areas.

Trends in Land Improvement: The amended Wastewater Collection System Master Plan supports the trends identified in other master plans and studies.

Density of Development: The updated Wastewater Collection System Master Plan considers planned densities throughout the City and growth areas over the planning horizon.

Property Values: Planning for an adequate wastewater collection system helps enable a functional system long term which supports sanitation. Lack of proper sanitation and ability to properly dispose of wastewater would negatively affect property values.

The Needs of Economic Enterprises in the Future Development of the Area: Planning for an adequate wastewater collection system helps support economic enterprise in area planned for business growth by planning adequate capacity and service.

Transportation Access: The Wastewater Collection System Master Plan does not consider transportation access.

Natural Resources: The updated Wastewater Collection System Master Plan doesn't specifically address how facility siting and sewer line replacement affect natural resources. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

Public Need for Healthful, Safe and Aesthetic Surroundings and Conditions: Functional and sanitary conveyance of wastewater to the treatment plan, which is the aim of the updated Wastewater Collection System Master Plan, supports healthful, safe, and aesthetic surroundings by preventing unsanitary or environmentally detrimental disposal or treatment of wastewater.

e. Conflict with Metro Requirements

CP5. **Review Criteria:** "Proposed changes or amendments to the Comprehensive Plan do not result in conflicts with applicable Metro requirements."
Finding: These criteria are satisfied.
Explanation of Finding: No conflicts with Metro requirements have been identified.

Citizen Involvement

Goal 1.1: To encourage and provide means for interested parties to be involved in land use planning processes, on individual cases and City-wide programs and policies.

Policy 1.1.1: Wide Range of Public Involvement

CP6. **Review Criterion:** "The City of Wilsonville shall provide opportunities for a wide range of public involvement in City planning programs and processes."
Finding: This criterion is satisfied.
Explanation of Finding: A number of different media and venues have been used to encourage public involvement. Wastewater collection tends to be a subject in which the community does not express a lot of interest as long as the system is functioning well. While a reasonable effort has been made to notify and solicit community involvement, limited interest has been expressed. Information was published in the Boones Ferry Messenger, a community newsletter mailed to every address within Wilsonville's 97070 zip code, the Committee for Citizen Involvement hosted a community open house, the Planning Commission held work sessions, and project staff made information about the project available on the City's website. The City mailed public hearing notices citywide for the Planning Commission and upcoming City Council public hearings.

Implementation Measure 1.1.1.a. Early Public Involvement

CP7. **Review Criterion:** "Provide for early public involvement to address neighborhood or community concerns regarding Comprehensive Plan and Development Code changes. Whenever practical to do so, City staff will provide information for public review while it

is still in "draft" form, thereby allowing for community involvement before decisions have been made."
Finding: This criterion is satisfied.
Explanation of Finding: The City solicited feedback from the Planning Commission and public early in the planning process while the plan was still in draft form. Any feedback has been considered in preparation of the plan.

Goal 1.2: For Wilsonville to have an interested, informed, and involved citizenry.

Policy 1.2.1: User Friendly Information

CP8. **Review Criterion:** "The City of Wilsonville shall provide user-friendly information to assist the public in participating in the City planning programs and processes."
Finding: This criterion is satisfied.
Explanation of Finding: The City has produced user-friendly notices for the project, as well as provided other information, and opportunities, both in person and online, to examine the materials related to the updated Wastewater Collection System Master Plan.

Implementation Measures 1.2.1.a.-c. Clarification, Publicity, and Procedures for Public Involvement

CP9. **Review Criteria:** These measures address the City's responsibility to help clarify the public participation process, publicize ways to participate, and establish procedures to allow reasonable access to information.
Finding: These criteria are satisfied.
Explanation of Finding: The City has produced user-friendly notices for the project, as well as provided other information, and opportunities, both in person and online, to examine the materials related to the updated Wastewater Collection System Master Plan.

Policy 1.3.1. Implementation Measures 1.3.1.b. Clarification, Publicity, and Procedures for Public Involvement

CP10. **Review Criteria:** "The City of Wilsonville shall coordinate with other agencies and organizations involved with Wilsonville's planning programs and policies." "Where appropriate, the City shall continue to coordinate its planning activities with affected public agencies and private utilities. Draft documents will be distributed to such agencies and utilities and their comments shall be considered and kept on file by the City."
Finding: These criteria are satisfied.
Explanation of Finding: The appropriate agencies have been notified through the DLCD notice and/or the Public Hearing Notice. Any comments will be entered into the public hearing record and be considered.

Urban Growth Management

Goal 2.1: To allow for urban growth while maintaining community livability, consistent with the economics of development, City administration, and the provision of public facilities and services.

Implementation Measure 2.1.1.d. Establish and Maintain Revenue Sources for Public Services and Facilities

CP11. **Review Criterion:** "Establish and maintain revenue sources to support the City's policies for urbanization and maintain needed public services and facilities."
Finding: This criterion is satisfied.
Explanation of Finding: While the scope of the Wastewater Collection System Master Plan includes prioritizing short-term and long-term projects for the Capital Improvement Program and developing budget level cost estimates, the update does not evaluate funding tools. The City is examining and will continue to examine revenue sources to support the CIP through such projects as the Charbonneau Consolidated Improvement Plan, the Frog Pond Area Concept Plan, and the Basalt Creek Master Plan.

Implementation Measure 2.1.1.e. Concurrency of Facilities and New Development

CP12. **Review Criterion:** "Allow new development to proceed concurrently with the availability of adequate public services and facilities as specified in Public Facilities and Services Section (Section C) of the Comprehensive Plan."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current policies supporting concurrency of public services and facilities with new development are not altered by the proposed update to the Wastewater Collection System Master Plan.

Policy 2.2.1. Plan for Urbanization

CP13. **Review Criterion:** "The City of Wilsonville shall plan for the eventual urbanization of land within the local planning area, beginning with land within the Urban Growth Boundary."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the effort to plan for the eventual urbanization of these areas.

Implementation Measure 2.2.1.b. Fair Share to Increase Development Capacity

CP14. **Review Criterion:** "The City of Wilsonville, to the best of its ability based on infrastructure provided at the local, regional, and state levels, shall do its fair share to increase the development capacity of land within the Metro UGB."
Finding: This criterion is satisfied.

Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service for planned densities, the City is supporting the effort to provide for its fair share of development within the UGB.

Implementation Measure 2.2.1.g. Urban Services to Not be Extended Outside City Limits

CP15. **Review Criterion:** "Urban sanitary sewer and water service shall not be extended outside the City limits, with the following exceptions:

1. Where an immediate demonstrable threat to the public health exists, as a direct result of the lack of the service in question;
2. Where a Governmental agency is providing a vital service to the City; or
3. Where it is reasonable to assume that the subject area will be annexed to the City within a reasonable period of time."

Finding: This criterion is satisfied.

Explanation of Finding: The updated Wastewater Collection System Master Plan does not plan for extension of wastewater collection services until properties are annexed into the City.

Public Facilities and Services

Goal 3.1 To assure that good quality public facilities and services are available with adequate, but not excessive, capacity to meet community needs, while also assuring that growth does not exceed the community's commitment to provide adequate facilities and services.

Policy 3.1.1. The City to Provide Public Facilities

CP16. **Review Criterion:** "The City of Wilsonville shall provide public facilities to enhance the health, safety, educational, and recreational aspects of urban living."

Finding: This criterion is satisfied.

Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the effort to continue to provide for all aspects of urban living affected by wastewater collection.

Implementation Measure 3.1.1.a. City to Prepare and Implement Facility/Services Master Plans

CP17. **Review Criterion:** "The City will continue to prepare and implement master plans for facilities/services, as sub-elements of the City's Comprehensive Plan. Facilities/services will be designed and constructed to help implement the City's Comprehensive Plan."

Finding: This criterion is satisfied.

Explanation of Finding: The City is continuing the practice to prepare and implement facility/services master plans as sub-elements of the Comprehensive Plan by updating the 13-year-old Wastewater Collection System Master Plan.

Implementation Measure 3.1.1.d. City to Review Development Densities and Facilities/Services Capacity

CP18. **Review Criterion:** "The City shall periodically review and, where necessary, update its development densities indicated in the land use element of the Plan, based on the capacity of existing or planned services and/or facilities."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan incorporates the most up to date growth forecast information to plan enough capacity for the expected growth; it has not identified any areas where planned development densities need to be adjusted based on the capacity to serve with the waste water collection system.

Policy 3.1.2. Concurrency

CP19. **Review Criterion:** "The City of Wilsonville shall provide, or coordinate the provision of, facilities and services concurrent with need (created by new development, redevelopment, or upgrades of aging infrastructure)."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the Wastewater Collection System Master Plan the City is coordinating its efforts over the planning horizon to provide wastewater collection facilities and services concurrent with need, whether it involves new development, redevelopment, or upgrading aging infrastructure.

Implementation Measure 3.1.2.a.Urban Development only in Serviceable Areas

CP20. **Review Criterion:** "Urban development will be allowed only in areas where necessary facilities and services can be provided."
Finding: This criterion is satisfied.
Explanation of Finding: In addition to analyzing the condition of existing infrastructure the updated Wastewater Collection System Master Plan identifies deficiencies and needed improvements to serve areas expected to develop. The City will continue to follow concurrency policies for public facilities and development and thus allow development only in areas were wastewater collection services can be provided.

Policy 3.1.3. Payment for and Benefits from Facilities and Services

CP21. **Review Criterion:** "The City of Wilsonville shall take steps to assure that the parties causing a need for expanded facilities and services or those benefiting from such facilities and services, pay for them."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current practices to require parties causing a need for expanded facilities pay for them are not changed by the scope of the updated Wastewater Collection System Master Plan.

Implementation Measure 3.1.3.a. Developers and SDC's

CP22. **Review Criterion:** "Developers will continue to be required to pay for demands placed on public facilities/services that are directly related to their developments. The City may establish and collect systems development charges (SDCs) for any or all public facilities/services, as allowed by law. An individual exception to this standard may be justified, or SDC credits given, when a proposed development is found to result in public benefits that warrant public investment to support the development."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current SDC practices are not affected by the updated Wastewater Collection System Master Plan.

Implementation Measure 3.1.3.b. Capital Improvement Program

CP23. **Review Criterion:** "The City will continue to prepare and implement a rolling five- year Capital Improvement Program, with annual funding decisions made as part of the municipal budget process."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan is part of the City's continuing effort to prepare and implement a rolling five-year Capital Improvement Program by prioritizing short-term and long-term wastewater collection system projects for the CIP.

Implementation Measure 3.1.3.c. Pay-back Agreements

CP24. **Review Criterion:** "The City shall continue to employ pay-back agreements, development agreements, and other creative solutions for facilities that are over-sized or extended from off-site at the expense of only some of the benefited properties."
Finding: This criterion is satisfied.
Explanation of Finding: The City's policies towards and use of pay-back agreements, development agreements, and other creative infrastructure financing solutions are not affected by the updated Wastewater Collection System Master Plan.

Policy 3.1.4. City Operations of Sanitary System to Standards

CP25. **Review Criterion:** "The City of Wilsonville shall continue to operate and maintain the wastewater treatment plant and system in conformance with federal, state, and regional water quality standards."
Finding: This criterion is satisfied.
Explanation of Finding: As discussed in Section 4 of the plan, the update Wastewater Collection System Master Plan will continue to allow the wastewater system to operate to applicable standards.

Implementation Measure 3.1.4.a. City to Maintain Sewer Service Monitoring and Expansion Program

CP26. **Review Criterion:** "The City shall continue to maintain a sewer service capacity monitoring and expansion program to assure that adequate treatment and trunk main capacity are is available to serve continued development, consistent with the City's urban growth policies and the concurrency standards noted above."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting this implementation measure.

Implementation Measures 3.1.4.b. Sanitary Sewer Capacity

CP27. **Review Criteria:** "The City shall continue to manage growth consistent with the capacity of sanitary sewer facilities."
Finding: These criteria are satisfied.
Explanation of Finding: An updated Wastewater Collection System Master Plan will enable to the City to better continue to manage growth consistent with the capacity of the wastewater collection system by identifying needed upgrades to current infrastructure as well as infrastructure needed for growth in different planned growth areas.

Implementation Measure 3.1.4.d. Extending Service to Individual Properties and Developments

CP28. **Review Criterion:** "While the City assumes the responsibility for maintaining the treatment plant and collection system, it does not assume the responsibility for extending lines to serve individual properties and developments."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan does not affect the City's policy of not assuming responsibility for extending wastewater service to individual properties and developments.

Implementation Measure 3.1.4.e. All Urban Development Served by Sanitary Sewer

CP29. **Review Criterion:** "The City shall continue to require all urban level development to be served by the City's sanitary sewer system."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the ability to provide sanitary sewer service to all urban level development. The updated Wastewater Collection System Master Plan does not affect the City's policy of not allowing urban level development not served by the sanitary sewer system.

Implementation Measure 3.1.4.f. Cost of Individual Services and Line Extensions

CP30. **Review Criterion:** "The cost of all line extensions and individual services shall be the responsibility of the developer and/or property owners(s) seeking service. When a major line is to be extended, the City may authorize and administer formation of a Local Improvement District (LID). All line extensions shall conform to the City Sanitary Sewer Collection System Master Plan, urbanization policies, and Public Works Standards."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current practices regarding LID's and costs for services are not affected by the updated Wastewater Collection System Master Plan.

Parks/Recreation/Open Space, Environmental Resources and Community Design

Policies 3.1.11., 4.1.5. and Implementation Measures 3.1.11.a. ,4.1.5.d.-g.,aa. . Conservation of Natural, Scenic, and Historic Areas

CP31. **Review Criteria:** These policies and implementation measures require and encourage conservation of natural resources, as well as scenic and historic areas.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan doesn't specifically address how facility siting and sewer line replacement affect natural, scenic, and historic resources. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

COMPLIANCE WITH PLANNING AND LAND DEVELOPMENT ORDINANCE

Section 4.003 Consistency with Plans and Laws

PL1. **Review Criterion:** "Actions initiated under this Code shall be consistent with the Comprehensive Plan and with applicable State and Federal laws and regulations as these plans, laws and regulations now or hereafter provide."
Finding: This criterion is satisfied.
Explanation of Finding: Consistency with the Comprehensive Plan and applicable state laws has been reviewed and summarized in this report.

Section 4.008 General Application Procedures

PL2. **Review Criterion:** "The general application procedures listed in Section 4.008 through 4.024 apply to all land use and development applications governed by Chapter 4 of the Wilsonville Code. These include applications for all of the following types of land use or development approvals:
H. Changes to the text of the Comprehensive Plan, including adoption of new Plan elements or sub-elements, pursuant to Section 4.198;"
Finding: This criterion is satisfied.
Explanation of Finding: Adoption of the updated Wastewater Collection System Master Plan is being reviewed pursuant to Section 4.198.

Subsection 4.009 (.02) Who Can Initiate Application

PL3. **Review Criterion:** "Applications involving large areas of the community or proposed amendments to the text of this Chapter or the Comprehensive Plan may be initiated by any property owner, business proprietor, or resident of the City, as well as the City Council, Planning Commission, or Development Review Board acting by motion."
Finding: This criterion is satisfied.
Explanation of Finding: The application has been initiated by the City as part of its responsibility to periodically update facility master plans.

Subsection 4.032 (.01) B. Authority of Planning Commission

PL4. **Review Criterion:** This Section states that the Planning Commission has authority to make recommendations to the City Council on "legislative changes to, or adoption of new elements or sub-elements of the Comprehensive Plan."
Finding: This criterion is satisfied.
Explanation of Finding: The proposed legislative change is being considered by the Planning Commission as a recommendation to the City Council. The issue before the Planning Commission is a legislative review of an amended sub-element of the Comprehensive Plan.

Subsection 4.033 (.01) B. Authority of City Council

PL5. **Review Criterion:** This Section states that the City Council has final decision-making authority on "applications for amendments to, or adoption of new elements or sub-elements to the maps or text of the Comprehensive Plan, as authorized in Section 4.198."
Finding: This criterion is satisfied.
Explanation of Finding: Final action will be taken by the City Council following a recommendation from the Planning Commission.

Subsection 4.198 (.01) A. Comprehensive Plan Changes: Public Need

PL6. **Review Criterion:** "That the proposed amendment meets a public need that has been identified;"
Finding: This criterion is satisfied.
Explanation of Finding: It is in the public interest to periodically update the master plans for critical public facilities such as the wastewater collection system to ensure the system provides for adequate service for current and future residents and businesses to ensure proper sanitation and conveyance of wastewater to the treatment plant.

Subsection 4.198 (.01) B. Comprehensive Plan Changes: Meets Public Needs As Well As Other Options

PL7. **Review Criterion:** "That the proposed amendment meets the identified public need at least as well as any other amendment or change that could reasonably be made;"

Finding: This criterion is satisfied.
Explanation of Finding: As a sub-element of the Comprehensive Plan the Wastewater Collection System Master Plan aims to provide for the public need of adequate wastewater collection service. An updated Wastewater Collection System Master Plan better meets the public need than the current plan by using updated information about the condition of existing infrastructure and growth projections.

Subsection 4.198 (.01) C. Comprehensive Plan Changes: Statewide Planning Goals

PL8. **Review Criterion:** "That the proposed amendment supports applicable Statewide Planning Goals or a Goal exception has been found to be appropriate; and;"
Finding: This criterion is satisfied.
Explanation of Finding: Please see compliance with Statewide Planning Goals section below.

Subsection 4.198 (.01) D. Comprehensive Plan Changes: Conflict with Other Portions of the Comprehensive Plan

PL9. **Review Criterion:** "That the proposed change will not result in conflicts with any portion of the Comprehensive Plan that is not being amended."
Finding: This criterion is satisfied.
Explanation of Finding: No conflicts between the updated Wastewater Collection System Master Plan and other portions of the Comprehensive Plan have been identified.

COMPLIANCE WITH OREGON STATEWIDE PLANNING GOALS

Statewide Planning Goals

Goal 1 Citizen Involvement

OR1. **Review Criterion:** "To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process."
Finding: This criterion is satisfied.
Explanation of Finding: The citizen involvement process defined in Wilsonville's Comprehensive Plan has been acknowledged to be in conformance with Goal 1. Findings CP6 through CP10 demonstrate compliance with the citizen involvement component of the Comprehensive Plan and thus Goal 1.

Goal 2 Land Use Planning

OR2. **Review Criterion:** "To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions."
Finding: This criterion is satisfied.
Explanation of Finding: The City is currently in compliance with Goal 2 because it has an acknowledged Comprehensive Plan and regulations implementing the plan. The

Wastewater Collection System Master Plan is a sub-element supporting this plan. A Wastewater Collection System Master Plan will continue to be a sub-element of the Comprehensive Plan and the scope of the update will not change conformance with this goal, but rather provide updated information to better support land use planning in Wilsonville.

Goal 5 Natural Resources, Scenic and Historic Areas, and Open Spaces

OR3. **Review Criterion:** "To protect natural resources and conserve scenic and historic areas and open spaces."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan does not specifically address how facility siting and sewer line replacement impacts natural, scenic, and historic resources and open space. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

Goal 6 Air, Water and Land Resource Quality

OR4. **Review Criteria:** "To maintain and improve the quality of the air, water and land resources of the state."
Finding: These criteria are satisfied.
Explanation of Finding: The proposed updated Wastewater Collection System Master Plan provides for sanitary disposal of wastewater to prevent the wastewater from polluting and degrading water and land resources. It supports the planning guideline of this rule to only designate residential use where approvable sewage disposal alternatives have been clearly identified.

Goal 7 Areas Prone to Natural Disasters and Hazards

OR5. **Review Criteria:** "To protect life and property from natural disasters and hazards."
Finding: These criteria are satisfied.
Explanation of Finding: The wastewater collection system has been evaluated for risks associated with natural disasters and hazards, see page 2-9 of Section 2. One identified risk is the highest volume pump station, Memorial Park, which is in an area prone to flooding. The updated Wastewater Collection System Master Plan includes a project to relocate the pump station outside the area prone to flooding; thus, improving the system's performance related to this criteria.

Goal 11 Public Facilities and Services

OR6. **Review Criteria:** "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan is among the utility plans that are sub-elements of the City's Comprehensive Plan. Using

updated information on the condition of existing infrastructure as well as updated growth forecasts will better enable the timely, orderly and efficient arrangement of wastewater collection facilities and services.

Oregon Administrative Rules

Division 660 Public Facilities Planning

OAR 660-11-0010 The Public Facility Plan

OR7. **Review Criteria:** This OAR identifies what a Public Facility Plan, such as the updated Wastewater Collection System Master Plan, must contain.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan inventories and assesses Wilsonville's wastewater collection system in support of current and planned land uses; and it includes a list of projects and prioritized projects for short-term and long-term improvements, budget-level cost estimates of projects, and maps of the systems and projects. The master plan also identifies the City as the service provider in City limits and in areas expected to be annexed into the City in the future. A discussion of the City's funding mechanisms is included in the Comprehensive Plan, but is not affected by this update.

OAR 660-11-0015 Responsibility for Public Facility Plan Preparation

OR8. **Review Criteria:** This OAR identifies who is responsible for preparing public facility plans.
Finding: These criteria are satisfied.
Explanation of Finding: The City of Wilsonville has the responsibility to prepare facility plans for public facilities including the wastewater collection system. An existing facility plan, which is a sub-element of the City of Wilsonville's Comprehensive Plan, is being updated to ensure an up-to-date facility plan.

OAR 660-11-0020 Public Facility Inventory and Determination of Future Facility Projects

OR9. **Review Criteria:** This OAR identifies components of public facility inventories.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes an inventory of the City's wastewater collection system including all the required components listed in this OAR: maps, information on capacity and size, assessment of conditions, identification of projects supportive of the City's Comprehensive Plan land use designations, and acknowledgment of future flexibility based on impact studies, facility design, and further master planning efforts.

OAR 660-11-0025 Timing of Required Public Facilities

OR10. **Review Criteria:** This OAR requires public facility plans include a general estimate of the timing for planned public facility projects.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes information on short-term and long-term projects. See Section 7.

OAR 660-11-0030 Location of Public Facility Projects

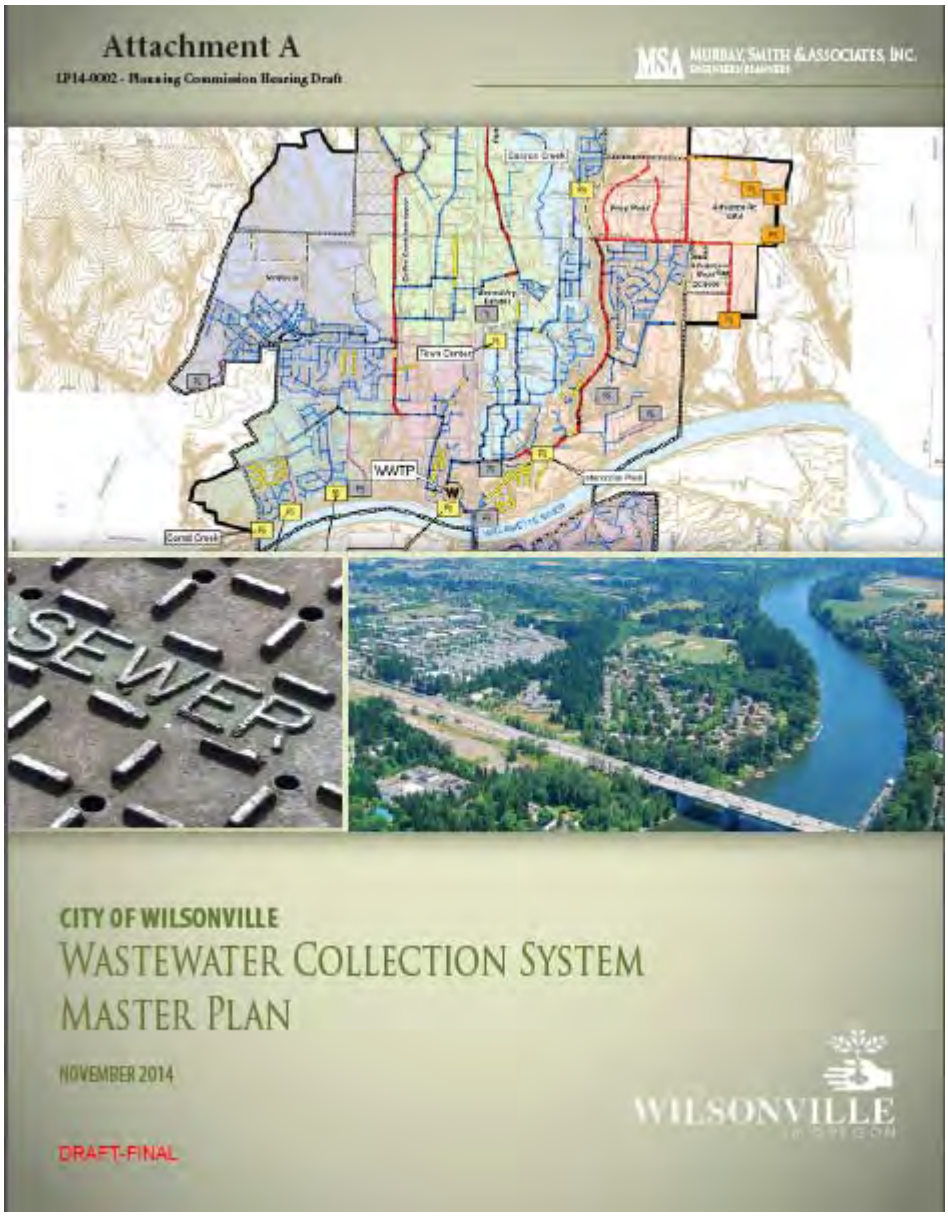
OR11. **Review Criteria:** This OAR requires public facility plans include a general location of projects
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes information, such as maps, on project locations.

OAR 660-11-0035 Determination of Rough Cost Estimates

OR12. **Review Criteria:** This OAR requires public facility plans include rough cost estimates for projects.
Finding: These criteria are satisfied.
Explanation of Finding: The scope of the updated Wastewater Collection System Master Plan includes budget level cost estimates for identified projects.

OAR 660-11-0045 Adoption and Amendment Procedures for Public Facility Plans

OR13. **Review Criteria:** This OAR identifies public facility plans as supporting documents to the comprehensive plan and identifies related items to be in the comprehensive plan.
Finding: These criteria are satisfied.
Explanation of Finding: The Wastewater Collection System Master Plan is a sub-element of the City of Wilsonville's Comprehensive Plan and includes a list of projects, a map of projects, and policies on urban growth and the provision public facilities. The updated Master Plan is being considered a land use decision with the appropriate noticing and hearing processes being followed.



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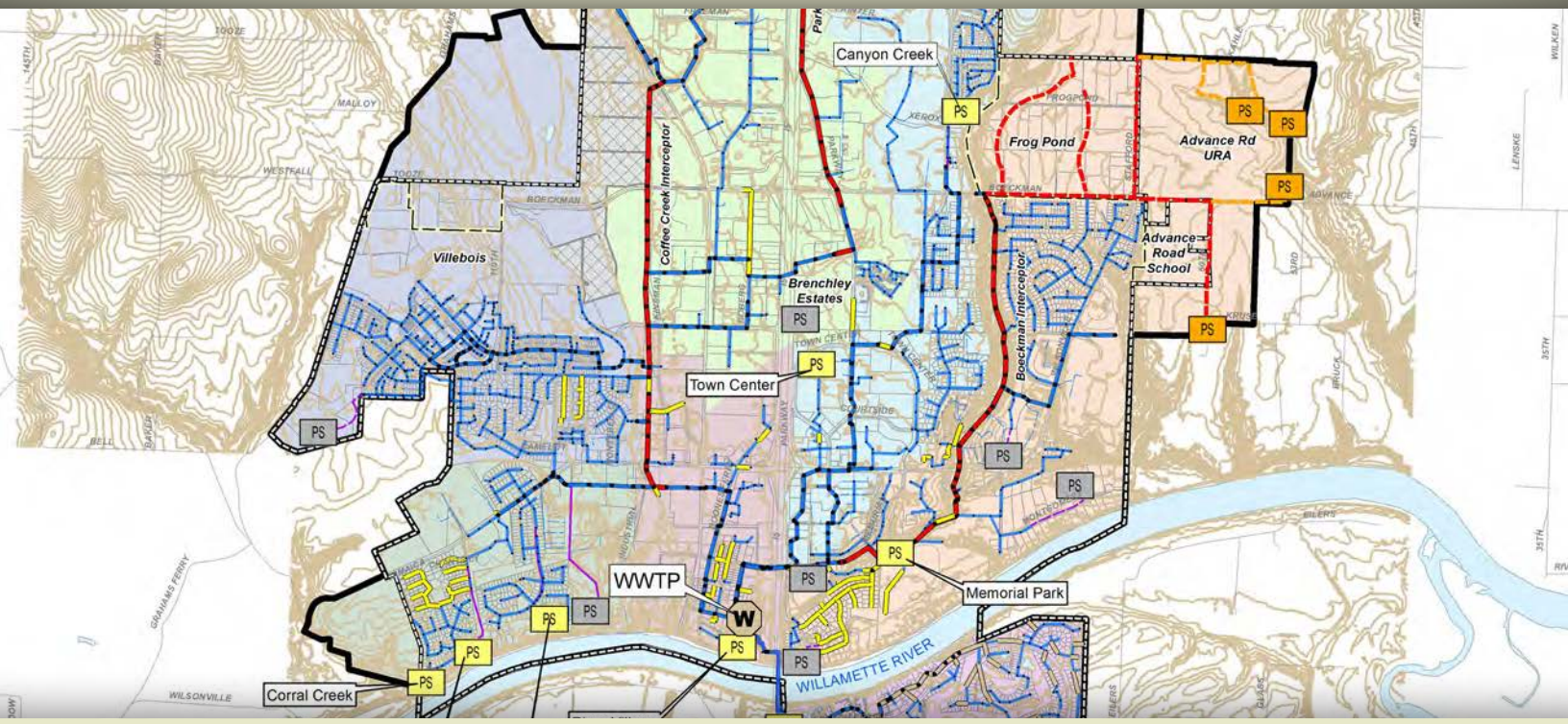

CITY OF WILSONVILLE
WASTEWATER COLLECTION SYSTEM MASTER PLAN

NOVEMBER 2014

City of WILSONVILLE in OREGON

DRAFT-FINAL

EXECUTIVE SUMMARY

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ø	diameter
$	dollar
°F	degrees Fahrenheit
AC	asbestos cement
AF	agricultural/farm (zoning)
ASTM	American Society for Testing and Materials
AWWA	American Waterworks Association
BMP	best management practices
BPA	Bonneville Power Administration
CCCF	Coffee Creek Correction Facility
CCTV	closed-circuit television
CIP	Capital Improvement Program
CSMP	Collection System Master Plan
CWA	Clean Water Act
DBO	Design-Build-Operate
DEQ	Oregon Department of Environmental Quality
DI	ductile iron

DIA	diameter
DWF	dry weather flow
EDU	equivalent dwelling unit
EFU	exclusive farm or forest use (zoning)
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ETC	etcetera
FEMA	Federal Emergency Management Agency
FD	future development (zoning)
FPS	feet per second
FT	feet
FT/SEC	feet per second
GIS	geographic information system
GPAD	gallons per acre per day
GPCPD	gallons per capita per day
GPD	gallons per day
GPM	gallons per minute
GWI	groundwater infiltration
HDPE	high density polyethylene
HP	horsepower
I-205	Interstate 205
I-5	Interstate 5
JAN	January
LID	low-impact development
LF	linear-feet
METRO	Metropolitan Service District
MG	million gallons
MGD	million gallons per day
MPPS	Memorial Park Pump Station
MSA	Murray, Smith & Associates, Inc.
MS4	municipal separate storm sewer system
NE	northeast
No.	number
NOAA	National Oceanic and Atmospheric Administration
NOV	November
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NW	northwest
OAR	Oregon Administrative Rule
P&W	Portland and Western
PDC	planned development commercial (zoning)
PDCTC	planned development town center (zoning)
PDI	planned development industrial (zoning)
PDR	planned development residential (zoning)
PE	polyethylene

PF	public facilities (zoning)
PFC	public facilities corrections (zoning)
PFP	public facility plan
PGE	Portland General Electric
POTW	publically owned treatment works
PSU	Portland State University
PVC	polyvinyl chloride
PWS	public works standards
RAH	agricultural holding (zoning)
RDII	rainfall derived inflow and infiltration
RI	rural industrial (zoning)
RRFF5	rural residential (zoning)
SCADA	supervisory control and data acquisition
SDC	system development charge
SDR	standard dimension ratio
SE	southeast
SROZ	significant resource overlay zone
SSO	sanitary sewer overflow
SW	southwest
TMDL	total maximum daily load
TSP	transportation system plan
UD	United Disposal
UGB	urban growth boundary
UH	unit hydrograph
URA	urban reserve area
U.S.	United States
V	volt
WRWTP	Willamette River Water Treatment Plant
WSMP	water system master plan
WWF	wet weather flow
WWTP	wastewater treatment plant

ACKNOWLEDGEMENTS

The completion of this plan could not be accomplished without the historical knowledge and hands-on experience of the Wilsonville wastewater collection system. The support, professional courtesy and cooperation of the following city staff members have been instrumental in completing this document (listed alphabetically):

- Adams, Steve – Development Engineering Manager
- Kraushaar, Nancy – Community Development Director / City Engineer
- Labrie, Jason – Public Works Supervisor
- Mangle, Katie – Manger of Long-Range Planning
- Mende, Eric – Capital Projects Engineering Manager
- Neamtzu, Chris – Planning Director
- Rothenberger, Susan – GIS and Mapping Technician
- Ward, Mike – Civil Engineer / Project Manager

INTRODUCTION

The purpose of this wastewater Collection System Master Plan (CSMP) is to provide the City of Wilsonville (City) a guidance document that summarizes the needs of the collection system and assists in its sound stewardship. The primary goals of this CSMP include: (1) present criteria required for evaluating the system; (2) identify current and future system deficiencies and describe recommended improvements to correct them; and (3) provide planning-level cost information for general budgeting and the development of a prioritized Capital Improvement Program (CIP).

Study Area

The study area for the CSMP, presented in Figure ES-1, includes the urban growth boundary (UGB), where the City currently provides wastewater collection service. Also included within the study area are urban reserve areas (URAs) identified by the Metropolitan Service District (METRO). Build-out of the UGB is estimated to occur over the next 20 years. Over the planning horizon, consideration will be given to incorporating the adjacent URAs into the UGB. Because wastewater flows from the URAs would likely impact the collection system, these future growth areas are also included within the study area.

The study area has been delineated at the northern border with the City of Tualatin, allowing service by gravity conveyance based on topography. The exact delineation of the Tualatin/Wilsonville service area will be further refined as future planning of the Basalt Creek Planning Area continues over the next several years.

Wastewater Collection System and Sewer Basins

Wastewater generated within Wilsonville is conveyed through a City-owned and operated sewer collection system. These wastewater flows are transmitted through both gravity and pumped pipelines to the Wilsonville Wastewater Treatment Plant (WWTP). The existing and future wastewater service areas are divided into seven primary basins, covering nearly 12 square miles. The primary basins and associated main interceptors are identified in red text in Figure ES-2.

The collection system is comprised of gravity pipes between 4 and 36 inches in diameter. The total length of the gravity collection system is approximately 69.5 miles, nearly 70% of which consists of pipelines 8-inches in diameter and smaller. The oldest portion of the collection system is referred to as Old Town and is located around the WWTP, Boones Ferry Road, Town Center and Charbonneau areas. The pipes within these areas are 35 to 40 years old and comprised primarily of original concrete pipe and manholes. As the collection system has expanded over time, newer piping generally consists of polyvinyl chloride (PVC) with concrete manholes.

FIGURE ES-1

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM STUDY AREA

MSA Murray, Smith & Associates, Inc. Engineers/Planners
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OCTOBER 2014

ONEIDA
COMLITZ
TONQUIN
WALDO
NORWOOD
84TH
I5
82ND
GREENHILL
CLAY
GRAHAMS FERRY
BOONES FERRY
DAY
COMMERCE
GARDEN ACRES
ELLIGSEN
CLUTTER
RIDDER
WHEATLAND
MORGAN
GAGE
NODAWAY
65TH
BRIAR PATCH
CANYON CREEK
95TH
FREEMAN
PRINTER
KAME
TOOZE
MALLOY
WESTFALL
FROGPOND
XEROX
PARKWAY
STAFFORD
BOECKMAN
ADVANCE
110TH
KINSMAN
BOBERG
60TH
53RD
KRUSE
TOWN CENTER
WILSONVILLE
BRUCK
CAMELOT
MONTEBELLO
COURTSIDE
INDUSTRIAL
MEMORIAL
MONTGOMERY
EILERS
JAMAICA
WILLAMETTE RIVER
FRENCH PRAIRIE
GLASS
BUTTEVILLE
FAIRWAY
MILEY
LAWNVIEW
AIRPORT
PRAIRIE VIEW
GRAHAM
CEDAR BROOK
DENBROOK
HWY 551
COUNTRYSIDE
KNIGHTS BRID

County Boundary
City Boundary
Street
Water Body
Study Area
Urban Growth Boundary
Urban Reserve Area
Taxlot

0 2,500 5,000 Feet

N

G:\PDX_Projects\13\1488\GIS\MXD\Wilsonville_StudyArea_FigureES-1.mxd 11/3/2014 9:44:11 AM SJR

The City owns and operates eight public pump stations (lift stations) of various sizes, which discharge wastewater through pressurized force main piping to the gravity trunk system. The largest and most significant pump station within the system is the Memorial Park Pump Station. In addition to these public pump stations, there are several privately-owned pump stations within the City maintained by their respective owners. Figure ES-2 shows the pump station locations throughout the system.

Flow Projection and Capacity Analysis

The CSMP documents existing wastewater flows and future flow projections based on designated land use. For future flow assumptions, all currently unsewered parcels within the UGB were assumed to be sewered. The capacity of the collection system was evaluated using an estimate of the total peak wastewater flow projected for both existing and future conditions.

The peak wastewater flow is a combination of dry weather flow (DWF), groundwater infiltration (GWI), and wet weather flow (WWF). DWF is the assumed wastewater base flow contributed by residents and businesses, and varies throughout the day in response to personal habits and business operations. GWI is water which enters the collection system through defective pipes, pipe joints, and manhole walls. GWI varies with groundwater depth and is generally seasonal in nature. WWF is stormwater inflow which enters the collection system during or immediately following a precipitation event. This water enters the system through leaky manhole covers and defective underground pipes, as well as through illegal direct connections such as roof drains, yard and area drains, and storm drains. Figure ES-3 illustrates how these flow components are combined to estimate the peak wastewater flow for all areas in the collection system.

Existing peak wastewater flows were derived from water usage records and flow measurement data collected at the wastewater treatment plant and several flow measurement sites over the past 7 years. Future flows were estimated assuming complete build-out of the City, including all parcels within the City limits and UGB, and development of specific areas of the URA, as currently defined by the City. Future peak wastewater flows used in analysis of the system were generated using a hypothetical winter rainfall event with a reoccurrence interval once in 10 years, or 10 percent probability, in accordance with City standards.

Three scenarios assuming relative low, medium and high development densities were applied to undeveloped areas, with the medium density scenario representing the average development potential. The low and high density scenarios were used to characterize system sensitivity to higher or lower peak flows, and provide an overall range of capacity-related improvements anticipated to be necessary as the City develops.

A computer model of the collection system was created using the Innovyze InfoSWMM software package to evaluate the capacity of the various system components under peak wastewater flows. To maximize accuracy of the analysis, the model was first calibrated using flow measurement data collected by the City during the most significant winter storm event in the recent past, the January 18-19, 2012 storm.

FIGURE ES-2

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM BASIN AND SYSTEM MAP

MSA Murray, Smith & Associates, Inc. Engineers/Planners
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Coffee Creek

Railroad Undercrossing

Canyon Creek

Boeckman

Villebois

Boberg Diversion

Parkway Interceptor I-5 Undercrossing

Canyon Creek/ Town Center

Town Center

Canyon Creek Flow Splitter

Wood School Interceptor

Seely Ditch Undercrossing

Old Town

Memorial Drive Flow Splitter

Wood School

Memorial Park

Beockman Creek Interceptor I-5 Undercrossing

Corral Creek

River Village

Rivergreen

Moreys Landing

Charbonneau

Coffee Creek Interceptor

Parkway Interceptor

Canyon Creek Interceptor

Boeckman Interceptor

W WWTP

PS Public Pump Station

PS Private Pump Station

Manhole

D Flow Diversion

S Flow Splitter

U Undercrossing

Pipe Public

Pipe Private

Forcemain Public

Forcemain Private

Study Area

Urban Growth Boundary

City Boundary

Street

Water Body

Sewer Basin

Charbonneau

Canyon Creek/Town Center

Coffee Creek

Boeckman

Villebois

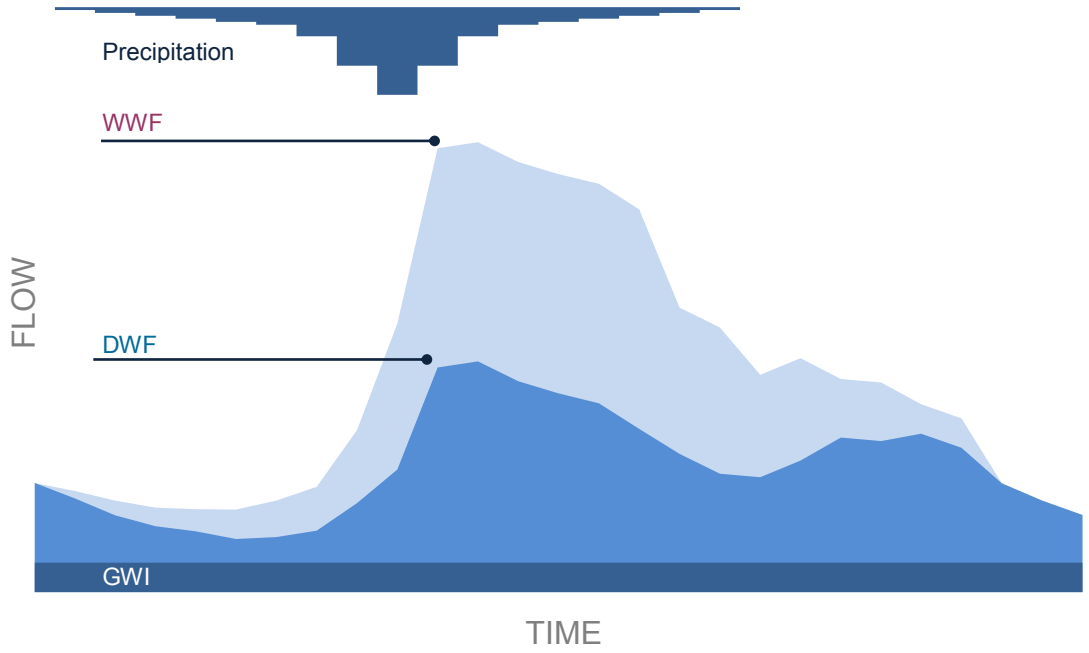
Old Town

Wood School

0 2,500 5,000 Feet

N

Figure ES-3 | Generic Schematic of Wastewater Flow Components



The system analysis identified components which do not meet minimum criteria as defined by City Public Works Standards and the Oregon Department of Environmental Quality (DEQ). The primary standard is that the depth of flow in all pipes must be less than the pipe diameter at peak flow. Where the pipe is flowing at greater than full depth, this condition is called "surcharged", and the pipe is considered to be capacity-deficient. Pump stations are considered deficient when they are not able to handle the peak flow with their largest pump out of service. Other criteria were also evaluated to identify areas where additional maintenance and flushing may be required due to low pipeline velocities.

Historic and Future Population Data

For consistency purposes, this wastewater CSMP utilized population projections previously developed for the City's 2012 Water System Master Plan (WSMP). Based on land use and densities outlined in the WSMP, a population build-out condition of 52,400 residents for the study area may be reached in the year 2045, assuming an annual growth rate of 2.9%.

The City selected the high density growth scenario for capital improvement selection and sizing. The peak total flow projections (DWF+WWF) at build-out conditions under the high density scenario are 17.9 million gallons per day (mgd) within the UGB and 23.5 mgd within the UGB and potential URA. Those improvements identified in the high density scenario, but not identified in the medium and low density scenarios were given lowest priority in the CIP. Improvements identified in all three scenarios or to serve future areas within the UGB were given highest priority in the CIP. Sizing improvements based on these flow projections accommodates the future population projections as well as industrial and commercial growth potential.

Condition Assessment Results

A general condition assessment for the gravity piping and pump stations was conducted. The majority of the City's gravity piping system is reported to function in good condition; however, known problem areas were identified within the Charbonneau basin and select areas containing concrete piping installed in the 1970s. Several pump stations that require regular maintenance were indicated. All of the City's pump stations are projected to require some level of condition-based upgrades within the CIP timeframe due to the wear of mechanical and electrical components.

Capacity Analysis Results and Capital Improvement Plan Summary

The capacity analysis indicated that there are no capacity-related restrictions under existing development conditions. To accommodate full build-out of the UGB, the collection system requires capacity upgrades at an estimated cost of $9.9 million over the next ten years. The collection system would require an additional $19.0 million of capacity upgrades to accommodate areas within the URA but outside the UGB. Capacity upgrade improvements related to future growth are funded by development through system development charges (SDCs). Memorial Park Pump Station, diversion structure, and flow splitter improvements in the CIP are required for both capacity and condition-based issues. The capacity portion of these improvements are also funded by development through SDCs. An additional $15.7 million in condition-based only improvements were identified over the 20-year planning horizon. The recommended CIP for the short-term period (next 5 years) includes $8.6 million in capacity and condition-based improvements.

Placeholder costs for new collection system infrastructure needed to serve future development within the study area were estimated. The new infrastructure costs will be entirely paid for by new development through a combination of SDCs and infrastructure constructed by developers. These costs are estimated at $114 million.

The overall CIP cost estimates are summarized in Table ES-1. Capital improvements are illustrated in Figures ES-4 (capacity upgrades), ES-5 (condition-based improvements), and ES-6 (new infrastructure).

It is recommended the City implement the short-term improvements identified in the CIP to address capacity and condition issues. It is also recommended that the City continue to improve the quality of available collection system information, through continued flow monitoring, and maintaining a consistent program of performing closed-circuit television (CCTV) inspections of all pipelines. Additionally, it is recommended the City reassess long-term improvements (beyond 6 years) by periodically updating the hydraulic model using actual development conditions and additional flow monitoring information.

Table ES-1 Capital Improvement Program Summary (Estimated Total Costs)					
Improvement Category	Prioritization Category	Time Frame (Cost)[1, 2]			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
Existing System Upgrades for Future Development	UGB	$3,080,000	$6,830,000	---	$9,910,000
	Advance Road URA	---	$7,510,000	---	$7,510,000
	URA	---	$300,000	$11,225,000	$11,525,000
	Total	$3,080,000	$14,640,000	$11,225,000	$28,945,000
New Infrastructure for Future Development	UGB	$29,170,000	$32,620,000	---	$61,790,000
	Advance Road URA	---	$7,440,000	---	$7,440,000
	URA	---	---	$44,840,000	$44,840,000
	Total	$29,170,000	$40,060,000	$44,840,000	$114,070,000
Condition Based	UGB	$5,566,000	$3,125,000	$6,993,000	$15,684,000

The CIP costs are summarized in Table ES-2 by funding mechanism including the following categories:

- City's Sewer Operating Fund – Condition-based improvements
- City's Sewer Operating Fund – Existing system upgrades [*Operating Fund Cost = Total Cost x (Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – Existing system upgrades [SDC Fund Cost = *Total Cost x (1 - Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – New Piping Infrastructure, Oversizing Component
- Developer Direct Contribution – New Piping Infrastructure, Non-oversizing Component
- Developer Direct Contribution – New Pump Stations and Associated Force mains (may require formation of reimbursement district)

Table ES-2 Capital Improvement Program Summary By Funding Mechanism (Estimated Total Costs)					
Funding Mechanism	Prioritization Category	Time Frame (Cost)[1, 2]			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
City's Sewer Operating Fund - Condition Based	UGB	$5,566,000	$3,125,000	$6,993,000	$15,684,000
City's Sewer Operating Fund - Existing System Upgrades	UGB	$1,208,000	$1,364,500	---	$2,572,500
	Advance Road URA	---	$854,000	---	$854,000
	URA	---	$90,000	$4,017,000	$4,107,000
	Total	$1,208,000	$2,308,500	$4,017,000	$7,533,500
City's SDC Fund - Existing System Upgrades	UGB	$1,872,000	$5,465,500	---	$7,337,500
	Advance Road URA	---	$6,656,000	---	$6,656,000
	URA	---	$210,000	$7,208,000	$7,418,000
	Total	$1,872,000	$12,331,500	$7,208,000	$21,411,500
City's SDC Fund - New Piping Infrastructure, Oversizing Component	UGB	$4,430,000	$2,960,000	---	$7,390,000
	Advance Road URA	---	$390,000	---	$390,000
	URA	---	---	$7,430,000	$7,430,000
	Total	$4,430,000	$3,350,000	$7,430,000	$15,210,000
Developer Direct Contribution - New Piping Infrastructure, Non-oversizing Component	UGB	$23,380,000	$20,380,000	---	$43,760,000
	Advance Road URA	---	$3,180,000	---	$3,180,000
	URA	---	---	$36,070,000	$36,070,000
	Total	$23,380,000	$23,560,000	$36,070,000	$83,010,000
Developer Direct Contribution - New Pump Stations & Associated Force mains	UGB	$1,360,000	$9,280,000	---	$10,640,000
	Advance Road URA	---	$3,870,000	---	$3,870,000
	URA	---	---	$1,340,000	$1,340,000
	Total	$1,360,000	$13,150,000	$1,340,000	$15,850,000

Notes for Tables ES-1 and ES-2

Note 1. Cost estimates represent a Class 5 budget estimate, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

Note 2. See Section 7, "Capital Improvement Program" for additional cost assumptions and notes.

FIGURE ES-4

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS EXISTING SYSTEM CAPACITY UPGRADES

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Villebois

Brenchley Estates

Frog Pond

Advance Rd URA

Advance Road School

Railroad Undercrossing

Canyon Creek

Boberg Diversion

Town Center

Memorial Dr Flow Splitter

Memorial Park

WWTP

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

Phase 2

Phase 1

Phase 3

Coffee Creek Interceptor

Parkway Interceptor

Boeckman Interceptor

Phase 2

Phase 1

WILLAMETTE RIVER

TONQUIN

WALDO

ONEIDA

NORWOOD

GREENHILL

CLAY

GRAHAMS FERRY

BOONES FERRY

DAY

COMMERCE

GARDEN ACRES

CLUTTER

RIDDER

WHEATLAND

MORGAN

ELLIGSEN

BRIAR PATCH

KAHLE

GAGE

NODAWAY

65TH

76TH

84TH

82ND

95TH

FREEMAN

PRINTER

PARKWAY

XEROX

FROGPOND

STAFFORD

BOECKMAN

ADVANCE

53RD

60TH

KRUSE

BRUCK

EILERS

GLASS

TOWN CENTER

COURTSIDE

CAMELOT

MONTEBELLO

INDUSTRIAL

MONTGOMERY

KAME

TOOZE

MALLOY

WESTFALL

110TH

KINSMAN

BOBERG

LAWNVIEW

AIRPORT

PRAIRIE VIEW

FAIRWAY

FRENCH PRAIRIE

BUTTEVILLE

GRAHAM

CEDAR BROOK

CHAMPOEG

I5

PS Public Pump Station

PS Private Pump Station

W WWTP

Manhole

Pipe Public

Pipe Private

Forcemain Public

Forcemain Private

Urban Growth Boundary

City Boundary

Study Area

Metro Open Space

Development (2014)

Developed UGB

Undeveloped UGB

Urban Reserve

Other Improvement

D Flow Diversion

S Flow Splitter

U Undercrossing

Pump Station Improvement

PS UGB

PS URA

Pipeline Improvement

UGB, Gravity

Advance Road URA, Gravity

Advance Road URA, Forcemain

URA, Gravity

0 2,500 5,000 Feet

N

FIGURE ES-5

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS CONDITION BASED

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Frog Pond

Advance Rd URA

Villebois

Brenchley Estates

Advance Road School

Coffee Creek Interceptor

Parkway Interceptor

Boeckman Interceptor

Canyon Creek

Boberg Diversion

Town Center

Memorial Dr Flow Splitter

Seely Ditch Undercrossing

Memorial Park

WWTP

River Village decommission

Grinder Pump @ Park

Charbonneau

Corral Creek

Rivergreen

Moreys Landing

WILLAMETTE RIVER

BUTTEVILLE

CEDAR BROOK

TONQUIN

WALDO

GREENHILL

CLAY

DAY

COMMERCE

ELLIGSEN

CLUTTER

RIDDER

WHEATLAND

MORGAN

GRAHAMS FERRY

BOONES FERRY

GARDEN ACRES

NORWOOD

GAGE

NODAWAY

65TH

BRIAR PATCH

KAHLE

KAME

TOOZE

MALLOY

WESTFALL

FREEMAN

95TH

PRINTER

XEROX

FROGPOND

PARKWAY

BOECKMAN

STAFFORD

ADVANCE

53RD

60TH

KRUSE

BRUCK

TOWN CENTER

COURTSIDE

CAMELOT

MONTEBELLO

KINSMAN

BOBERG

MONTGOMERY

EILERS

GLASS

FRENCH PRAIRIE

FAIRWAY

LAWNVIEW

AIRPORT

PRAIRIE VIEW

GRAHAM

I5

PS

W

Legend

- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Forcemain Public
- Forcemain Private
- Urban Growth Boundary
- City Boundary
- Study Area
- Metro Open Space

Development (2014)

- Developed UGB
- Undeveloped UGB
- Urban Reserve

Other Improvement (0-5 Years)

- D Flow Diversion
- S Flow Splitter
- U Undercrossing

Pump Station Improvement

- PS 0-5 Years
- PS 6-10 Years
- PS 11-20 Years

- Pipe Replacement (Concrete)
- Charbonneau Pipe Replacement

0 2,500 5,000 Feet

N

FIGURE ES-6

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS NEW INFRASTRUCTURE

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Basalt Creek
Coffee Creek
Coffee Creek Interceptor
Parkway Interceptor
Boeckman Interceptor
Canyon Creek
Frog Pond
Advance Rd URA
Advance Road School
Brenchley Estates
Villebois
Town Center
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

Future Development Area
1
2
3
4
5
6
7
8
9
10
11
12
13
14

W WWTP
PS Public Pump Station
PS Private Pump Station
Manhole

Pipe Public
Pipe Private
Force Main Public
Force Main Private

Urban Growth Boundary
City Boundary
Study Area
Metro Open Space

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

New Infrastructure (No Concept Plan)
UGB, Gravity
UGB, Pump
URA, Gravity
URA, Pump

Planned Piping
UGB
Advance Road URA

Pump Station Improvement
Advance Road URA

0 2,500 5,000 Feet

N

INTRODUCTION

The purpose of this wastewater Collection System Master Plan (CSMP) is to update the City of Wilsonville (City) previous CSMP created in July of 2001.

This CSMP:

- Summarizes basic information describing the wastewater collection system.
- Describes the how the system components function.
- Presents technical criteria required for evaluating the system.
- Identifies current system deficiencies and describes recommended improvements to correct them.
- Identifies future system needs to accommodate future growth.
- Contains planning-level cost information for general budgeting and the development of a prioritized Capital Improvement Program (CIP).
- Provides reference document for City leaders, technical staff, consultants, customers and other interested parties about the existing system and future recommended improvements.
- Incorporates community values and priorities through input from a public open house process.
- Facilitates logical planning decisions and utility coordination relative to other City projects and programs.

PURPOSE

This CSMP provides a valuable tool to facilitate timely, orderly and efficient management of the City's wastewater collection system over the next 20 years. This document serves as a "Public Facilities Plan" for sewer collection systems according to Oregon Administrative Rule (OAR) 660, Division 11. This OAR stipulates that facility plans be developed as support documents for the City's Comprehensive Plan.

How This Plan Should Be Used

This CSMP serves as the guiding document for future collection system improvements, and should:

- Be reviewed annually to prioritize and budget needed improvements.
- Have its mapping updated regularly to reflect ongoing development and construction.
- Specific system improvement recommendations should be regarded as conceptual.

  The location, size and timing of projects may change as additional site-specific details and potential alternatives are investigated in the preliminary engineering phase of design.
- Be update and refined as preliminary engineering and final project designs are completed.

SCOPE

Murray, Smith and Associates, Inc. (MSA) were selected by the City in June of 2013 to provide municipal master planning services related to wastewater collection, and for updating the Geographic Information System (GIS) map of the collection system.

MSA worked closely with the City to develop a Scope of Work that provides the necessary guidance for both current and future wastewater management decisions. The Scope of Work included the following abbreviated elements:

- Compile and review flow monitoring data, pump station data, maintenance reports, maps, record drawings, aerial photography, topography, system base maps, City standards and other information pertaining to the physical sewage collection system.
- Review of City-furnished information relating to service study area, sewer drainage basins, and land use.
- Develop criteria for analysis of existing sewer systems and the design of future improvements.
- Develop sewage contributions for each sewer basin.
- Calibrate sewage contributions for each basin based on flow monitoring data.
- Identify significant Rainfall Derived Inflow and Infiltration (RDII) problems and develop recommended programs and improvements to reduce RDII.
- Conduct a hydraulic analysis of existing sewer mains.
- Determine existing deficiencies with respect to ultimate service requirements.
- Determine future collection facilities required to provide service for ultimate build-out within the study area.
- Based on system deficiencies identified, review wastewater system needs and alternatives to meet current and future wastewater flow conditions.
- Develop a CIP which prioritizes short-term and long-term improvements to meet the City's anticipated system needs.
- Develop budget level cost estimates for those projects identified in the facilities plan. Funding alternatives will be identified which may be utilized by the City to finance the projects.
- Develop wastewater facilities plan map showing both existing and proposed wastewater facilities.
- Prepare a Collection System Master Plan document which describes and illustrates the results of the study.

ORGANIZATION OF THE COLLECTION SYSTEM MASTER PLAN

This master plan report is organized into seven sections, as described in Table 1-1. Detailed technical information and supporting documents for Sections 6 and 7 are included in the appendices.

Table 1-1 | CSMP Organization

Section Number	Section Title	Description
Section 1	Introduction & Executive Summary	Explains the purpose and scope of the wastewater Collection System Master Plan; provides a summary of each section and overall recommendations.
Section 2	Study Area Characteristics	Outlines the wastewater collection system's characteristic setting, including geography, topography, climate, general soil conditions, and land use designations within the City.
Section 3	Existing System Conditions	Presents an overview of the existing system and key facilities, and describes the existing service area and extents of the current urban growth boundary (UGB).
Section 4	Regulations & Policies	Commonly occurring policies and guidelines for wastewater collection systems are summarized from federal, state, and local governance.
Section 5	Population & Flow Projection	Describes the development of dry weather and wet weather parameters to determine existing and future design flows.
Section 6	System Analysis	Provides a summary of the methodology and results of the system analysis, and the alternatives assessment used for minimizing capital and life cycle, collection system costs.
Section 7	Capital Improvement Program	Presents a proposed Capital Improvement Program (CIP) consisting of a prioritized list of recommended improvements to be conducted over the study period.
Appendix A	Model Calibration Plots	Includes plots of metered versus modeled flow rates for the hydraulic model calibration.
Appendix B	Hydraulic Analysis Mapping	Includes figures of improvement sensitivity analysis for high, medium, and low density build-out growth scenarios.
Appendix C	Basis of Opinion of Probable Costs	Presents project unit cost tables for collection system assets used to develop estimates for individual projects; provides the cost basis used in the alternatives evaluation of collection system improvements in Section 6; and the development of the final CIP budgets associated with the collection system improvements recommended for adoption by the City in Section 7.

INTRODUCTION

This section of the Collection System Master Plan (CSMP) outlines the wastewater collection system's characteristics including geography, topography, climate, general soil conditions, and land use designations within the City of Wilsonville (City). Land use designations are of particular interest when planning collection system infrastructure, as the wastewater loading varies by land use category and density. The City's socioeconomic conditions are also documented within this section, and include the major sources of commerce within the City and the historical population trends over the past three decades.

Figure 2-1 | Vicinity Map

GEOGRAPHY

The City is located along the Willamette River in Oregon's Willamette Valley, on the southern edge of the Portland metropolitan area (see Figure 2-1), approximately 17 miles from downtown Portland. The northern section of the City falls under the jurisdiction of Washington County; however, the majority of the City is situated in the southwestern part of Clackamas County. Neighboring cities are Tualatin to the north, Sherwood to the northwest, and Canby and Aurora to the southeast. Newberg, in Yamhill County, is approximately 14 miles west, along Wilsonville Road. The Willamette River separates the majority of the City from the Charbonneau district, a neighborhood within the city limits on the south side of the river.

TOPOGRAPHY

The study area is relatively flat, with the exception of steep slopes surrounding the natural drainage channels throughout the region (such as Boeckman Creek). Topography ranges from 375 feet above sea level at the northern end of the study area to 60 feet above sea level at the Willamette River near the Interstate 5 freeway crossing. Generally, the entire region slopes towards the Willamette River.

CLIMATE

The City is in the Marine West Coast Climate Zone. Temperatures are moderate year-round due to a marine influence from the Pacific Ocean that produces generally warm, dry summers and cool, wet winters. Precipitation primarily occurs during the winter months, with the wettest period from November through March. July and August are the warmest months, with an average high temperature of 81 degrees Fahrenheit (°F), and December is the coolest month, with an average low temperature of 34 °F. December is also the wettest month, averaging 6.62 inches of precipitation. Additional climate information is provided in Table 2-1.

Table 2-1 | Summary of Climatological Information*

Record High Temperature	105°F
Average Annual High Temperature	63.5°F
Average Annual Low Temperature	44.3°F
Record Low Temperature	-15°F
Average Annual Rainfall	42.62 inches

**Note: Data source www.weather.com; zip code 97140*

STUDY AREA

The study area for the CSMP includes the urban growth boundary (UGB), where the City currently provides wastewater collection service as shown in Figure 2-2. Also included within the study area are urban reserve areas (URAs) identified by the Metropolitan Service District (METRO). Build-out growth is estimated to occur within the UGB over the next 20 years. As development trends towards this build-out condition over this planning horizon, the URAs are anticipated to be incorporated into the UGB.

The study area has been delineated at the northern border with the City of Tualatin, allowing service by gravity conveyance based on topography. The exact delineation of the Tualatin/Wilsonville service area will be further refined with future concept planning of Basalt Creek.

LAND USE AND ZONING

By state law, METRO is responsible for establishing the Portland metropolitan area's UGB, which includes Wilsonville. Land uses and densities inside the UGB are selected to support urban services such as police and fire protection, roads, schools, and water and sewer systems. Understanding land use and demographic characteristics within the study area is particularly important in collection system planning because of the impact they have on wastewater flow loading.

All parcels within the City have been assigned a METRO land use designation, which includes various categories of commercial, industrial, institutional and residential land uses. The City then assigns specific zoning within the broader land use designations. City zoning is shown in Figure 2-3 and summarized for existing and future development in Table 2-2. Flow projections and development densities for future development areas are summarized in Sections 5 and 6.

Table 2-2 | Land Use Summary

Zoning	Developed (gross acres)	Future Development UGB (gross acres)[1]	Future Development URA (gross acres)
Designated Category			
Residential	950	240	0
Commercial	310	30	0
Industrial	1000	140	0
Public	400	120	0
Village	110	70	0
Re-zone or Re-development Potential[2]			
Residential	110	260	800
Commercial	0	0	0
Industrial	30	1080	350
Public	20	40	0
Village	20	140	0
Total	**2,950**	**2,120**	**1,150**

Note 1. Excludes METRO open area designated lands.
Note 2. Areas of re-zoning or re-development potential include lands with existing zoning classification of future development, agricultural holding, exclusive farm use, and rural residential.

FIGURE 2-2

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM STUDY AREA

MSA Murray, Smith & Associates, Inc. Engineers/Planners
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Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

ONEIDA
COMLITZ
TONQUIN
WALDO
NORWOOD
84TH
I5
82ND
GREENHILL
CLAY
GRAHAMS FERRY
BOONES FERRY
DAY
COMMERCE
GARDEN ACRES
ELLIGSEN
CLUTTER
RIDDER
WHEATLAND
MORGAN
GAGE
NODAWAY
65TH
BRIAR PATCH
CANYON CREEK
95TH
FREEMAN
PRINTER
KAME
TOOZE
MALLOY
WESTFALL
FROGPOND
XEROX
PARKWAY
STAFFORD
BOECKMAN
ADVANCE
110TH
KINSMAN
BOBERG
60TH
53RD
KRUSE
TOWN CENTER
WILSONVILLE
BRUCK
CAMELOT
MONTEBELLO
COURTSIDE
INDUSTRIAL
MEMORIAL
MONTGOMERY
EILERS
JAMAICA
WILLAMETTE RIVER
BUTTEVILLE
FRENCH PRAIRIE
FAIRWAY
MILEY
LAWNVIEW
AIRPORT
PRAIRIE VIEW
GLASS
GRAHAM
CEDAR BROOK
DENBROOK
HWY 551
COUNTRYSIDE
KNIGHTS BRID

County Boundary
City Boundary
Street
Water Body
Study Area
Urban Growth Boundary
Urban Reserve Area
Taxlot

0 2,500 5,000 Feet

N

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FIGURE 2-3

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM
CITY LAND USE AND ZONING

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NOVEMBER 2014

ONEIDA
COWLITZ
TONQUIN
WALDO
MORGAN
WHEATLAND
KAME
TOOZE
MALLOY
WESTFALL
WILSONVILLE
BUTTEVILLE
GRAHAM
CEDAR BROOK
DENBROOK
CLAY
GREENHILL
DAY
COMMERCE
CLUTTER
RIDDER
FREEMAN
PRINTER
ELLIGSEN
BRIAR PATCH
FROGPOND
XEROX
BOECKMAN
ADVANCE
KINSMAN
TOWN CENTER
COURTSIDE
CAMELOT
MONTEBELLO
INDUSTRIAL
MEMORIAL
MONTGOMERY
JAMAICA
CHANTILLY
FRENCH PRAIRIE
FAIRWAY
MILEY
LAWNVIEW
AIRPORT
PRAIRIE VIEW
KRUSE
BRUCK
EILERS
GLASS
NODAWAY
GAGE
53RD
65TH
82ND
84TH
95TH
PARKWAY
I5
WILLAMETTE RIVER

Urban Growth Boundary
City Boundary
Study Area
Developed
Taxlot
Street
Water Body
Metro Open Space

Zoning
Residential
Industrial
Commercial
Public
Village
Re-Zone Potential*

*Area of re-zoning potential. Projected zoning classification shown. Lands have existing zoning classification of future development, agricultural holding, exclusive farm use, and rural residential.

0 2,500 5,000 Feet

N

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FUTURE GROWTH AREAS

The study area includes 3,380 acres of undeveloped land designated for future development. Concept planning efforts are either underway or have been completed for three large development areas within the UGB and URAs, as summarized below and presented in Figure 2-4. Remaining study area lands outside the UGB not under concept planning are anticipated to be urbanized over a timeframe exceeding the 20-year study period. These remaining areas are included in the study to facilitate supporting service infrastructure sizing and prioritization.

Basalt Creek Planning Area

The 847-acre Basalt Creek Planning Area is an industrially and commercially zoned tract of land between Tualatin and Wilsonville. The exact boundary delineation between the two municipalities has yet to be determined. The need to plan this area is driven not only by expected growth within Wilsonville, but the future growth anticipated in surrounding areas targeted for industrial development, such as the Tonquin Employment Area and the Coffee Creek Planning Areas.

The Basalt Creek Planning Area includes the SW Tualatin area and the West Railroad area. It is bound to the north by the City of Tualatin, to the east by Interstate 5, to the south by the Coffee Creek Planning Area, and to the west by the Portland & Western Railroad. The planning effort began in 2013 and is being jointly led by the City and Tualatin. The timeline for actual development within this planning area is projected to occur over the next 6 to 15 years.

Coffee Creek Planning Area

The Coffee Creek Planning Area is a proposed 216-acre industrially zoned tract of land within the northern portion of the City's UGB. It is primarily located in unincorporated Washington County, with a small triangle (south of Clutter Road) located in unincorporated Clackamas County. The area is bound by Day Road and the Coffee Creek Correctional Facility to the north, the existing City limits to the east, and the Portland & Western Railroad to the south and west. This planning effort was undertaken in 2007 by the City of Wilsonville. The timeline for actual development within this planning area is anticipated to occur over the next 2 to 8 years.

Frog Pond Planning Area

The Frog Pond Planning Area is a 500-acre planned region on the east side of the City, and includes URAs adjacent to Advance Road. It is bound to the north by SW Kahle Road, to the east by a property boundary midway between SW 60th Avenue and SW 53rd Avenue, to the south by Boeckman Road and SW Kruse Road, and to the west by Boeckman Creek. Concept planning efforts are nearing completion as of September 2014 and are being led by the City of Wilsonville. The timeline for build-out of the area is projected to span decades, however the properties within the UGB are anticipated to develop over the next 1 to 5 years. The areas in the Advance Road URA are anticipated to develop over the next 6 to 15 years.

FIGURE 2-4

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM DEVELOPMENT AREAS

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Portland, Oregon 97204-2949 FAX 503.225.9022

OCTOBER 2014

SW Tualatin
Basalt Creek
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Villebois
Brenchley Estates
Frog Pond
Advance Road URA
Advance Road School
Charbonneau

ONEIDA
COMLITZ
GRAHAM
BOONES
NORWOOD
76TH
84TH
TONQUIN
WALDO
I5
82ND
GREENHILL
ROY RD
GRAHAMS FERRY
CLAY
DAY
GAGE
NODAWAY
MORGAN
65TH
COMMERCE
ELLIGSEN
WHEATLAND
GARDEN ACRES
CLUTTER
RIDDER
BRIAR PATCH
KAME
TOOZE
MALLOY
FREEMAN
95TH
PRINTER
CANYON CREEK
KAHLE
FROGPOND
XEROX
PARKWAY
STAFFORD
WESTFALL
BOECKMAN
ADVANCE
60TH
53RD
KRUSE
KINSMAN
BOBERG
TOWN CENTER
WILSONVILLE
BRUCK
COURTSIDE
CAMELOT
MONTEBELLO
INDUSTRIAL
MONTGOMERY
EILERS
JAMAICA
CHANTILLY
MEMORIAL
WILLAMETTE RIVER
FRENCH PRAIRIE
FAIRWAY
MILEY
LAWNVIEW
AIRPORT
PRAIRIE VIEW
BUTTEVILLE
CEDAR BROOK
DENBROOK

Urban Growth Boundary
City Boundary
Street
Study Area
Taxlot
Water Body
Metro Open Space
Developed UGB
Undeveloped UGB
Urban Reserve Area

Development Area
Advance Road URA
Advance Road School
Basalt Creek
Brenchley Estates
Coffee Creek Correctional Facility
Coffee Creek
Frog Pond
SW Tualatin
Villebois
West Railroad

0 2,500 5,000 Feet

N

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GEOLOGY, SOILS AND GROUNDWATER

Detailed information on the soils found throughout the study area are summarized in the U.S. Soil Conservation Service's *Soil Survey of Clackamas and Washington Counties* (1991). This survey identifies the soil types for construction considerations and potential response to rainfall-derived inflow and infiltration. In general, the soils within the study area produce a moderate to high rainfall response in terms of stormwater runoff. Conversely, these soils typically infiltrate rainfall at a low to moderate rate. The Natural Resources Conservation Service (NRCS) indicates that no locations within the study contain bedrock at the ground surface; however, well logs were referenced from the Oregon Water Resources Department with mixed results. There are numerous domestic water wells within the study area that report encountering rock within 10 feet of the ground surface.

The surface water hydrology varies considerably and is influenced by rainfall. Generally, groundwater is well below the surface and does not impact construction within the study area. However, shallow groundwater conditions likely exist in certain areas, particularly in poorly draining soils with a perched water table. These conditions are more prevalent in proximity to wetlands, small creeks and springs.

NATURAL RESOURCE AREAS

Natural resources are natural materials occurring in nature, and include air, water, plants, animals and soil. The Willamette River and its tributary streams are a significant natural resource that the City has conserved through enactments of protective ordinances.

Historically, the City has managed natural resources through the establishment of Primary Open Space and Secondary Open Space zoning areas. Recently, salmonids in the Willamette River have been designated as threatened under the Endangered Species Act (ESA), prompting the City to categorize salmonid habitats as Significant Resource Overlay Zones (SROZ).

Surface Water

The primary surface water feature of the area is the Willamette River, which conveys drainage from nearly 11,500 square miles of tributary area originating on the western slopes of the Cascade Mountains roughly 50 miles south of Eugene. The river is fed by four local tributaries within the study area: Coffee Lake Creek/Seely Ditch, Arrowhead Creek, Boeckman Creek, and Meridian Creek. Surface water provides the principal source of potable water for the City of Wilsonville, in addition to acting as the disposal route for stormwater drainage and treated wastewater.

Historically, rivers and streams have been influenced by land and water management practices such as agricultural irrigation. These practices, in combination with Oregon's hot, dry summers, affect aquatic habitat. The Oregon Department of Environmental Quality (DEQ) has designated the Willamette River as "Essential Fish Habitat" and a "Water Quality Limited" stream.

Floodplain

A floodplain is an area of land adjacent to a river or stream that experiences flooding during periods of high discharge. A floodplain is a natural place for a surface water to dissipate its energy during periods of heavy rainfall. To protect these natural resources from infill, the City has enacted restrictions on development within the floodplains under their jurisdiction. Some infrastructure installed prior to these restrictions remains in place, such as the City's sewage lift station within Memorial Park.

HAZARD AREAS

According to the *Clackamas County Natural Hazards Mitigation Plan* (University of Oregon Community Service Center, 2012), the area surrounding the City is at risk for several types of natural disasters. This plan describes historical impacts, general location, extent, and severity of past natural hazard events, and the probability of future events. Table 2-3 summarizes all the hazards for which the City is at risk, however in terms of the wastewater collection system, susceptibility to flood is the greatest concern. Official flood hazard maps for the City area and Clackamas County are published by the Federal Emergency Management Agency (FEMA). Likewise, official earthquake fault lines are documented by the Oregon Department of Geology and Mineral Industries.

The Natural Hazard Risk Assessment probability scores address the likelihood of a future major emergency or disaster within a specific period of time, as follows:

- High = One incident likely within a 10- to 35-year period.
- Moderate = One incident likely within a 35- to 75-year period.
- Low = One incident likely within a 75- to 100-year period.

The vulnerability scores address the percentage of population or region assets likely to be affected by a major emergency or disaster, as follows:

- High = More than 10% affected.
- Moderate = 1%-10% affected.
- Low = Less than 1% affected.

Table 2-3 | Probability and Vulnerability Assessment – Clackamas County

Drought	Moderate	Low
Earthquake	Low	High
Extreme Heat	Moderate	Moderate
Fires	Moderate	Moderate
Flood	High	Moderate
Landslides	High	Low
Volcano	Low	High
Wind Storm	Moderate	Low
Winter Storm	High	Moderate

MUNICIPAL WATER SYSTEM

The City operates and maintains a municipal water system that provides potable drinking water to residents within the City limits. The municipal water system is supplied by treated surface water withdrawals from the Willamette River to the Willamette River Water Treatment Plant (WRWTP). This state-of-the-art facility produces high-quality finish water which is pumped into transmission mains for distribution throughout the City. The City shares ownership of the WRWTP with the Tualatin Valley Water District.

The majority of the City's dry weather wastewater flow comes from customers' use of the municipal water system. Thus, wastewater flows and municipal water demand follow a similar diurnal cycle throughout the day. The municipal water system experiences a much higher demand in the summer, due to irrigation.

MUNICIPAL STORMWATER SYSTEM

City ordinances prohibit a combined stormwater and wastewater sewer system. The City has provided a Municipal Separate Storm Sewer System (MS4) through construction of nearly 55 miles of pipes and 6,300 storm structures including inlets, outlets and manholes. A significant portion of the City's stormwater conveyance system consists of natural and constructed open channels, which are collectively about 14 miles long. There are no known interconnections between the stormwater and sanitary sewer systems.

ENERGY PRODUCTION

The City's electrical energy provider is Portland General Electric (PGE). The Bonneville Power Administration (BPA) routes electrical transmission lines through City; however, PGE distributes power to residential, commercial, industrial and municipal users. Northwest Natural Gas provides natural gas within the City limits.

SOCIOECONOMIC ENVIRONMENT

Economic Conditions and Trends

The City generally has a favorable job market and a strong workforce. Commerce moves easily through the City, which is strategically located along the I-5 and I-205 corridors, railroad lines and the Willamette River. The City's economy is predominately based on the manufacturing and industrial industries, wholesale and retail trade, and other services. The percentage of individuals between the ages of 20 and 64 in the City's workforce (62.8 percent) exceeds the national average of 52.9 percent.

Wilsonville's Center for Economic Development reports that the City exceeds several economic and educational metrics, as follows:

- Data from 2011 reports show that the City's per capita income ($30,187) and median household income ($55,316) exceed Oregon's average.

- The percentage of the City's (25 and older) population who have a bachelor's degree or higher is 25.9 percent. This surpasses the City of Portland's educational attainment rate of 22 percent.

The City's education system is primarily served by the Wilsonville-West Linn School District; however, both the Canby School District and the Sherwood School District educate students at the fringes of the City. The City is home to a branch of the Clackamas Community College, which has a satellite campus on Town Center Loop.

Population

Based on data from the U.S. Census, the City's population has seen steady growth over time, with a reported population in 2010 of 19,509. Since the U.S. Census undertakes population surveys only once every decade, the Portland State University (PSU) Population Research Center supplements projected populations annually within Oregon. The projected population for the City in 2013 was 21,550. Detailed information related to historical populations and trends is provided in Section 5, "Population and Flow Projections."

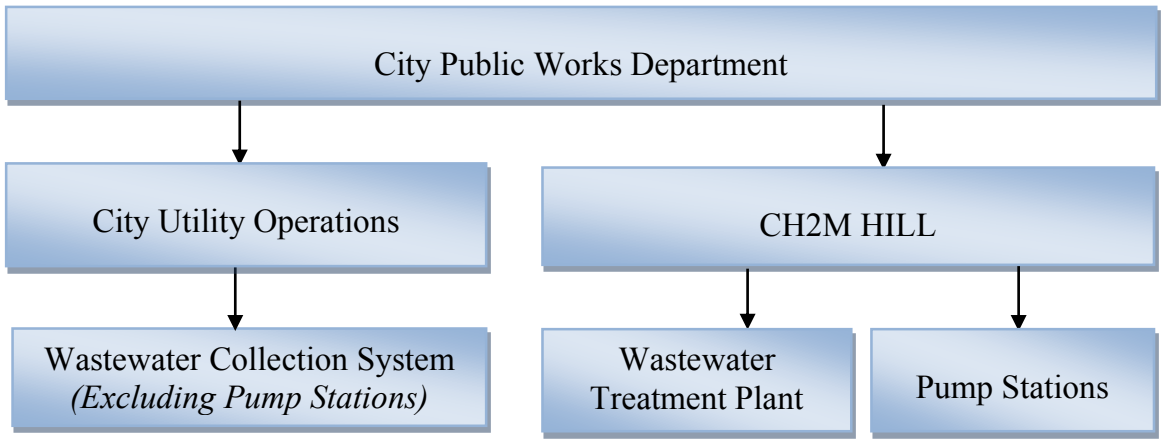
INTRODUCTION

While the scope of this study is limited to the wastewater collection system, a brief account of the entire collection and treatment system structure is provided within the following section. The City's wastewater collection system is approximately 35 to 40 years old and contains approximately 70 miles of sewer pipeline, 1,700 manholes and 8 public pump stations. The system collects nearly equal quantities of residential and non-residential wastewater, which is ultimately conveyed to the Wastewater Treatment Plant (WWTP), located in the southern end of the City along the Willamette River.

UTILITY MANAGEMENT STRUCTURE

Operating within the Public Works Department, the City's wastewater collection system provides utility service to over 5,000 customer accounts. The Department's Utilities Supervisor and maintenance staff members are responsible for conducting sewer collection system operation and maintenance, with the exception of the City's pump stations. Oversight and operation of the City's pump stations and WWTP have been contracted by the City to CH2M HILL. This service contract will expire in 2026, and contains an option for renewal. The generic organizational structure for the City's wastewater collection and treatment system is shown in Figure 3-1.

Figure 3-1 | Wastewater Collection and Treatment System Organization Chart



SUMMARY OF COLLECTION SYSTEM FACILITIES

The City's wastewater collection system, illustrated in Figure 3-2, consists primarily of manholes, gravity pipelines, pump stations (lift stations) and force mains that convey wastewater to the WWTP. The gravity pipelines convey wastewater from the residential and commercial areas and route them to the major interceptors. Due to the varied topography in the City, several pump stations are required to convey sewage to the WWTP.

FIGURE 3-2

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM BASIN AND SYSTEM MAP

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Coffee Creek

Coffee Creek Correctional Facility

Railroad Undercrossing

Canyon Creek

Boeckman

Villebois

Boberg Diversion

Parkway Interceptor I-5 Undercrossing

Canyon Creek/ Town Center

Town Center

Canyon Creek Flow Splitter

Wood School Interceptor

Seely Ditch Undercrossing

Old Town

Memorial Drive Flow Splitter

Wood School

Memorial Park

Beockman Creek Interceptor I-5 Undercrossing

Corral Creek

River Village

Rivergreen

Moreys Landing

Charbonneau

Coffee Creek Interceptor

Parkway Interceptor

Canyon Creek Interceptor

Boeckman Interceptor

WWTP

Public Pump Station

Private Pump Station

Manhole

Flow Diversion

Flow Splitter

Undercrossing

Pipe Public

Pipe Private

Forcemain Public

Forcemain Private

Study Area

Urban Growth Boundary

City Boundary

Street

Water Body

Sewer Basin

Charbonneau

Canyon Creek/Town Center

Coffee Creek

Boeckman

Villebois

Old Town

Wood School

0 2,500 5,000 Feet

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WASTEWATER COLLECTION SYSTEM SEWER BASINS

The existing and future service areas are divided into seven primary basins, covering nearly 12 square miles. The primary basins are shown in Figure 3-2, summarized in Table 3-1 by land use, and described below. The major infrastructure are mentioned in the basin descriptions and described in more detail later in the section. The City's primary sewer basins are roughly divided by Interstate 5, which runs north and south through the center of the study area. This splits the basins into East Side and West Side categories as follows:

East Side Basins

Boeckman Basin

The Boeckman Basin is on the City's east side, bounded to the south by the Willamette River and to the north by the Frog Pond area. The future Urban Reserve Area (URA) may extend the basin north of Elligsen Road. Residentially zoned areas comprise the major wastewater contributions to the basin, with the Wilsonville High School and Boeckman Creek Primary School contributing non-residential wastewater. The basin comprises 800 acres of tributary area including undeveloped areas in the Urban Growth Boundary (UGB) and an additional 480 acres in the URA.

Major infrastructure within the Boeckman Basin include the Boeckman Interceptor (formerly called the High School Interceptor), Memorial Park Pump Station (MPPS), and Boeckman I-5 Undercrossing.

Canyon Creek / Town Center

The Canyon Creek / Town Center Basin is on the City's east side, bounded to the south and east by the Boeckman Basin, and to the north by the UGB. The future URA may extend the basin north of Elligsen Road and east of Stafford Road. The basin is evenly split between generating wastewater flows from residential, commercial and industrial land uses. The basin comprises 560 acres of tributary area including undeveloped areas in the UGB and an additional 260 acres in the URA.

Major infrastructure within the Canyon Creek / Town Center Basin include the Canyon Creek Interceptor, Canyon Creek Pump Station, and the Canyon Creek Flow Splitter.

Charbonneau

The Charbonneau Basin is on the east side of the City and is unique in terms of its age and isolated nature. The Willamette River effectively separates the basin from the remainder of the City, with the basin located on the south side of the river. The basin encompasses 240 acres of primarily residentially zoned land, and is bound by the UGB. The Charbonneau area was one of the first planned communities in Oregon, with development beginning around 1972 and continuing through the 1980s. The utility infrastructure installed to support the development is showing signs of fatigue. A City study, entitled *Charbonneau Consolidated*

Improvement Plan (Weigel, August 4, 2014), notes, "…sewer conditions observed include collapsed pipe, pipe separation, offset joints, major blockages and pipe sag."

Major infrastructure within the Charbonneau Basin includes the Charbonneau Pump Station.

West Side Basins

Coffee Creek

The Coffee Creek Basin is the City's largest, and consists primarily of industrially zoned land, with a commercial component near Elligsen Road, and residential areas within the Brenchley Estates and Ash Meadows developments. The majority of the basin is on the west side of the City, bound to the north and west by the UGB and to the south by the Villebois Basin. The basin comprises 2,220 acres of tributary area including undeveloped areas in the UGB and an additional 120 acres in the URA.

Major infrastructure within the Coffee Creek Basin include the Coffee Creek Interceptor, the Parkway Interceptor, the Parkway Interceptor I-5 Undercrossing, the Railroad Undercrossing, and the Boberg Diversion Structure.

Old Town

The Old Town Basin is located on the west side of the City, along the northern bank of the Willamette River. The basin is bound to the south by the Willamette River, to the west by the Wood School and Villebois Basins, to the north by the Coffee Creek Basin, and to the east by the Boeckman Basin. This area is comprised primarily of commercially zoned land; however, there is a residential component to the wastewater loading from properties along the river. The basin comprises 290 acres of tributary area including undeveloped areas in the UGB, with no additional acreage in the URA.

Major infrastructure within the Old Town Basin include the Coffee Creek Interceptor, the Boeckman Creek Interceptor, the Boeckman Creek Interceptor I-5 Undercrossing, the Seely Ditch Undercrossing, the River Village Pump Station, and the WWTP.

Villebois

The Villebois Basin is on the City's west side, bounded to the west by the UGB, to the south by Wood School Basin and to the east by the Coffee Creek Basin. The basin is the City's newest residential development area and has filled approximately half of its defined area with new single- and multi-family homes. The basin comprises 540 acres of tributary area including undeveloped areas in the UGB and an additional 200 acres in the URA.

Major infrastructure within the Villebois Basin include the Villebois Interceptor.

Wood School

The Wood School Basin is comprised of mainly residential areas, with an industrial area along the Willamette River. This west side basin is bordered by the Willamette River to the south, the UGB to the west, and Villebois Basin to the north. The basin comprises 350 acres of tributary area including undeveloped areas in the UGB and an additional 70 acres in the URA.

Major infrastructure within the Wood School Basin include the Wood School Interceptor. There are several pump station within the basin, which include the Corral Creek, Rivergreen, and Morey's Landing pump stations.

Table 3-1 | Sewer Basin Area Summary

Basin Name	Trunk Sewer	Other Infrastructure	Residential (acres)	Commercial (acres)	Industrial (acres)	Vacant in UGB (acres)	Vacant in URA (acres)	Total Area (acres)
Boeckman	Boeckman Interceptor	MPPS; Boeckman I-5 Undercrossing	460	10	--	330	480	1,280
Canyon Creek / Town Center	Canyon Creek Interceptor	Canyon Creek Pump Station; Canyon Creek Flow Splitter	150	150	150	110	260	820
Charbo-nneau	--	Charbonneau Pump Station	230	10	--	--	--	240
Coffee Creek	Parkway & Coffee Creek Interceptors	Parkway Interceptor I-5 Undercrossing; Railroad Undercrossing; Boberg Diversion Structure	150	90	790	1,190	120	2,340
Old Town	Boeckman & Coffee Creek Interceptors	Boeckman Creek Interceptor I-5 Undercrossing; Seely Ditch Undercrossing; River Village Pump Station; WWTP	70	30	110	80	--	290
Villebois	Villebois Interceptor	--	180	--	--	360	200	740
Wood School	Wood School Interceptor	Corral Creek; Rivergreen; and Morey's Landing pump stations	210	--	--	140	70	420
Totals	--	--	1,450	290	1,050	2,210	1,130	6,130

GRAVITY PIPELINES

The collection system is comprised of gravity pipes between 4 and 36 inches in diameter, as illustrated in Figure 3-3. The oldest portion of the collection system, which is 35 to 40 years old, is located around the WWTP, Boones Ferry Road, Town Center and Charbonneau areas and is comprised of original concrete pipe and manholes. The collection system has expanded, and the newer piping consists of PVC with concrete manholes for pipes 18 inches and smaller. A map illustrating the age of the system throughout the City is provided in Figure 3-4 and the materials as located within the collection system in Figure 3-5.

The smaller system pipelines convey wastewater to the larger trunk sewer pipes which are called interceptors. Table 3-2 summarizes pipeline lengths by diameter and basin as listed in the City's GIS. Table 3-3 summarizes pipeline lengths by age and material. The major interceptors are described below with pipeline lengths and diameters presented in Table 3-4.

Boeckman Interceptor

The Boeckman Interceptor spans more than 15,100 feet. The upper and main branches of the interceptor collect wastewater from the Boeckman Basin. In addition to the Boeckman Basins, the lower branch also collects wastewater from the Canyon Creek Basin. The inteceptor begins at Boeckman Road where its upper northwest branch conveys flows southerly along Boeckman Creek. The interceptor also has an upper northeast branch (High School Interceptor), which conveys wastewater southerly under SW Wilsonville Road. These two branches merge near Hathaway Park, where they convey wastewater south through the interceptor's main branch. The main branch continues southerly along Boeckman Creek to Memorial Park, where the interceptor discharges into the Memorial Park Pump Station.

The Memorial Park Pump Station force main discharges into the interceptor's lower branch which conveys wastewater west under Memorial Drive. The lower branch interceptor encounters the Memorial Drive Flow Splitter at Memorial Drive on the east side of I-5. This flow splitter is just upstream of the Boeckman Creek Interceptor I-5 Undercrossing, which passes flows to the west under I-5 via parallel pipelines. The Boeckman Interceptor then continues to convey wastewater through its lower branch to the WWTP.

Memorial Drive Flow Splitter

A flow splitter is located in a manhole near the intersection of SW Parkway Avenue and Memorial Drive, downstream of the Boeckman Creek Interceptor and Memorial Park Pump Station, and east of Interstate 5. Construction of the flow splitter box and the related parallel sewer was completed in 1996. Flows are split into an existing 15-inch diameter reinforced concrete pipe and a parallel 18-inch diameter PVC pipe; both run west under Interstate 5 and combine again along Fir Street.

I-5 Undercrossing

The I-5 Undercrossing consists of flows from the Boeckman Interceptor and Canyon Creek Interceptor through a 15-inch and an 18-inch diameter gravity trunk line. Flows are conveyed from east to west under Interstate 5. As previously discussed, the Memorial Drive Flow Splitter on the east side of Interstate 5 divides the primary interceptor flows into two trunk lines before wastewater cross under the freeway, which remain separated until passing south of 4th Street on the west side of Interstate 5.

Canyon Creek Interceptor

The Canyon Creek Interceptor spans more than 19,300 feet and serves the Canyon Creek/Town Center Basin. The interceptor begins near a residential subdivision at the intersection of Canyon Creek Road and Printer Parkway, where its upper northeast branch conveys flows southerly along Canyon Creek Road. The upper northeast branch discharges to the Canyon Creek Pump Station near SW Copper Creek Loop. The force main from the pump station discharges near Boeckman Road, which conveys wastewater south under Canyon Creek Road South. The interceptor continues under SW Daybreak Street, where it merges with the upper northwest branch at the intersection of SW Canyon Creek Road. The upper northwest branch conveys wastewater from the north to Printer Parkway, collecting flows from the City's larger industrial customers such as Mentor Graphics and Xerox.

Once these two branches merge at SW Daybreak Road, they continue south under SW Canyon Creek Road through the interceptor's main branch. The main branch continues west and south through the Town Center development until reaching Wilsonville Road. The Canyon Creek Flow Splitter then bisects wastewater into parallel pipes that convey flows southerly, where they discharge into the Boeckman Interceptor's lower branch under Memorial Drive.

Canyon Creek Flow Splitter

A flow splitter manhole is located near the intersection of SW Wilsonville Road and Town Center Loop West, and is intended to split the flow from the Canyon Creek Interceptor through parallel 15- and 18-inch lines. The 15-inch line runs south under Southwest Parkway Avenue, while the 18-inch line travels east under SW Wilsonville Road before turning south under SW Rogue Lane. The flow split is achieved through two outlet pipes connected to the manhole.

Charbonneau Interceptors

The Charbonneau Interceptors span more than 6,700 feet and serve the Charbonneau Basin. The upper north branch begins near the intersection of SW French Prairie Road and SW Old Farm Road and meanders to the southwest apart from any dedicated roadway alignment, until reaching the Charbonneau Pump Station. The upper south branch begins near the end of SW Mariners Drive, and conveys wastewater to the northwest where it joins the upper north branch at the Charbonneau Pump Station.

The Charbonneau Pump Station conveys wastewater northerly, over the Willamette River, in a force main attached to the Boone Bridge (I-5 Bridge). The force main discharges into the Charbonneau Interceptor lower branch, near the end of SW Tauchman Street. From this location, the lower branch conveys wastewater northwesterly to the WWTP.

Parkway Interceptor

The Parkway Interceptor (formerly named the Burns-West Interceptor) serves the area of the Coffee Creek Basin primarily east of I-5. The interceptor spans 17,250 feet and begins just north of Elligsen Road, at the intersection of SW Parkway Avenue and SW Salish Lane. The interceptor primarily follows the alignment of Parkway Avenue, conveying flows to the south through the upper branch. The upper branch turns west and travels towards I-5 near the Brenchley Estates subdivision. Upon reaching I-5, the interceptor encounters the Parkway Interceptor I-5 Undercrossing.

Once downstream of the undercrossing and west of I-5, the interceptor conveys flows towards the Boberg Diversion Structure which is located on Boberg Road north of SW Barber Street. This diversion structure routes wastewater through the Parkway Interceptor's lower branch with overflows to a lateral pipeline heading south on Boberg Road. Both pipelines discharge into the Coffee Creek Interceptor at SW Kinsman Road.

Parkway Interceptor I-5 Undercrossing

The Parkway Interceptor I-5 Undercrossing consists of a single 12-inch diameter gravity trunk line that conveys flow from east to west under Interstate 5. The crossing commences just west of the Brenchley Estates subdivision, located between Interstate 5 and Southwest Ash Meadows Circle. The crossing emerges on the west side of Interstate 5 near Boones Ferry Road, just upstream of the Boberg Diversion Structure at Boberg Road.

Boberg Diversion Structure

A diversion structure is located in a manhole on Boberg Road north of SW Barber Street in the Parkway Interceptor. The flow is diverted to the north and south along Boberg Road and conveyed to the Coffee Creek Interceptor on SW Kinsman Road. The north diversion is the primary flow path. During high flows, a knife gate allows sewage to spill into an elevated pipe directing it towards the southern diversion piping.

Coffee Creek Interceptor

The Coffee Creek Interceptor (formerly named the United Disposal Interceptor) spans approximately 27,700 feet. The upper branches serve the Coffee Creek Basin west of I-5. In addition to the Coffee Creek Basin, the main branch serves the Villebois Basin, and the lower branch serves the Villebois, Wood School, and Old Town Basins. The interceptor begins with an upper northwest branch at the Coffee Creek Correctional Facility (CCCF). The upper northwest branch conveys flows to the south and east, primarily following the alignments of SW Garden Acres Road, Peters Road, and the P&W Railroad. The upper

northwest branch merges with the upper northeast branch just upstream of the railroad undercrossing. The upper northeast branch originates near SW Commerce Circle, conveying wastewater to the south through a meandering alignment apart from a formal roadway alignment.

Once wastewater leaves the railroad undercrossing, it continues southerly through the Coffee Creek Interceptor's upper branch. The alignment of this branch is to the east of several large tracts of METRO owned properties designated as open space. The upper branch ends near SW Barber Street, where wastewater from the Parkway Interceptor's lower branch is received.

Once receiving wastewater from the Parkway Interceptor's lower branch, the Coffee Creek Interceptor's main branch continues to the south following the alignment of Coffee Lake Creek. The Villebois Interceptor discharges into the main branch approximately near SW Evergreen Drive. The main branch continues to follow a southerly alignment along Coffee Lake Creek until just south of the intersection with SW Wilsonville Road.

Wastewater carried through the main branch merges with flows from the Wood School Interceptor near SW Ore Pac Avenue, which also demarcates the beginning of the Coffee Creek Interceptor's lower branch. The lower branch flows to the east, and upon reaching SW Boones Ferry Road, turns to the southwest following this roadway's alignment. A final turn to the east is conducted at SW 3rd Street, where the lower branch conveys wastewater to the WWTP.

Railroad Undercrossing

The Railroad Undercrossing occurs at the intersection of the Coffee Creek Interceptor with the P&W Railroad. The undercrossing occurs slightly southwest of the intersection of Freeman Drive and 95th Avenue, where Kinsman road projected northerly would intersect the rail alignment. This railroad undercrossing creates a significant sewer capacity constraint, which is described in greater detail within Section 6.

Villebois Interceptor

The Villebois Interceptor spans 6,700 feet and serves the Villebois Basin. The interceptor begins near the intersection of SW Orleans Avenue and Costa Circle East. It follows the alignment of SW Orleans Avenue to the east, until the intersection of SW Barber Street. The interceptor follows the alignment of SW Barber Street easterly, until reaching the intersection of SW Montebello Drive. The Villebois Interceptor terminates at the discharge point into the Coffee Creek Interceptor main branch, near SW Evergreen Drive.

The Villebois Interceptor north branch is a recently constructed spur off the primary interceptor. The north branch was built to accept future flows from UGB growth and potential basin expansion into the URA, north of SW Tooze Road.

Wood School Interceptor

The Wood School Interceptor spans approximately 3,300 feet and serves the Wood School Basin. The interceptor commences near the Inza Wood Middle School along SW Wilsonville Road. The interceptor conveys flows to the east, following the alignment of SW Wilsonville Road. Upon reaching the intersection with SW Brown Road, the interceptor turns to the southeast, until it meets the projected alignment of SW Ore Pac Avenue, where it turns due east and terminates at the connecting point to the Coffee Creek Interceptor lower branch.

Seely Ditch Undercrossing

This undercrossing occurs at the Seely Ditch, located near the intersection of Industrial Way and Wilsonville Road. The existing 10-inch undercrossing has minimal slope.

Table 3-2 | Gravity Pipe

Diameter (inches)	Length by Basin (feet)							Total Length (feet)
	Charbonneau	Canyon Creek / Town Center	Boeckman	Coffee Creek	Villebois	Wood School	Old Town	
4	0	260	740	0	80	0	0	1,080
6	3,450	2,010	1,130	1,030	440	250	410	8,720
8	53,770	31,960	43,840	29,470	50,470	25,300	11,410	246,220
10	240	4,210	3,660	10,770	3,960	2,650	620	26,110
12	2,920	10,730	6,900	10,860	0	0	0	31,410
14	0	0	740	160	0	0	0	900
15	3,800	4,860	570	6,950	5,030	1,470	2,270	24,950
16	0	150	0	0	920	0	320	1,390
18	20	2,530	1,400	3,400	0	0	1,980	9,330
21	0	0	0	5,990	550	0	210	6,750
24	0	210	0	1,780	0	0	130	2,120
27	0	0	0	360	0	0	0	360
30	0	0	0	0	0	0	6,530	6,530
36	0	0	0	0	0	0	1,200	1,200
Total	64,200	56,920	58,980	70,770	61,450	29,670	25,080	367,070

FIGURE 3-3

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM EXISTING SYSTEM - PIPE DIAMETER

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 S.W. Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2949 FAX 503.225.9022

NOVEMBER 2014

WWTP
Public Pump Station
Private Pump Station
Manhole
Flow Diversion
Flow Splitter
Undercrossing
Pipe Private
Forcemain Private

Public Pipe (Diameter-inch)
<= 8-inch
10 to12-inch
14 to18-inch
21 to 24-inch
27 to 36-inch

Study Area
Urban Growth Boundary
City Boundary
Street
Water Body

Sewer Basin
Charbonneau
Canyon Creek/Town Center
Coffee Creek
Boeckman
Villebois
Old Town
Wood School

0 2,500 5,000 Feet

N

FIGURE 3-4

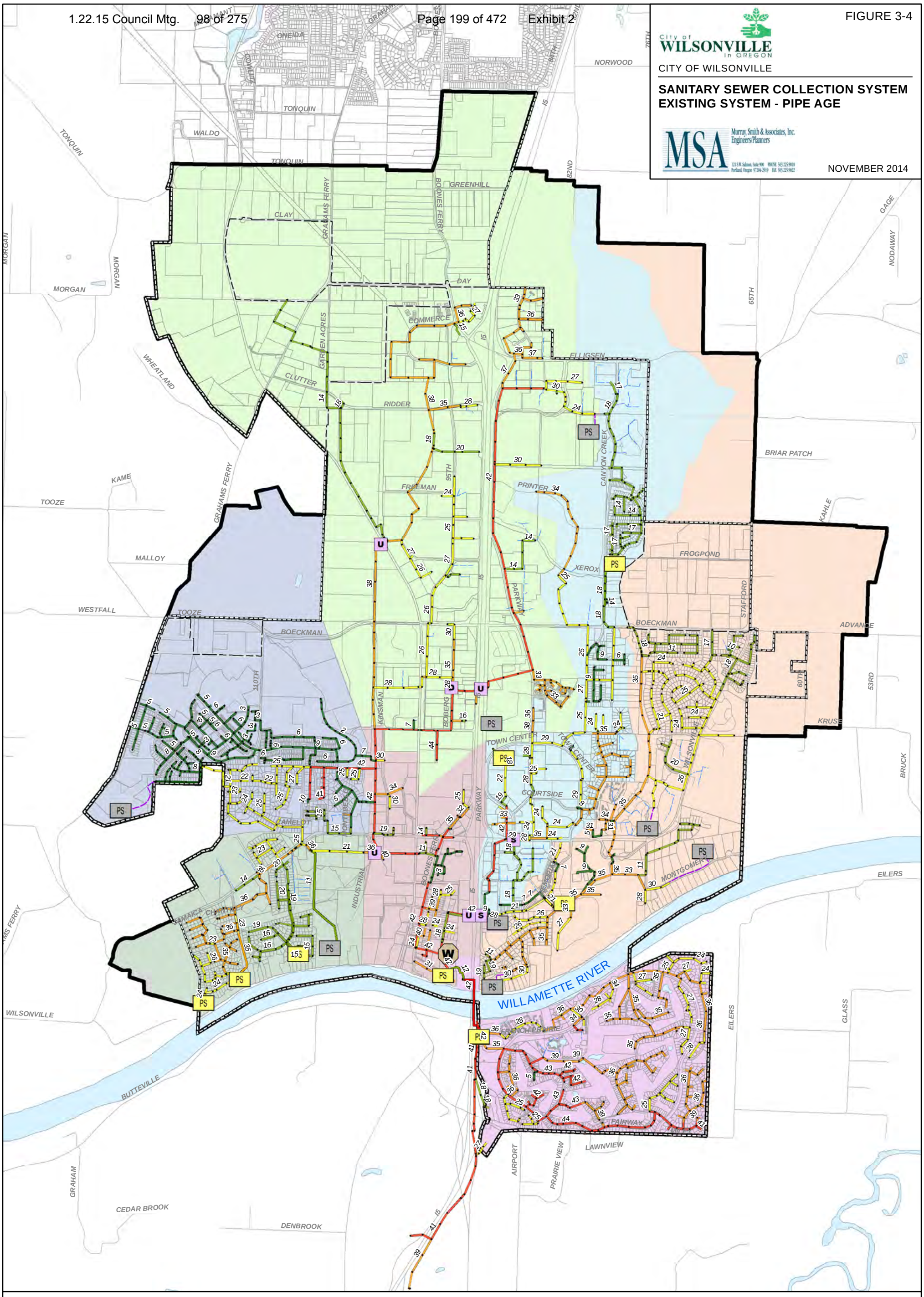
City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM
EXISTING SYSTEM - PIPE AGE

MSA Murray, Smith & Associates, Inc. Engineers/Planners
123 S.W. Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

NOVEMBER 2014



W WWTP
PS Public Pump Station
PS Private Pump Station
Manhole
D Flow Diversion
S Flow Splitter
U Undercrossing
Pipe Private
Forcemain Private

Public Pipe (Age-Years)
<=10 Years
10-20 Years
20-30 Years
30-40 Years
40-50 Years

Study Area
Urban Growth Boundary
City Boundary
Street
Water Body

Sewer Basin
Charbonneau
Canyon Creek/Town Center
Coffee Creek
Boeckman
Villebois
Old Town
Wood School

0 2,500 5,000 Feet

N

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FIGURE 3-5

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM
EXISTING SYSTEM - PIPE MATERIAL

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Portland, Oregon 97204-2919 FAX 503.225.9022

NOVEMBER 2014

ONEIDA
TONQUIN
WALDO
NORWOOD
GREENHILL
CLAY
DAY
COMMERCE
ELLIGSEN
CLUTTER
RIDDER
FREEMAN
PRINTER
XEROX
FROGPOND
BOECKMAN
TOWN CENTER
COURTSIDE
MONTGOMERY
BRIAR PATCH
MORGAN
WHEATLAND
KAME
TOOZE
MALLOY
WESTFALL
KAMEL OT
JAMAICA
FRENCH PRAIRIE
FAIRWAY
LAWNVIEW
CEDAR BROOK
DENBROOK
BUTTEVILLE
WILSONVILLE
WILLAMETTE RIVER
GRAHAMS FERRY
BOONES FERRY
PARKWAY
CANYON CREEK
STAFFORD
ADVANCE
KRUSE
NODAWAY
GAGE
KAHLE
BRUCK
EILERS
GLASS
INDUSTRIAL
AIRPORT
PRAIRIE VIEW
GRAHAM
65TH
76TH
82ND
84TH
95TH
110TH
60TH
53RD
I5

W WWTP
PS Public Pump Station
PS Private Pump Station
Manhole
D Flow Diversion
S Flow Splitter
U Undercrossing
Pipe Private
Forcemain Private

Public Pipe (Material)
Asbestos Cement
Steel (C90)
Cast Iron
Concrete
Corrugated Steel
Ductile Iron
HDPE
PVC
Reinforced Concrete
Unknown

Study Area
Urban Growth Boundary
City Boundary
Street
Water Body

0 2,500 5,000 Feet
N

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Table 3-3 | Gravity Pipe						
Material	Length by Age and Material (feet)					Total Length (feet)
	<= 10 Years	10-20 Years	20-30 Years	30-40 Years	40-50 Years	
Asbestos Cement	--	--	--	7,570	--	7,570
Steel (C90)	--	1,840	--	--	--	1,840
Cast Iron	--	90	--	--	--	90
Concrete	--	--	11,670	47,570	9,710	68,950
Corrugated Steel	--	--	650	6,360	890	7,900
Ductile Iron	--	1,130	2,280	560	--	3,970
HDPE	110	--	--	--	--	110
PVC	50,200	56,130	59,090	1,740	110	167,270
Reinforced Concrete	810	390	740	--	430	2,370
Unknown	2,150	4,260	23,690	36,670	40,230	107,000
Total	53,270	63,840	98,120	100,470	51,370	367,070

Table 3-4 | Gravity Interceptors										
Interceptor	Length by Diameter (feet)									Total Length (feet)
	10 in.	12 in.	14-16 in.	18 in.	21 in.	24 in.	27 in.	30 in.	36 in.	
Boeckman Upper NE	1,000	1,390	--	--	--	--	--	--	--	2,390
Boeckman Upper NW	--	3,890	--	--	--	--	--	--	--	3,890
Boeckman Main	--	1,620	1,210	1,400	--	--	--	--	--	4,230
Boeckman Lower	--	--	2,180	2,210	--	210	--	--	--	4,600
Canyon Creek Upper NE	800	3,800	--	--	--	--	--	--	--	4,600
Canyon Creek Upper NW	1,110	3,510	--	--	--	--	--	--	--	4,620
Canyon Creek Main	--	3,420	2,310	--	--	--	--	--	--	5,730
Canyon Creek Lower	--	--	2,450	1,950	--	--	--	--	--	4,400
Charbonneau Upper North	--	1,710	2,630	--	--	--	--	--	--	4,340
Charbonneau Upper South	--	1,210	740	--	--	--	--	--	--	1,950
Charbonneau Lower	--	--	--	320	--	130	--	--	--	450
Parkway Upper	8,160	3,680	--	--	--	--	--	--	--	11,840
Parkway Lower	--	2,550	2,860	--	--	--	--	--	--	5,410
Coffee Creek Upper NE	1,120	3,180	3,070	--	--	--	--	--	--	7,370
Coffee Creek Upper NW	--	--	20	2,410	4,950	510	--	--	--	7,890
Coffee Creek Upper	--	--	1,180	990	1,030	1,270	360	--	--	4,830
Coffee Creek Main	--	--	--	--	--	--	--	3,240	--	3,240
Coffee Creek Lower	--	--	--	--	--	--	--	3,290	1,200	4,490
Villebois North	--	--	1,600	--	170	--	--	--	--	1,770
Villebois	--	--	4,350	--	600	--	--	--	--	4,950
Wood School	1,600	--	1,670	--	--	--	--	--	--	3,270
Total	13,790	29,960	26,270	9,280	6,750	2,120	360	6,530	1,200	96,260

INTERTIES

Presently there are no piping interties between the City's wastewater collection system and any adjacent local agency.

PUMP STATIONS AND FORCE MAINS

The City owns and operates 8 public pump stations (lift stations) of various sizes. In addition to these public pump stations, there are several privately-owned pump stations within the City maintained by their respective owners. Figure 3-2 shows the pump station locations throughout the system. Detailed information regarding these facilities is also summarized in Table 3-5, which indicates information related to each pumping system and associated force mains.

The City upgraded the telemetry and control systems for all of their pump stations in 2009, switching from dial-up telephone communication systems to radio. This enabled the City to utilize supervisory control and data acquisition (SCADA) software to monitor each facility remotely from a central location at the WWTP.

Operation and maintenance of these pump stations has been contracted to CH2M HILL, parallel to their operation of the WWTP. Because this CSMP is structured to document City-owned and operated collection system infrastructures, further reference to these privately owned facilities is omitted; however, their locations are shown in Figure 3-2. A summary of the City's larger and more significant pump stations are provided below.

Memorial Park Pump Station

The Memorial Park Pump Station is the City's largest by volume, conveying wastewater at 900 gpm and over 100 feet in elevation gain. The pump station is located within Memorial Park immediately north of the sports fields. It is situated at the downstream end of the Boeckman Creek Interceptor main branch within the flood plain of Boeckman Creek. The location places the pump station at risk during conditions of heavy rain and flooding.

Canyon Creek Pump Station

The Canyon Creek Pump Station is the third largest in the City by volume, and collects wastewater from the Canyon Creek Interceptor upper northeast branch. The pump station is located near the intersection of Canyon Creek Road and SW Thornton Drive and conveys 600 gpm over an elevation gain of 60 feet before discharging into the Canyon Creek Interceptor main branch.

Charbonneau Pump Station

The Charbonneau Pump Station is the City's second largest, and collects wastewater from the Charbonneau District. The pump station is located in the northwest corner of the Charbonneau District adjacent to the Willamette River. The Charbonneau pump station

conveys wastewater at a rate of 750 gallons per minute (gpm), elevating 65 feet to cross over the river. The force main is affixed to the underside of the Interstate 5 bridge structure (Boone Bridge), and discharges into the Charbonneau Interceptor lower branch.

WASTEWATER TREATMENT FACILITY IMPROVEMENTS OVERVIEW

The City's WWTP, built in 1971, discharges treated effluent from the City into the Willamette River. The plant experienced updates in the late 70s, 80s, and 90s. Between 2004 and 2009, the City evaluated the most efficient and cost-effective method of financing and constructing the needed upgrades, and was able to take advantage of historically low interest rates to finance plant upgrades with $38 million in 20-year bonds.
The City then awarded a Design-Build-Operate (DBO) project delivery contract to CH2M HILL, who completed Phase I plant upgrades in 2014.

Phase I improvements increased flow capacity from 2 mgd to 4 mgd and decreased odors from the plant. Another key improvement enabled the WWTP to produce solid by-product, which can be applied as fertilizer. Previously, the plant produced liquid by-product, which was expensive to store and dispose of in the winter wet season.

WWTP Phase II improvements that will expand the system's capacity to 7 mgd are anticipated for 2020. CH2M HILL will operate the WWTP and 8 public pump stations within the City through 2026. Detailed information related to the WWTP's capacity, treatment process and performance can be found in the Wastewater Facility Plan (2002).

WASTEWATER RECLAMATION

Although the City does not reclaim wastewater for secondary uses such as irrigation or industrial cooling, the WWTP's recently completed upgrades may be incorporated into the City's service portfolio for such uses in the future.

Table 3-5 | City of Wilsonville, Wastewater Pump Station Summary												
Pump Station	Address	Sewer Basin	Year Installed/ Refurbished	Pump Quantity	Pump Type	Pump Manufacturer	Horse Power (hp)	Firm Capacity (gpm)	Total Dynamic Head (TDH) (ft)	Force Main Diameter (inches)	Force Main Length (ft)	Force Main Material	Back-Up Power
Canyon Creek	27370 SW Canyon Creek North	Canyon Creek / Town Center	1994	2	Self-priming	Gorman-Rupp	25	600	60	8	1,460	PVC	Fixed natural gas powered driving pump No. 2 only. 12 V controls battery powered.
Charbonneau	8786 SW Illahee Court	Charbonneau	1996	2	Self-priming	Gorman-Rupp	15	750	65	10 & 12	3,600	DI & HDPE	Fixed natural gas powered driving pump No. 2 only. 12 V controls battery powered.
Corral Creek	31287 SW Willamette Way W	Wood School	1990	2	Submersible	Meyers	5	160	40	4	520	PVC	Portable gas generator.
Memorial Park	7990 SW Memorial Drive	Boeckman	1995	2	Self-priming	Gorman-Rupp	100	900[1]	101	12	1,070	DI	Fixed natural gas powered driving pump No. 2 only. 12 V controls battery powered.
Morey's Landing	10700 SW Edgewood Court	Wood School	1997	2	Self-priming	Gorman-Rupp	15	260	79	4 & 6	2,180	PVC	Fixed natural gas powered driving pump No. 2 only. 12 V controls battery powered.
River Village	9310 SW Tauchman Street	Old Town	1984	2	Submersible	Meyers	7	250	32	4	240	PVC	Portable gas generator.
Rivergreen	11178 SW Belknap Court	Wood School	1991	2	Submersible	Meyers	15	285	91	6	1,280	PVC	Portable diesel generator.
Parkway/ Town Center	29070 SW Town Center Loop W	Canyon Creek / Town Center	1996	2	Self-primed suction lift	Gorman-Rupp	5	220	20	6	120	DI	Portable gas generator.

Notes:
1 – The current capacity of the Memorial Park Pump Station is 900 gpm. This facility can be reconfigured to provide an expanded capacity of 1,680 gpm

INTRODUCTION

This collection system master plan (CSMP) has been created in compliance with following federal, state, and local requirements.

FEDERAL STATUES, REGULATIONS AND PERMITS

NPDES Permit

The Clean Water Act (CWA) is the principal federal law in the United States governing water pollution and provides the basis for the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharge pollutants from point sources to waters of the United States. The CWA can regulate pollutants through technology and water quality based effluent limits. Other regulations that can also apply to the NPDES program include Safe Drinking Water Act, Endangered Species Act, National Environmental Policy Act, National Historic Preservation Act, Coastal Zone Management Act, Wild and Scenic Rivers Act, Fish and Wildlife Coordination Act, and Essential Fish Habitat Provisions.

The Oregon Department of Environmental Quality (DEQ) administers the state's NPDES permit program on behalf of the federal government. This permit establishes maximum pollutant concentrations and loads allowed in the effluent discharge stream. The City of Wilsonville's (City's) Wastewater Treatment Plant (WWTP) is authorized by NPDES Permit OR-101888 to discharge treated wastewater into the Willamette River. The current 3-year permit cycle runs to December 31, 2014.

National Pretreatment Program

The National Pretreatment Program is charged with controlling toxic, conventional, and non-conventional pollutants from non-domestic sources that discharge into sewer systems, as described in CWA Section 307(a). This program requires all large, publically owned treatment works (POTW) that have a designed treatment capacity of more than five (5) mgd to establish local pretreatment programs.

Local programs must enforce all national pretreatment standards and requirements, in addition to any more stringent local requirements necessary to protect site-specific conditions at the POTW. Because POTWs are generally not designed to treat most toxic or non-conventional pollutants present in industrial waste, the National Pretreatment Program protects the POTW and the environment from adverse impacts that may occur when hazardous or toxic wastes are discharged into a sanitary sewer system. This is achieved mainly by regulating nondomestic (industrial) users of POTWs that discharge toxic wastes or unusually strong conventional wastes.

Wilsonville conducts an industrial pretreatment program though its' Public Works Department. The primary objective of the program is to prevent harmful discharges into the wastewater collection system that could degrade the quality of municipal digested biosolids,

negatively affect the sewer system, or pass through the treatment process into the Willamette River. The program also strives to improve opportunities to reclaim wastewater and biosolids.

OREGON STATUTES, REGULATIONS AND PERMITS

Oregon Administrative Rule, Division 660

Oregon requires its cities and counties to adopt pubic facility plans for any urban growth boundary (UGB) areas with a population greater than 2,500. A public facility plan (PFP) helps assure that development within the UGB is guided and supported by the types and levels of urban facilities and services appropriate for the needs and requirements of the areas to be served, and that those facilities and services are provided in a timely, orderly and efficient arrangement, as required by Goal 11 and its implementing administrative rule at Oregon Administrative Rule (OAR) 660-011. This CSMP has been developed in conformance with this rule and will act as a supporting document for the City's Comprehensive Plan.

Oregon Administrative Rule, Division 340

This rule authorizes the actions of the Oregon DEQ. Total Maximum Daily Loads (TMDLs) are established for the Willamette River under this rule, which in turn prohibits such activities as discharging waste from industrial and commercial activities without a permit. This planning document provides supporting information for the City to renew its NPDES permit with the DEQ.

Oregon Revised Statute, Division 224

This statute governs the City's wastewater system management. The operational aspects of the system are defined herein, including the authority of the City to charge for provision or service and obtain debt obligations for construction of sewer systems.

Oregon Revised Statute, Division 223

This statute allows the City to recover the costs of a new development's share of the system capacity by collecting system development charges (SDCs). Under this statute, new developments must pay a proportional share of expenses to meet the increased demands that they place on the system. SDC fees can be imposed to offset the expense of any system accommodations made necessary by the new development.

LOCAL SEWER ORDINANCES, AGREEMENTS AND RELATED PLANNING POLICIES

METRO 2040 Regional Framework Plan

The City's planning programs are required to support METRO's (formerly Metropolitan Service District) 2040 Regional Framework Plan, a document intended to direct and control the region's urban growth and development. This plan was adopted by METRO council in

1995. This CSMP aids the City in meeting METRO's requirements for infrastructure planning, necessary before an area can be added to the official UGB.

Washington and Clackamas Counties

Neither Washington nor Clackamas counties have any specific regulation or rule that would apply towards the wastewater collection system within the City.

City of Wilsonville, Comprehensive Plan (July 2013), Ordinance No. 517

The Wilsonville Comprehensive Plan is an official statement of the goals, policies, implementation measures and physical plans for the City's development. A completely revised plan was adopted by City Council Ordinance No. 517 on October 16, 2000. It was again updated in July 2013 to include a number of amending ordinances, summarized below.

City of Wilsonville, Wastewater Collection System Master Plan (July 2001), Ordinance No. 530

This document, prepared by HDR, serves as an important starting point for development of this new CSMP, as it summarizes all of the previous wastewater planning efforts to date. The report contains the current Capital Improvement Program (CIP) for the collection system and details the analysis used in developing recommended improvements. This plan has served as a primary support document for the City to renew its NPDES permit from Oregon DEQ.

City of Wilsonville, Wastewater Facility Plan (November 2002), Ordinance No. 571

The Wastewater Facility Plan provides another important supporting document towards issuance of the City's NPDES permit. This report, prepared by HDR, updates the previous 1995 Facility Plan and recommends expanding existing treatment systems and using new treatment technologies to meet the City's wastewater needs. This document was reviewed to evaluate whether the modeled wastewater collection system flows were within the ranges anticipated for treatment and disposal by the WWTP.

City of Wilsonville, Coffee Creek Master Plan (October 2007), Ordinance No. 637

The Coffee Creek Master Plan was written to establish the infrastructure framework necessary to support future land uses within the associated planning area. Wastewater unit flow assumptions made during the planning for this area were reviewed for conformance with the current master planning effort. In addition, locations of planned sewer lines identified in the Coffee Creek Master Plan were used for loading into the collection system model.

City of Wilsonville, Stormwater Master Plan (March 2012), Ordinance No. 700

The City's stormwater master plan was consulted to evaluate potential efficiencies that could be realized for the wastewater CIP recommendations provided in later sections of this report. A key finding of this document was the trend towards managing stormwater with low-impact

development (LID) techniques. LID practices promote disposal of stormwater runoff through infiltration, which may increase seepage into the wastewater collection system. Infiltration of stormwater typically increases the ground water table adjacent to the LID facility. Sewer collection piping within such an elevated ground water table would experience increased seepage through condition based problems such as tree root intrusion or deteriorated joints.

City of Wilsonville, Water System Master Plan (September 2012), Ordinance No. 707

The Water System Master Plan (WSMP) identifies water demands and system capital improvement projects for the 20-year planning horizon. Since the water system provides the primary source of wastewater during dry weather conditions, the WSMP study area and demands were coordinated with loading and planning assumptions for this CSMP.

City of Wilsonville, Transportation System Plan (June 2013), Ordinance No. 718

Sanitary sewers are often constructed in street rights of way within the City. The Transportation System Plan (TSP) was consulted to evaluate potential efficiencies that could be realized for CIP recommendations provided in later sections of this report.

City of Wilsonville, Villebois Village Master Plan (October 2013), Ordinance No. 724

This 480-acre planned development on the west side of the City represents a recent comprehensive effort to develop a land use program, parks and open space, utilities, and transportation circulation into a cohesive community. The document was reviewed for consistency with the CSMP loading assumptions for the Villebois area.

City of Wilsonville, Frog Pond Area Concept Plan (Under Development)

The City is currently planning for the development of the Frog Pond UGB area and urban reserve area (URA) adjacent to Advance Road. Concept planning is underway for these development areas to address density and mix of uses and housing types; location of schools, parks and natural areas; water quality and ecosystem protection; multimodal transportation; public facilities location and service providers; and a financing plan. Coordination was made during development of this CSMP regarding infrastructure needs for the Frog Pond area and conformance with the collection system analysis.

City of Wilsonville, Basalt Creek Concept Plan (Under Development)

The City is also planning for the development of the Basalt Creek UGB area on the north side of the City. Concept planning is in the beginning stages for these development areas to address density and mix of uses and housing types; location of schools, parks and natural areas; water quality and ecosystem protection; multimodal transportation; public facilities location and service providers; and a financing plan.

City of Wilsonville, Municipal Code

Service area policies of the sewer system are defined in Chapter 3 of the Wilsonville Municipal Code. This includes connection charges and monthly user fees, provisions for use of the sewer system, prohibited discharges to public facilities, requirements for pretreatment, general standards for building sewers, general standards for public sewer construction, and requirements for compliance with the International Plumbing Code.

Chapter 4 of the City's Municipal Code is typically referred to as the "Planning and Land Use Ordinance," but is also known as the Development Code or Zoning Code. It is enacted to promote the general public welfare by ensuring procedural due process in the administration and enforcement of the City's Comprehensive Plan, zoning, design review, land division, and development standards.

City of Wilsonville, Public Works Standards

The Public Works Standards (PWS) have been developed to set forth uniform material and workmanship criteria applicable to infrastructure under the City's jurisdiction. They also streamline the administration and construction of public facilities in the City and help minimize maintenance for each facility.

Section 4 of the PWS pertains specifically to the sanitary sewer design and construction standards applicable within the City. These standards outline the City's requirements for: engineering; design; material, technical and construction specifications; and testing procedures for sanitary sewers. A subsection has also been dedicated towards Wastewater Pump Station Design Standards.

These pump station standards are applicable to construction, installation, or modification of any public wastewater pumping facility requiring a City of Wilsonville Public Works Permit. These standards were created pursuant to the City's Development Code Section 4.262.04 for Sanitary Sewers, and they outline the general provisions, requirements and documentation necessary to install one of these facilities.

The City typically reviews all collection system related documentation for their system, however for pump stations the PWS standards indicate that Oregon DEQ remains the final reviewing authority for all pump station documentation. All plans and specifications shall be reviewed and approved by this agency under Oregon Administrative Rule 340, Division 52. To that extent, all documentation shall follow the guidelines and criteria set forth in the *Oregon Standards for Design and Construction of Wastewater Pump Stations*, Oregon Department of Environmental Quality, May 2001 (DEQ Standards).

INTRODUCTION

This section of the Wastewater Collection System Master Plan (CSMP) documents existing wastewater flows and future flow projections based on designated land use. The flow projections consider existing and future customers within the project study area and highlight potential growth within the urban growth boundary (UGB) and urban reserve area (URA). All currently unsewered parcels were assumed to be sewered for build-out conditions. To develop anticipated wastewater flows, the following information was reviewed:

- Population projections
- Current and future service area boundaries
- Delineation of the major sewer basins
- City Comprehensive Plan for location based zoning
- METRO land use data
- Water production records
- Sewer flow monitoring data at multiple locations in the system
- Wastewater Treatment Plant (WWTP) flow records

This section of the CSMP focuses on definitions, flow characterization, per capita wastewater usage, unit flow factor development, and flow projection summaries. A computer model was developed to generate existing and future flows and evaluate system capacity. Specific discussion of model development, calibration based on flow monitoring data, and application of the flow methodology to evaluate the capacity of the collection system are provided in Section 6, "System Analysis."

HISTORIC AND FUTURE POPULATION DATA

The population projections for the CSMP are consistent with projections for the Wilsonville Water System Master Plan (WSMP), which was adopted September 6, 2012 by City Ordinance 707. Since the water system is the source of wastewater during dry weather conditions, basing the collection system analysis around the WSMP assumptions will align the capacity of both systems.

The WSMP analysis relied upon three sources of historical population data, including US Census Bureau data, Portland State University (PSU) certified population estimates, and estimations based upon applications for City building permits.

According to US census data, the number of people per household increased from 2.35 people per occupied household in 2000 to 2.48 people per occupied household in 2010. The 2.48 people per household assumption from 2010 was maintained for the 20-year population forecast for the CSMP.

In projecting future residential growth and associated water demand, the WSMP relied upon historical populations and population projections documented in the City's following publications:

- 2002 Water Master Plan
- 2004 Water Management and Conservation Plan
- 2006 Transit Master Plan
- 2007 Parks Master Plan
- 2008 20-Year Look
- 2009 Transportation Plan

These previous publications assumed annual residential growth rates between 2.4% and 3.2%, with four of the documents using approximately 2.9%. Based on this information, the City elected to analyze the water system assuming an annual residential growth rate of 2.9% for both population and the number of households. This value, along with the land use and densities outlined in the WSMP anticipate that build-out conditions may be reached in the year 2045 with a population for the study area of 52,400 residents. The historic population data and population projections are presented in Table 5-1 and Figure 5-1 below.

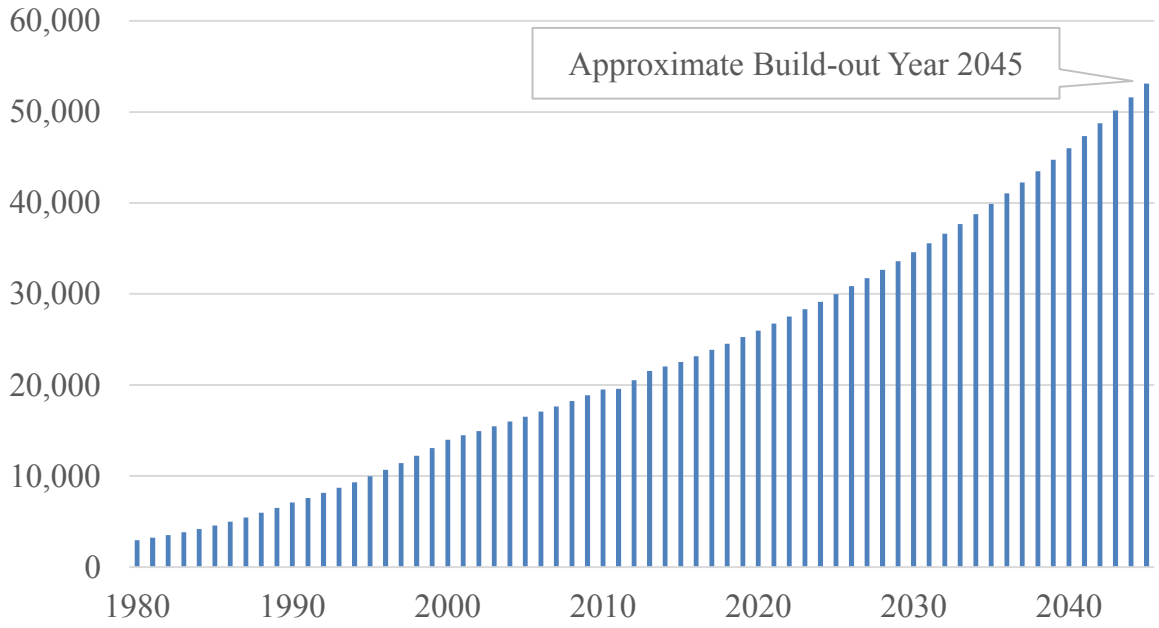
Table 5-1 | Wilsonville Population Data

Year	U.S. Census Count[1]	PSU Research Center Projections[2]	Water System Master Plan Projections[3]	Average Annual Growth Rate
Build-Out[4]	-	-	52,400	2.9%
2030	-	-	34,585	2.9%
2025	-	-	29,979	2.9%
2020	-	-	25,986	2.9%
2015	-	-	22,525	2.2%
2013	-	21,550	-	5.0%
2012	-	20,515	-	4.9%
2011	-	19,565	-	0.3%
2010	19,509	-	-	3.4%
2000	13,991	-	-	7.0%
1990	7,106	-	-	9.2%
1980	2,950			-

Notes:

1. United States Department of Commerce, Bureau of the Census.
2. Portland State University, College of Urban & Public Affairs, Population Research Center (April 15, 2014).
3. Water System Master Plan, City of Wilsonville (Sept. 2012).
4. Build-out is anticipated to occur between 2044 and 2045 based upon the buildable lands within study area and average annual growth of the population at a rate of 2.9%

Figure 5-1 | Wilsonville Historic and Projected Population



WASTEWATER FLOW DESCRIPTION

Flow Components

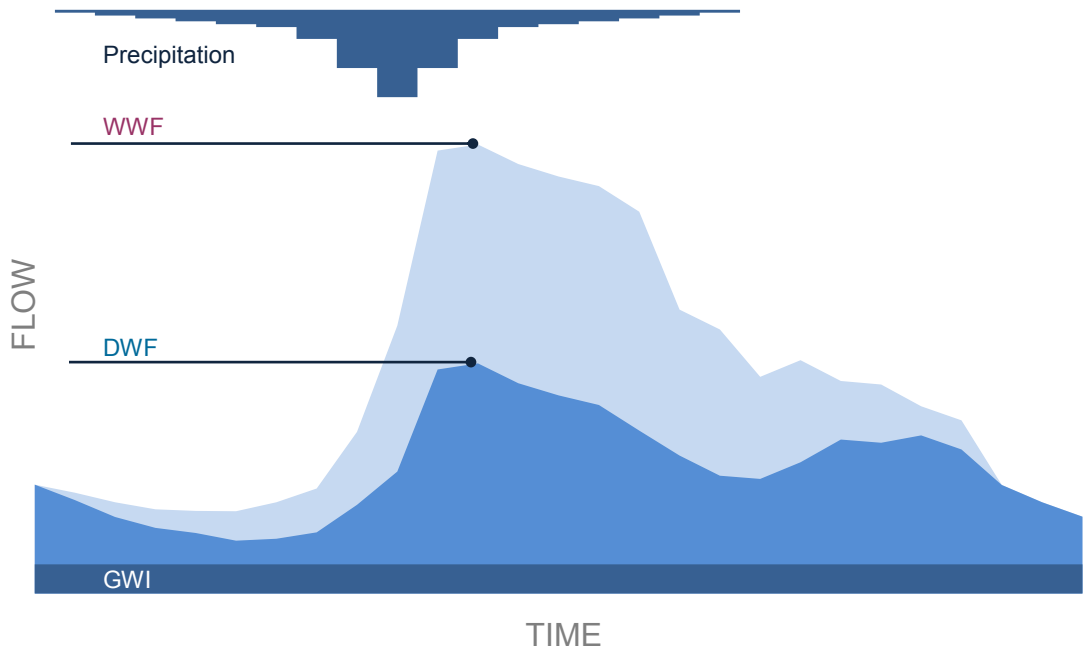
The major components of the wastewater flow are defined below. Figure 5-2 shows a generic schematic of the wastewater flow components.

1. ***Dry Weather Flow (DWF)*** is wastewater from residential, commercial, institutional (e.g., schools, churches, hospitals) and industrial sources. The dry weather wastewater flow is a function of the population and land use, and varies throughout the day in response to personal habits and business operations.

2. ***Groundwater Infiltration (GWI)*** is defined as groundwater entering the collection system unrelated to a specific rain event. GWI occurs when groundwater is at or above the sewer pipe invert, and infiltrates through defective pipes, pipe joints and manhole walls. This component of the dry weather flow is typically seasonal.

3. ***Wet Weather Flow (WWF)***, also known as *rainfall derived infiltration and inflow* (RDII), is stormwater that enters the collection system during or immediately following a rain event. Stormwater inflow reaches the collection system by direct connections such as roof downspouts connected to sanitary sewers, yard and area drains, holes in manhole covers, or cross-connections with storm drains or catch basins. Rainfall-dependent infiltration includes flow that enters defective pipes, pipe joints and manhole walls after percolating through the soil.

Figure 5-2 | Generic Schematic of Wastewater Flow Components



Flow Methodology

Existing system flows were developed from flow monitoring data. Future flow projections were based on unit flow factors derived from water consumption data and land use data. A general discussion of the flow methodology is provided below.

1. ***Existing DWF*** – The existing average DWF, often referred to as dry weather loading, was generated from localized flow monitoring data and distributed to the collection system at the parcel level based on metered winter-time water consumption. The flow monitoring data was also used to develop a "diurnal pattern" to describe flow variability throughout the day at hourly increments for each flow meter basin. The peak DWF was generated by multiplying the diurnal pattern by the average DWF. GWI is included in the existing DWF based on flow monitoring data.

2. ***Existing WWF*** – The existing peak WWF relied on localized flow monitoring data to extract peak RDII rates and unit hydrograph parameters during an actual storm event. These parameters were extrapolated to a 10-year design storm event and applied to existing sewersheds (wet weather areas of impact represented by placing buffer areas around all existing pipelines).

3. ***Future DWF*** – The future DWF projections included evaluation of historical water consumption data for use in generating per capita (residential) and per acre (commercial and industrial) unit flow factors by City land classification (zoning). The unit flow factors were then applied to net developable acres of vacant parcels to forecast future average DWF. The peak future DWF was generated by multiplying a

representative existing diurnal pattern by the average future DWF. Future GWI is assumed to be included in the DWF component of the flow.

4. ***Future WWF*** - The future WWF projections utilized representative existing peak RDII rates and unit hydrograph parameters. These parameters were extrapolated to a 10-year design storm event and applied to future sewersheds (wet weather areas of impact represented by percentage of net acreage).

EXISTING DRY WEATHER FLOW CHARACTERIZATION

The City's collection system conveys the wastewater flows of both "domestic" and "industrial" dischargers. Domestic wastewater includes residences, retail, commercial enterprises, and institutional facilities (e.g., schools). Industrial dischargers typically include larger and more significant flows generated by manufacturing, non-retail commercial facilities, and other large facilities such as the prison.

Water Consumption

Historic water consumption data recorded from the City's water meters during winter months are presented in Table 5-2. Unit wastewater loads for residential, commercial, and industrial land uses are estimated using the water meter data divided by the net developed acreage.

Table 5-2 | Water Consumption and Acres By Land Use

Land Use	Water Demand (million gallons per day, mgd)	Acres	Average Unit Load (gallons-per-acre-per-day, gpad)
Residential	1.2	1,300	900
Commercial	0.3	300	900
Industrial	0.3	700	500

Historic Flow Trends

Historical average daily DWF information recorded at the WWTP is provided in Figure 5-3. This data reflects influent readings from the beginning of July through the end of September, and illustrates that flows on average have been trending lower since 2005 in spite of a growing population base. This may likely be attributed to water conservation efforts.

Large wastewater dischargers include flows generated by local industries or atypical developments such as the Coffee Creek Correction Facility (CCCF). There are a handful of large dischargers within the City, which have been summarized in Table 5-3.

Figure 5-3 | Historic Dry Weather Flow Trends at WWTP

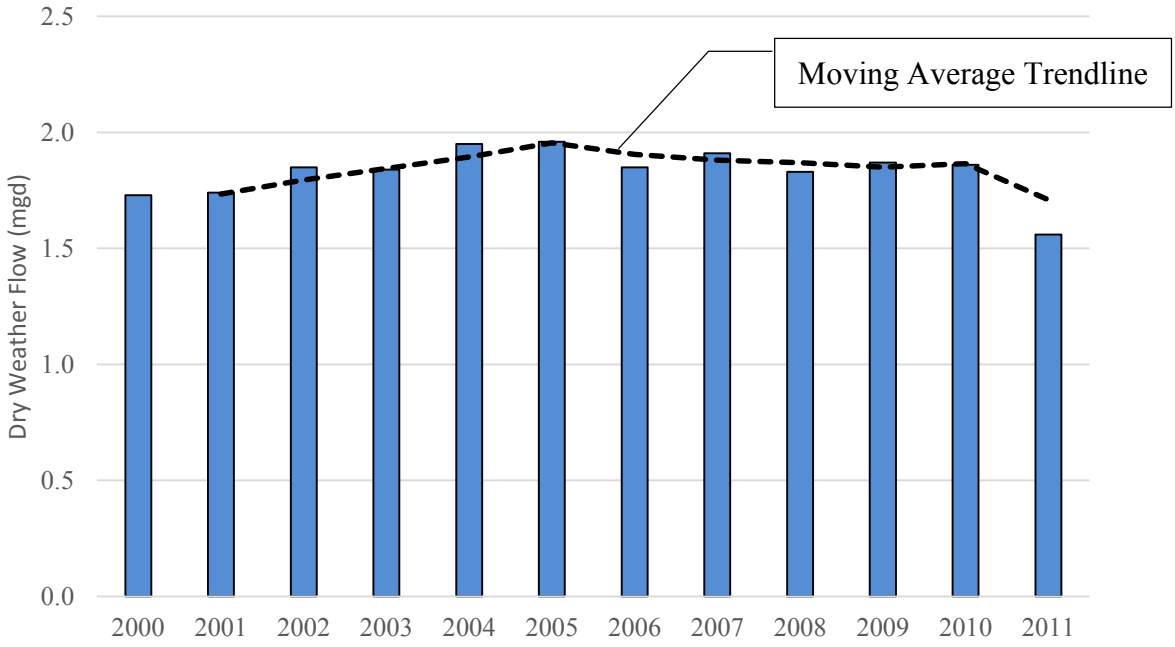


Table 5-3 | Large Dischargers

Large Discharger	Discharge Manhole	Recorded Flows (gpm)		Average Daily Discharge (mgd)	Average Annual Discharge (million gallons, mg)
		Summer 2012	September 2012		
CCCF	SMH2142	95.0	90.5	0.134	48.7
Coca-Cola	SMH4223	27.0	29.2	0.040	14.8
Flir	SMH1713	0.3	0.2	0.000	0.1
Fujimi	SMH2114	13.0	19.6	0.023	8.6
Leadtec	SMH2736	1.0	0.6	0.001	0.4
Xerox 1	SMH1705	3.5	3.4	0.005	1.8
Xerox 2	SMH1723	3.5	3.4	0.005	1.8
	Total	143.3	146.9	0.209	76.3

Per Capita Wastewater Usage

Based on historic dry weather flow and population data between 2005 and 2010, an average "domestic" per capita wastewater usage between 70 and 80 gallons-per-capita-per-day (gpcpd) was calculated. Strictly residential per capita wastewater usage varied between 60 and 67 gpcpd. The City's per capita wastewater usage is similar to values reported by other wastewater collection utilities in the region as shown in Table 5-4.

Table 5-4 | Per Capita Wastewater Flow in Similar Municipalities		
City	Per Capita Wastewater Flow Contribution (gpcpd)	2010 U.S. Census Population
Lake Oswego	79	36,619
Milwaukie	76	20,291
Newberg	68 - 91	22,068
Oregon City	80	31,859
Troutdale	70	15,962

Existing Dry Weather Flow Summary

The City has performed gravity flow monitoring on the major interceptors since 2006. Data from 2011 and 2012 at eight Telog meter sites and SCADA (supervisory control and data acquisition) data at the WWTP and Memorial Park Pump Station were used to develop existing system flow rates. Timeseries and flow vs depth plots were reviewed for each monitoring location to identify time periods of reasonable data quality as documented in the technical memorandum *"Sewer Flow Monitoring Data Analysis [December 2013]."*

The flow monitoring basin boundaries (meter basin) and monitoring sites are shown in Figure 5-4. Within each meter basin, the daily average loads from the flow monitors were distributed to parcels based on metered winter-time water consumption. Dry weather flows and peaking factors for the existing system are summarized by flow monitoring location in Table 5-5 and by sewer basin in Table 5-6. The values were developed for the dry weather time period between September and November 2012 to account for contributions from new development.

Table 5-5 | Existing Dry Weather Flow Summary by Flow Monitoring Location			
Flow Monitor Location	Average DWF (mgd)	Peaking Factor	Peak DWF (mgd)
Boeckman Interceptor (High School)	0.27	1.7	0.46
Memorial Park Pump Station (SCADA)	0.26	1.7	0.44
Canyon Creek	0.05	2.3	0.12
Parkway Interceptor (Burns West)	0.07	1.8	0.12
I-5 Crossing	0.53	1.9	1.00
Coffee Creek Interceptor (UD North)	0.31	1.8	0.56
Coffee Creek Interceptor (UD South)	0.59	1.4	0.83
Villebois	0.08	1.8	0.14
Wood School	0.10	2.1	0.21
WWTP (SCADA)	1.60	1.7	2.73

Table 5-6 | Existing Dry Weather Flow Summary by Basin		
Basin	**Average DWF (mgd)**	**Peak DWF (mgd)**
Charbonneau	0.22	0.34
Boeckman	0.31	0.52
Canyon Creek/Town Center	0.22	0.44
Coffee Creek	0.48	0.80
Old Town	0.11	0.16
Villebois	0.18	0.31
Wood School	0.08	0.16
Total	1.60	2.73

FIGURE 5-4

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM FLOW MONITORING LOCATIONS AND METER BASINS

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Parkway Interceptor (Burns West)

Coffee Creek Interceptor (UD North)

Villebois

Canyon Creek

Coffee Creek Interceptor (UD South)

Wood School

I-5 Crossing

Boeckman Interceptor (High School)

Memorial Park Pump Station (SCADA)

WWTP (SCADA)

Flow Meter

WWTP

Public Pump Station

Private Pump Station

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Urban Growth Boundary

City Boundary

Study Area

Street

Water Body

Meter Basin

Boeckman Interceptor (High School)

Canyon Creek

Coffee Creek Interceptor (UD North)

Coffee Creek Interceptor (UD South)

I-5 Crossing

Memorial Park Pump Station (SCADA)

Parkway Interceptor (Burns West)

Villebois

WWTP (SCADA)

Wood School

0 2,500 5,000 Feet

N

G:\PDX_Projects\13\1488\GIS\MXD\Wilsonville_CIP_Figures_10-31-2014_Fig 5-1.mxd 11/18/2014 11:36:17 AM SJR

EXISTING WET WEATHER FLOW CHARACTERIZATION

The wet weather flow (WWF) component of the wastewater flow is generated by rainfall derived infiltration and inflow (RDII). Flow monitoring data and SCADA data were examined during large storm events between 2006 and 2012. Two of the largest events occurred in 2012, on January 18th-19th, and November 19th. The Aurora State Airport data estimated cumulative 24 hour depths of 2.05 and 2.22 inches for the January and November events respectively.

In order to estimate the WWF generated in the collection system in response to these two events, estimates were made of the RDII components of the peak flow measured at each flow monitoring location. This was done by first estimating and subtracting out the portion of the total peak flow attributable to DWF by using monitor data from dry time periods. The RDII component was assumed to be the difference between the total measured peak flow and the DWF estimate. Table 5-7 shows the peak flow measured at each monitor location for each event, as well as the estimated DWF and RDII flow components. Higher flow rates were measured for the January event likely caused by snow melt, soil saturation, and high groundwater.

Table 5-7 | Estimated Dry Weather Flow and RDII from Flow Monitoring Data (2012)

Flow Monitor Location	Dry Flow (mgd)		RDII (mgd)		Total Flow (mgd)	
	Jan	Nov	Jan	Nov	Jan	Nov
Boeckman Interceptor (High School)	0.37	0.28	0.60	0.58	0.97	0.87
Memorial Park Pump Station	0.33	0.27	1.98	0.66	2.31	0.93
Canyon Creek	no data	0.09	no data	0.20	no data	0.29
Parkway (Burns West)	0.09	0.10	0.79	0.54	0.89	0.64
I-5 Crossing	no data	0.52	no data	1.35	no data	1.87
Coffee Creek (UD North)	0.26	0.18	4.01	1.61	4.28	1.79
Coffee Creek (UD South)/Villebois	no data	0.56	no data	1.98	no data	2.53
Wood School	0.11	0.13	0.68	0.31	0.78	0.44
WWTP	2.24	1.85	5.52	4.20	7.76	6.05

Design Storm

Based on the November 2010, *"Internal Management Directive Sanitary Sewer Overflows (SSOs)" document from the Oregon Department of Environmental Quality (DEQ) and Oregon Administrative Rules Chapter 340-Division 041(OAR 340-041-0009)*, all SSOs are prohibited. However, DEQ may withhold enforcement action for those SSOs that occur from larger storm events; e.g. a winter storm that corresponds to a 1 in 5-year, 24-hour duration storm and a summer storm that corresponds to a 1 in 10-year, 24-hour duration. The City has elected to apply the 1 in 10-year, 24-hour duration storm to the system analysis to reduce the risk of SSOs occurring as a result of high flows. The City's Public Works Construction Standards list the 5-year and 10-year 24-hour storm depths as 3.1 and 3.45-inches respectively, as referenced in the *"NOAA Atlas 2, Precipitation-Frequency Atlas of the Western United States -Oregon "NOAA, 1973]"*.

Rainfall Derived Inflow and Infiltration (RDII)

WWF can be calculated within contributing sewer basin areas in order to estimate flow per acre values, typically referred to as RDII rates. These RDII rates can vary significantly across the system, due to factors such as sewer basin development, land use differences, soil type, and system condition (pipe and manhole). The RDII rates were estimated for each flow monitoring location during the available storm events and then extrapolated to the 10-year design storm. RDII projection can be conservative when extrapolating from a small storm to a larger design storm. To minimize flow extrapolation error and limit flow projection conservancy, the largest monitored rainfall event (January 2012) was given the highest priority when developing the RDII rates. Key considerations regarding development of the RDII rates for each metered basin are presented below.

- *Boeckman Interceptor (High School)* - The January event was used to estimate RDII.
- *Memorial Park Pump Station (SCADA)* - The RDII rate was selected between the January and November responses, such that the flow per area value was consistent with the values developed from the upstream High School flow meter.
- *Canyon Creek* - Data was unavailable for the January event. The November RDII rate was increased to provide a flow per area value consistent with other values on the east side of the City.
- *Parkway (Burns West)* - The January event was used to estimate RDII.
- *I-5 Crossing* - Data was unavailable for the January event. The November RDII rate was increased to provide a flow per area value consistent with other values on the east side of the City.
- *Coffee Creek (United Disposal North)* - Due to concerns about the quality of the data for the January event, the November event was used to estimate RDII. Then, the November RDII rate was increased to provide a flow per area value consistent with other values on the west side of the City.
- *Coffee Creek (United Disposal South)* - Data was unavailable for the January event. The November RDII rate was increased to provide a flow per area value consistent with other values on the west side of the City.
- *Villebois* - Due to a lack of available flow data, the RDII rate applied for this basin was chosen to provide the same flow per acre value as the RDII associated with the downstream Coffee Creek (United Disposal South) flow meter.
- *Wood School* - The January event was used to estimate RDII.
- *WWTP (SCADA)* - The January event was used to estimate RDII.

The 2012 RDII rates were extrapolated to the 10-year, 24-hour duration design storms. The calculated peak RDII rates vary by sub-basin between 1,500 gpad and 2,500 gpad as summarized in Table 5-8. These rates are consistent with new system design standards for many utilities in Oregon where design RDII rates typically range from 1,000 to 2,500 gpad.

Table 5-8| RDII Peak Rates and Extrapolation			
Flow Monitor Location	Estimated Peak RDII Rate Nov/Jan 2012 (gpad)	Peak RDII Rate 5-year Design Storm (gpad)	Peak RDII Rate 10-year Design Storm (gpad)
Parkway Interceptor (Burns West)	1,500	2,200	2,500
Canyon Creek	1,000	1,400	1,600
Boeckman Interceptor (High School)	1,100	1,600	1,800
I-5 Crossing	1,100	1,600	1,800
Memorial Park Pump Station	1,100	1,600	1,800
Coffee Creek Interceptor (UD North)	1,100	1,700	1,900
Coffee Creek Interceptor (UD South)	1,100	1,600	1,800
Villebois	900	1,300	1,500
Wood School	1,200	1,700	1,900
WWTP[1]	1,100	1,600	1,800

Note 1. A meter on SW Evergreen Avenue indicated an RDII rate of 3,500 gpad for the small contributing upstream service area. This area is located in the WWTP meter basin. This meter was later moved to the Villebois Interceptor.

Existing Dry + Wet Weather Flow Summary

WWF and total flow estimates for the existing system are summarized by sewer basin in Table 5-9 as developed from the flow monitoring data and extrapolation to the 10-year design storm event.

Table 5-9 | Existing Dry and Wet Weather Flow Summary by Basin					
Basin	Average DWF (mgd)	Peak DWF (mgd)	Peak WWF (mgd)	Peak DWF + WWF (mgd)[1,2]	Dry + Wet Peaking Factor[3]
Charbonneau	0.22	0.34	0.45	0.78	3.5
Boeckman	0.31	0.52	0.84	1.37	4.4
Canyon Creek/ Town Center	0.22	0.44	0.82	1.26	5.6
Coffee Creek	0.48	0.80	2.12	2.92	6.1
Old Town	0.11	0.16	0.34	0.50	4.7
Villebois	0.18	0.31	0.31	0.62	3.3
Wood School	0.08	0.16	0.41	0.57	7.5
Total	1.60	2.73	5.28	8.01	5.0

Note 1. Flow estimates developed for upstream entry points to trunk sewer. Flow at the WWTP will be approximately 10% less as a result of travel time, flow attenuation, and system storage.
Note 2. WWF assumes 10-year design storm.
Note 3. Dry + Wet Peaking Factor = (Peak DWF + Peak WWF)/Average DWF.

FLOW PROJECTIONS

Dry Weather Flow Projection

DWF projections for build-out conditions (approximately 2045) assumed full development of the current UGB and development of specific areas of the URA as shown in Figure 5-5. Three scenarios were developed for future areas assuming high, medium, and low densities for City residential land use/zoning classifications. Additionally, a range of unit loading factors were applied to future commercial and industrial areas based on equivalent dwelling units and the existing water consumption analysis. The medium growth scenario represents the average development potential. The low and high density scenarios were developed to characterize system sensitivity to lower or higher peak flows. The range of flow rates generated by the sensitivity analysis were applied to the collection system to evaluate improvement trends as further described in Section 6, "System Analysis." When applied to capital improvement planning, the sensitivity analysis provides the City with confidence in the capacity related design criteria, an understanding of the flexibility of the collection system to serve a lesser or greater future population, and critical information for improvement prioritization.

Assumptions related to the build-out dry weather flow projections are provided below.

- An average 65% net acreage factor was applied to the gross acreage of each undeveloped or unserved parcel. The net acreage factor accounts for undevelopable areas such as wetlands, right of way, etc. METRO designated "open areas" were excluded from the gross and net acreages.

- Unit loading factors by City land classification/zoning are presented in Table 5-10 and were applied to net acres of presently undeveloped or unserved parcels within the UGB and URA to develop build-out average flows.

- Residential unit loading factors were based on projected densities by land use and a per household wastewater usage of 166 gallons per day (gpd) based on 67 gallons per capita wastewater usage and City projected household size of 2.48 people per unit.

- Land use classifications for undeveloped parcels of Exclusive Farm or Forest Use (EFU, AF-10, AF-5), Future Development (FD-20), Agricultural Holdings (RAH), and Rural Residential (RRFF5) assume land use re-classification with equivalent dwelling unit (EDU) densities varying for high (15 units/acre), medium (10 units/acre), and low (6 units/acre) flow scenarios.
- Commercial and industrial flow factors were varied for high, medium, and low flow scenarios based on typical values based on the City's winter-time water consumption data. Commercial unit loading factors range from 500 to 1,000 gpad. Industrial unit loading factors range from 350 to 1,000 gpad.

- Based on review of the existing flow monitoring data, the peaking factor from the Canyon Creek flow meter was assigned to presently undeveloped or unserved parcels. The Canyon Creek meter is located in the upper sub-basins and the pattern is less affected by travel time (flow attenuation) as demonstrated by a conservative peaking factor of approximately two.

Table 5-10 | Build-out Unit Loading Assumptions

City Zoning	Description	High Density		Medium Density		Low Density	
		Equivalent Dwelling Units Per Acre	Unit Load (gpad)	Equivalent Dwelling Units Per Acre	Unit Load (gpad)	Equivalent Dwelling Units Per Acre	Unit Load (gpad)
Commercial							
PDC, PDCTC	Planned Development Commercial, Planned Development Town Center	-	1,000	-	750	-	500
PF, PFC	Public Facility, Public Facility Corrections	-	1,000	-	750	-	500
Industrial							
PDI	Planned Development Industrial	-	1,000	-	500	-	350
RI	Rural Industrial	-	1,000	-	500	-	350
Residential and Mixed-Use							
PDR-1	Single Family ~1 acre lot	1	166	1	166	1	166
PDR-2	Single Family ~10,000 sq.ft. lot	3	498	3	498	3	498
PDR-3	Single Family ~7,000 sq.ft. lot	5	831	5	831	5	831
PDR-3	Single Family ~5,000 sq.ft. lot	7	1,163	7	1,163	7	1,163
PDR-4	Single Family ~3,500 sq.ft. lot	10	1,662	10	1,662	10	1,662
PDR-5	Multi-family Medium Density	12	2,044	12	2,044	12	2,044
PDR-6	Multi-family High Density	18	2,958	18	2,958	18	2,958
PDR-5, Village	Mixed Use	11	1,861	11	1,861	11	1,861
Variable Density (Re-Zoning)							
EFU, AF-10, AF-5, RAH, FD-20, RRFF5	Exclusive Farm or Forest Use, Future Development, Agricultural Holdings, Rural Residential	15	2,492	10	1,662	6	997

Note: Unit loads for land use classifications with equivalent dwellings units are calculated assuming 67 gpcd and 2.48 people per unit.

DWF average and peak flow estimates for future development are categorized by UGB and URA planning areas, and summarized by sewer basin in Tables 5-11 and 5-12. A more detailed summary of the high density scenario average flow estimates and applicable net acreage by zoning classification is presented in Table 5-13.

DWF produced by the high density scenario most closely align with water demands from the City's Water Master Plan. Based on the high density scenario, the average daily dry weather flow for the build-out system is approximately 6.7 mgd including ground water infiltration (GWI) and approximately 5.5 mgd excluding GWI. The estimated peak water usage at build-out for the minimum month (excludes Sherwood) from the Water Master Plan is 5.9 mgd. The corresponding dry weather average flows for the medium and low densities scenarios are 5.1 mgd (4.2 mgd without GWI) and 4.0 mgd (3.3 mgd without GWI) respectively.

Table 5-11 | Future Build-out Dry Weather Loading Estimates (Daily Average, mgd)

Basin	Future Development UGB			Future Development URA		
	High	Medium	Low	High	Medium	Low
Charbonneau	0.00	0.00	0.00	0.00	0.00	0.00
Boeckman	0.50	0.36	0.25	0.79	0.53	0.32
Canyon Creek/Town Center	0.19	0.16	0.14	0.43	0.28	0.17
Coffee Creek	1.67	1.14	0.74	0.20	0.13	0.08
Old Town	0.17	0.11	0.07	0.00	0.00	0.00
Villebois	0.50	0.39	0.30	0.33	0.22	0.13
Wood School	0.16	0.13	0.11	0.11	0.07	0.04
Total	3.20	2.30	1.62	1.86	1.24	0.74

Table 5-12 | Future Build-out Dry Weather Peak Flow Estimates (mgd)

Basin	Future Development UGB			Future Development URA		
	High	Medium	Low	High	Medium	Low
Charbonneau	0.00	0.00	0.00	0.00	0.00	0.00
Boeckman	1.15	0.83	0.57	1.82	1.21	0.73
Canyon Creek/Town Center	0.43	0.36	0.31	0.98	0.65	0.39
Coffee Creek	3.78	2.59	1.67	0.46	0.31	0.19
Old Town	0.35	0.23	0.15	0.00	0.00	0.00
Villebois	1.11	0.88	0.69	0.76	0.51	0.30
Wood School	0.38	0.30	0.25	0.25	0.17	0.10
Total	7.20	5.19	3.64	4.27	2.85	1.71

Table 5-13 | Future Development Net Acreage and Dry Weather Loading by Land Use																		
City Zoning	Land Use Description	High Density Unit Loading (gpad)	Net Acreage by Basin								Average Dry Weather Flow by Basin (gpm)							
			Charbonneau	Boeckman	Canyon Creek/ Town Center	Coffee Creek	Old Town	Villebois	Wood School	Total	Charbonneau	Boeckman	Canyon Creek/ Town Center	Coffee Creek	Old Town	Villebois	Wood School	Total
Commercial																		
PDC, PDCTC	Planned Development Commercial, Planned Development Town Center	1,000	0	0	3	46	8	0	1	58	0	0	2	32	6	0	1	41
PF, PFC	Public Facility, Public Facility Corrections	1,000	0	1	0	25	0	49	0	76	0	1	0	18	0	36	0	55
Industrial																		
PDI	Planned Development Industrial	1,000	0	0	15	88	22	0	17	143	0	0	11	67	17	0	12	107
RI	Rural Industrial	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential and Mixed-Use																		
PDR-1	Single Family ~1 acre lot	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PDR-2	Single Family ~10,000 sq.ft. lot	498	0	6	1	0	0	6	1	14	0	2	0	0	0	2	0	5
PDR-3	Single Family ~7,000 sq.ft. lot	831	1	5	4	0	0	0	7	16	1	3	2	0	0	0	4	10
PDR-3	Single Family ~5,000 sq.ft. lot	1,163	0	23	13	25	2	0	3	66	0	19	10	20	2	0	3	54
PDR-4	Single Family ~3,500 sq.ft. lot	1,662	0	3	0	1	4	2	32	42	0	4	0	1	4	2	37	49
PDR-5	Multi-family Medium Density	2,044	0	20	22	39	0	1	5	87	0	29	31	56	0	2	8	125
PDR-6	Multi-family High Density	2,958	0	0	5	0	0	0	0	5	0	0	10	0	0	0	0	10
PDR-5, Village	Mixed Use	1,861	0	0	12	0	0	84	0	96	0	0	20	0	0	110	0	130
Variable Density (Re-Zoning)																		
EFU, AF-10, AF-5 RAH, FD-20 RRFF5	Exclusive Farm or Forest Use, Agricultural Holdings, Future Development, Rural Residential	2,492	0	485	197	632	48	240	71	1,674	0	840	342	1,109	87	423	124	2,924
Total			1	544	272	857	83	383	137	2,278	1	898	428	1,302	116	575	189	3,509

Wet Weather Flow Projection

WWF projections for build-out conditions also assumed full development of the UGB and development of specific areas of the URA as shown in Figure 5-2. Based on the existing system RDII analysis and the extrapolation to the 10-year design storm, the peak RDII rate averaged across the entire system is 1,800 gpad. The 1,800 gpad RDII rate was applied to future development net acres to project future WWF.

WWF peak flow estimates for future development are categorized by UGB and URA planning areas, and summarized by sewer basin in Tables 5-14.

Table 5-14 | Future Build-out Wet Weather Peak Flow Estimates (mgd)

Basin	Future Development UGB	Future Development URA
Charbonneau	0.00	0.00
Boeckman	0.40	0.57
Canyon Creek/Town Center	0.16	0.31
Coffee Creek	1.39	0.15
Old Town	0.10	0.00
Villebois	0.42	0.24
Wood School	0.16	0.08
Total[1]	2.64	1.34

Note 1. Flow estimates developed for upstream entry points to trunk sewer. Flow at the WWTP will be approximately 10% less as a result of travel time, flow attenuation, and system storage.

Future Dry + Wet Weather Flow Projection Summary

The total peak wastewater flow is calculated as the superposition of the maximum dry weather contribution with the RDII flow derived from the 10-year design storm event. The summary of total peak wastewater flow is summarized by basin in Table 5-15.

Table 5-15 | Future Total Peak Flow Estimates (mgd)								
Basin	Existing DWF	Existing WWF	Future UGB DWF[2]	Future UGB WWF	Future URA DWF[2]	Future URA WWF	Total UGB[2]	Total UGB+URA[2]
Charbonneau	0.34	0.45	0.00	0.00	0.00	0.00	0.78	0.78
Boeckman	0.52	0.84	1.15	0.40	1.82	0.57	2.92	5.31
Canyon Creek/Town Center	0.44	0.82	0.43	0.16	0.98	0.31	1.85	3.14
Coffee Creek	0.80	2.12	3.78	1.39	0.46	0.15	8.09	8.70
Old Town	0.16	0.34	0.35	0.10	0.00	0.00	0.94	0.94
Villebois	0.31	0.31	1.11	0.42	0.76	0.24	2.15	3.15
Wood School	0.16	0.41	0.38	0.16	0.25	0.08	1.11	1.43
Total[1]	2.73	5.28	7.20	2.64	4.27	1.34	17.85	23.46

Note 1. Flow estimates developed for upstream entry points to trunk sewer. Flow at the WWTP will be approximately 10% less as a result of travel time, flow attenuation, and system storage.
Note 2. Flow estimate based on high density scenario applied to future development.

FIGURE 5-5

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM ZONING FOR FLOW PROJECTIONS

MSA Murray, Smith & Associates, Inc. Engineers/Planners

November 2014

Basalt Creek
SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Frog Pond
Advance Rd URA
Villebois
Brenchley Estates
Advance Road School
Charbonneau
Parkway Interceptor
Coffee Creek Interceptor
Boeckman Interceptor
PS
W
WILLAMETTE RIVER
BUTTEVILLE
TONQUIN
WALDO
MORGAN
WHEATLAND
KAME
TOOZE
MALLOY
WESTFALL
GRAHAM
CEDAR BROOK
NORWOOD
GREENMILL
CLAY
GRAHAMS FERRY
DAY
COMMERCE
CLUTTER
RIDDER
FREEMAN
PRINTER
CANYON CREEK
BRIAR PATCH
FROGPOND
BOECKMAN
ADVANCE
KRUSE
EILERS
LAWNVIEW
FAIRWAY
PRAIRIE VIEW
AIRPORT
GAGE
NODAWAY
65TH
53RD
BRUCK
GLASS
KAHLE
I5

- W WWTP
- PS Public Pump Station
- PS Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- Street
- Water Body
- Urban Growth Boundary
- City Boundary
- Study Area
- Metro Open Space
- Developed UGB
- Re-Zone Potential, Variable Loading*

Zoning
- Residential
- Industrial
- Commercial
- Public
- Village

*Area of re-zoning potential. Projected zoning classification shown. Lands have existing zoning classification of future development, agricultural holding, exclusive farm use, and rural residential. Varied loading factors applied for sensitivity analysis.

0 2,500 5,000 Feet

N

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INTRODUCTION

This section of the Wastewater Collection System Master Plan (CSMP) outlines the system capacity analysis and hydraulic model assumptions. To evaluate system capacity, design criteria were established for maximum allowable flow depth during dry and wet weather conditions, maximum velocity, and pump station capacity. A hydraulic model was developed and calibrated to evaluate the response of the system against the design criteria for existing and future flows. The hydraulic model was further used as a tool to evaluate and recommend system improvements. This section documents the model development, design criteria assumptions, application of future loads, existing and future system capacity analyses, and capital improvement analysis.

Additionally, this section of the CSMP provides a summary of the infrastructure condition for gravity pipelines, diversion structures, flow splitter structures, pump stations, and force mains. The condition assessment is based on interviews with City staff and provides condition-based improvement recommendations.

All improvements are evaluated at the master planning level of accuracy which allows for determination of budget level cost estimates for the purpose of determining system development charges (SDCs) and rates (user fees) to support the Capital Improvement Program (CIP) as presented in Section 7, "Capital Improvement Program." Prior to implementation, each improvement project will require standard design phases to identify construction details and refine infrastructure sizing.

MODEL DEVELOPMENT

To evaluate the existing and future capacity of the system, a collection system hydraulic model was developed in INFOSWMM (a proprietary software program by Innovyze) which utilizes the industry-standard SWMM 5 hydraulic engine developed by the Environmental Protection Agency (EPA). The City's GIS data was used to create the model network. All pipelines 10-inches and larger were incorporated into the model network. Information required to perform the hydraulic calculations in a network model include pipeline diameter, pipeline length, pipeline slope (based on pipeline inverts), manhole invert elevations, and manhole rim elevations. The Charbonneau and Memorial Park pump stations were also incorporated into the hydraulic model based on data provided by the City, including the number of pumps, wet well dimensions, pump curves, and control set points.

MODEL CALIBRATION

Model calibration generally consists of inputting and adjusting model parameters such that model and field data match within a reasonable tolerance. At the conclusion of each calibration iteration, field data are compared with the modeled data to determine the model's level of accuracy. Once the desired level of accuracy has been achieved, the calibration is complete.

In collection system modeling, the calibration level of accuracy is both qualitative and quantitative. Flow rates measured at each flow monitoring site are visually compared to model flow rates for an extended period of time. A dry weather period including both weekdays and weekend days and a wet weather period are selected for model calibration. The dry weather flows are calibrated first with adjustments to the model loading and diurnal patterns until field and model flows match. The wet weather flows are calibrated second with adjustments to wet weather hydrographs, rainfall derived infiltration and inflow (RDII) parameters, and sewershed areas (wet weather impact areas) until field and model flows match during a significant rain event. Actual precipitation gage data is used in the model during the wet weather calibration. "Good," "moderate," and "poor" calibration result categories occur when field and model peak flows match within 10-percent, 20-percent, and greater than 20-percent respectively.

The City has performed gravity flow monitoring in place since 2006. The current flow monitoring basin boundaries (metersheds) and meter sites are shown in Figure 6-1. The largest rain event of the flow monitoring period occurred between January 16 and January 22, 2012. The dry weather period selected for calibration occurred in September to November 2012. The modeling parameters that impact the dry weather and wet weather calibration are described below:

Existing System Dry Weather Loading

The existing system dry weather flow component of the model consists of a daily average load and a normalized diurnal pattern which informs the model how to adjust the average flow throughout the day. Daily average flows and diurnal patterns for each meter basin were calculated for weekdays (Monday-Friday) and weekend days (Saturday-Sunday) separately.

Within each meter basin, the calculated daily average loads from the flow monitors were distributed to model nodes based on winter-time water usage as defined by the City's billing records and developed for the City's Water Master Plan (2011). Each metered address was spatially located using the available parcel database. The flow loading was assigned to model nodes (manholes) using delineated service area boundaries (see Figure 6-1).

Existing System Wet Weather Loading

The wet weather flow component of the model consists of a storm event, sewershed acreage (wet weather area of impact), and RDII unit hydrograph. The sewersheds are defined by placing a 50-foot buffer around all system pipes. During the model calibration, actual precipitation data is modeled. Precipitation from the rain event falls on the sewershed acreage creating a volume of water. The sewershed areas are assigned to model nodes using delineated service area boundaries (see Figure 6-1).

The RDII unit hydrograph defines the amount of runoff (percentage of the volume created from the sewershed and rain depth) which enters the system and the travel time. The RDII unit hydrograph is a composite of three component hydrographs representing initial, intermediate, and long-term system response. Each of the three hydrographs is defined by three parameters which are adjusted during model calibration until field and model flows

match within the desired level of accuracy (~10%). The RDII unit hydrograph parameters are described below and shown in Figure 6-2.

Unit Hydrograph Parameter 1 - R1, **R2**, **R3 -** Response ratios for the short-term, intermediate-term, and long-term UH responses, respectively.

Unit Hydrograph Parameter 2 - T1, **T2**, **T3** - Time to peak for the short-term, intermediate-term, and long-term UH responses, respectively.

Unit Hydrograph Parameter 3 - K1, **K2**, **K3 -** Recession limb ratios for short-term, intermediate-term, and long-term UH responses, respectively.

Figure 6-2 | EPASWMM Unit Hydrograph

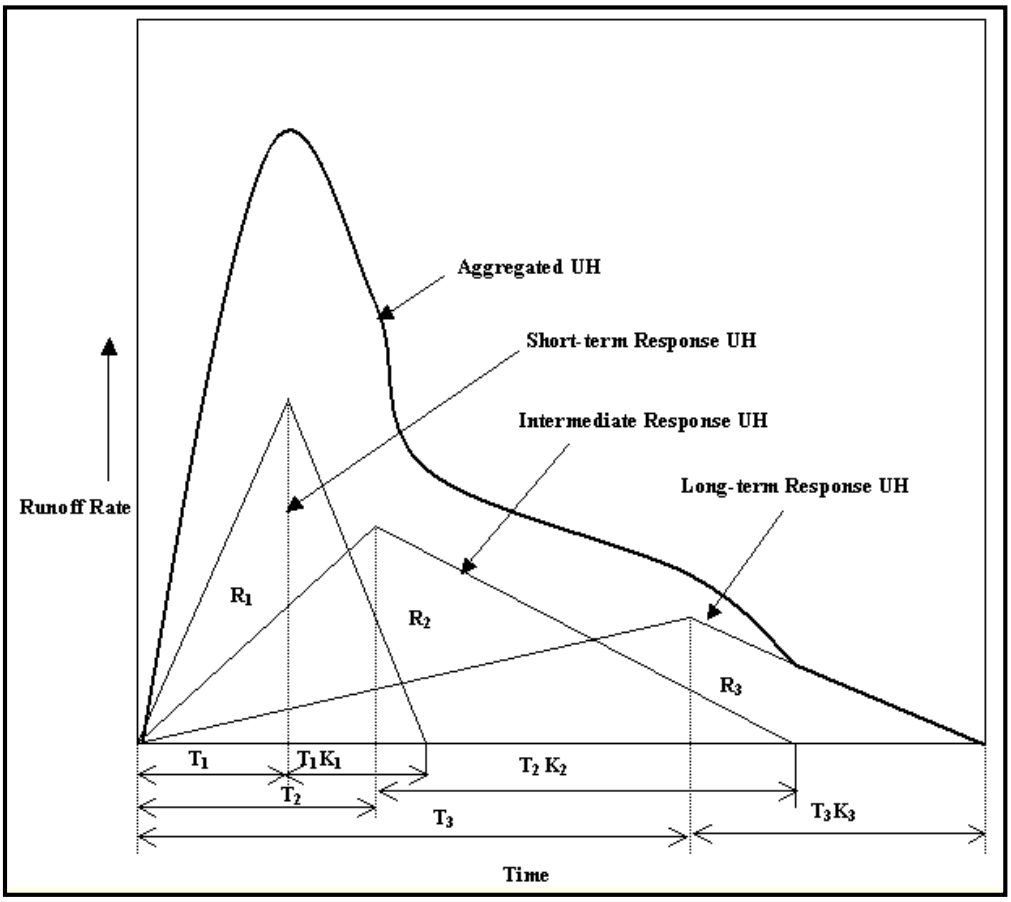

FIGURE 6-1

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM EXISTING SYSTEM LOADING

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Parkway Interceptor (Burns West)

Coffee Creek Interceptor (UD North)

Villebois

Canyon Creek

Coffee Creek Interceptor (UD South)

Wood School

I-5 Crossing

Boeckman Interceptor (High School)

Memorial Park Pump Station

WWTP

M Flow Meter

W WWTP

PS Public Pump Station

PS Private Pump Station

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Street

Water Body

Urban Growth Boundary

City Boundary

Study Area

Parcel Load to Model Manhole

Manhole Service Area

Sewershed

Meter Basin

Boeckman Interceptor (High School)

Canyon Creek

Coffee Creek Interceptor (UD North)

Coffee Creek Interceptor (UD South)

I-5 Crossing

Memorial Park Pump Station

Parkway Interceptor (Burns West)

Villebois

WWTP

Wood School

0 2,500 5,000 Feet

N

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Dry Weather Calibration Results

The dry weather calibration results, including the diurnal pattern peaking factors and the quality of calibration at each meter, are presented in Table 6-1. Accurate dry weather metering data was available at ten meter locations. Plots comparing field and model flows are presented in Appendix A for each flow meter location. The model was calibrated in each meter basin by adjusting diurnal patterns and average loading with the overall goal of matching flow data at the wastewater treatment plant (WWTP). Visual comparisons of the field and model dry weather flows show a reasonable model calibration with most meters providing "good" calibration results. Several meters including the Memorial Park and I-5 Crossing meters are impacted by pump station operation. The model tends to dampen flow spikes caused by the pump station turning on and off. Additionally, the dry weather model predicts less conservative flow than the meter on the Boeckman Interceptor. Efforts to address model conservancy were focused on the wet weather calibration since the peak flow rates caused by RDII are the primary source for system deficiencies.

Table 6-1 | Dry Weather Calibration Results

Flow Meter	Diurnal Pattern Peaking Factor	Calibration Quality	Comment
Parkway Interceptor (Burns West)	1.8	Good	
Canyon Creek	2.3	Good	
Boeckman Interceptor (High School)	1.7	Moderate	Additional conservancy added to wet weather model.
I-5 Crossing	1.9	Moderate	Impacted by Memorial Park Pump Station operation.
Memorial Park Pump Station	1.7	Moderate	Impacted by Memorial Park Pump Station operation.
Coffee Creek Interceptor (UD North)	1.8	Good	
Coffee Creek Interceptor (UD South)	1.4	Good	
Villebois	1.8	Good	
Wood School	2.1	Good	
WWTP	1.5	Good	

Calibration Storm Selection

The RDII unit hydrograph parameters are storm dependent. Typically, calibration priority is given to the storm that most closely resembles the theoretical design storm to minimize extrapolation of wet weather impacts and reduce the level of conservancy in the analysis. The 2012 storm event was given priority for the calibration because it was more severe than other metered storm events. The calibration storm event experienced two peaks over two days with the second peak caused by a combination of rainfall and melting snow.

The rainfall data during the calibration period was collected from the precipitation gauge at the Aurora State Airport located approximately 5 miles from Wilsonville. Wet weather analysis is more accurate where localized precipitation data is available (2 mile proximity). Localized precipitation monitoring is recommended for future flow monitoring. The January 2012 event used for the model calibration impacted the entire Willamette Valley over multiple days and represents the best available data for estimating system wet weather impacts.

Wet Weather Calibration Results

The wet weather calibration results including the existing RDII rate during the January 2012 storm and quality of calibration at each meter are presented in Table 6-2. Accurate metering data for the January 2012 storm was available at seven meter locations. Plots comparing field and model flows are presented in Appendix A for each flow meter location. Visual comparisons of the field and model wet weather flows show a reasonable model calibration with most meters providing "good" calibration results during the 2012 storm event. In the Wood School meter basin, some measured flow spikes were assumed to be metering errors and were ignored during the calibration. The calibration effort focused on matching peak flow response rather than matching total storm volume.

Table 6-2 | Wet Weather Calibration Results

Flow Meter	Peak RDII Rate Jan 2012 (gallons-per-acre-per-day, gpad)	Calibration Quality	Comment
Parkway Interceptor (Burns West)	1,500	Good	
Evergreen[1]	3,500	Good	
Boeckman Interceptor (High School)	1,100	Good	
Memorial Park Pump Station	1,100	Good	
Coffee Creek Interceptor (UD North)	1,100	Good	
Wood School	1,200	Moderate	Some flow meter flow spikes ignored.
WWTP	1,100	Good	

Note 1. A meter on SW Evergreen Avenue indicated an RDII rate of 3,500 gpad for the small contributing upstream service area. This area is located in the WWTP meter basin. This meter was later moved to the Villebois Interceptor.

DESIGN CRITERIA

System Criteria for Deficiencies and Improvements

The City criteria for determining collection system deficiencies and planning improvements are shown in Table 6-3. These standards are consistent with the *"Recommended Standards for Wastewater Facilities [The Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2004]."* For pipelines, the criteria focus on a maximum water depth of 80% during dry weather conditions and elimination of surcharging above the pipe crown during the design storm event. For pump stations, the criteria focus on pumping peak wet weather flows with the largest pump out of service. Maximum velocity and minimum scouring velocity are considered secondary criteria and are indicative of undersized or over-sized piping respectively. In the case of the minimum scouring velocity violations, the pipelines are flagged for additional maintenance and flushing to prevent solids deposition. Solids deposition can be an issue when pipelines are constructed at less than minimum design slopes or prior to build-out of the upstream service area.

Table 6-3 | Design Criteria

Standard	Category	Criteria	Explanation
Primary	Maximum water depth to diameter ratio during dry weather conditions	0.8	When the depth to diameter ratio exceeds 0.9, the pipe begins to lose gravity capacity due to greater frictional loss associated with a larger wetted pipe perimeter.
	Minimum freeboard during design storm, (clearance from water surface to manhole rim)	Maximum water depth does not exceed crown of pipe	The City standard is conservative in that it does not allow surcharging during the design storm event.
	Pump Station firm capacity[1]	Lift stations have capacity to pump at flows greater than or equal to peak hour flows with largest pump out of service	The firm capacity criteria protects against loss of service during equipment failure and allows for pump cycling for longer equipment life.
	Maximum force main velocity[1]	8 ft/sec	The velocity criteria protects against excessive head loss and allows pumps to operate efficiently.
Secondary	Maximum gravity pipeline velocity	< 15 ft/sec or anchored appropriately for extreme slopes	The maximum velocity criteria protects pipelines from turbulent flow conditions and excessive air entrainment.
	Minimum cleansing/scouring velocity, gravity pipeline[1]	2 ft/sec	Pipe diameters and minimum slopes should be selected to prevent solids deposition.
	Minimum cleansing/scouring velocity of force mains[1]	3.5 ft/sec	Pipe diameters should be selected to prevent solids deposition.
	Minimum design slopes (feet per 100 feet)	8-inch (0.4); 10-inch (0.28); 12-inch (0.22); 15-inch (0.15); 18-inch (0.12); 21-inch (0.10); 24-inch (0.08); 27-inch (0.07); 30-inch (0.06); 36-inch (0.06)	Based on 2014 Public Works Standards. Minimum slope allows for 2 ft/sec scour velocity when flowing full.

Note 1. Oregon DEQ standard.

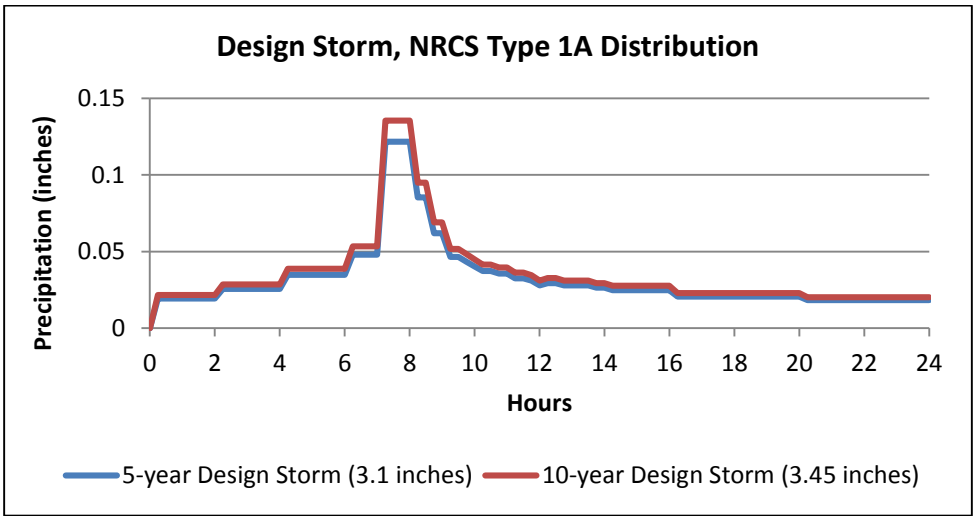
Design Storm

Collection system deficiencies are typically the result of RDII associated with large storm events. The wet weather flow component of the model consists of a storm event, sewershed acreage (wet weather area of impact), and RDII unit hydrograph. The unit hydrograph defines the amount of runoff (percentage of rainfall volume) which enters the system and the travel time. During the model calibration the sewershed acreages and RDII unit hydrographs are established to reflect system response to rainfall based on available flow monitoring data and actual precipitation. During the deficiencies and improvements analysis, a design storm is substituted for the precipitation data allowing for an extrapolation of system response to the critical storm event.

Based on the November 2010, *"Internal Management Directive Sanitary Sewer Overflows (SSOs)" document from the Oregon Department of Environmental Quality (DEQ) and Oregon Administrative Rules Chapter 340-Division 041(OAR 340-041-0009)*, SSOs are prohibited. However, DEQ may withhold enforcement action for those SSOs that occur from larger storm events; e.g. a winter storm that corresponds to a 1 in 5-year, 24-hour duration storm and a summer storm that corresponds to a 1 in 10-year, 24-hour duration. The City has elected to apply the 1 in 10-year, 24-hour duration storm to reduce the risk of SSOs occurring as a result of high flows. The City's Public Works Construction Standards list the 5-year and 10-year 24-hour storm depths as 3.1 and 3.45-inches respectively, as referenced in the *"NOAA Atlas 2, Precipitation-Frequency Atlas of the Western United States -Oregon "NOAA, 1973]"*.

The Natural Resources Conservation Service (NRCS) recommends in the "*Urban Hydrology for Small Watersheds [United States Department of Agriculture, Technical Release 55, 1986]"* publication that a Type 1A hypothetical storm distribution be used to characterize a design storm for the Wilsonville geographical region. The 5-year and 10-year design storms utilizing the NRCS Type 1A hypothetical storm distribution are presented in Figure 6-3.

Figure 6-3 | 5- and 10-year, 24 hour Design Storms, NRCS Type 1A Distribution



Rainfall Derived Inflow and Infiltration

The modeled wet weather flow rates can be associated with contributing sewer basin areas in order to estimate flow per area values. These design RDII rates can vary significantly across the system, due to factors such as sewer basin development, land use differences, soil type, and pipe condition.

Typical RDII criteria for collection systems in Oregon are on the order of 1,000 to 2,500 gallons-per-acre-per-day (gpad). When applying the 10-year design storm to the City's calibrated existing system model, the calculated peak RDII rates vary by sub-basin between less than 1,500 gpad and 2,500 gpad as summarized in Table 6-4. Based on the peak RDII rate averaged across the entire system and measured at the WWTP, the minimum recommended RDII rate for future development is 1,800 gpad. The system averaged value is a reasonably conservative value as future development will include pipeline and manhole construction techniques with the objective of preventing RDII. A more conservative value could result in over-sized pipelines and excessive solids deposition. To achieve this RDII rate within the model, a system-wide composite unit hydrograph (from January 2012 calibration) is applied to future development areas and combined with the 10-year design storm (Public Works Design Standard Storm of 3.45 inches).

Table 6-4 | RDII Peak Rates and Extrapolation

Flow Meter	Peak RDII Rate Jan 2012 (gpad)	Peak RDII Rate 5-year Design Storm (gpad)	Peak RDII Rate 10-year Design Storm (gpad)
Parkway Interceptor (Burns West)	1,500	2,200	2,500
Canyon Creek	1,000	1,400	1,600
Boeckman Interceptor (High School)	1,100	1,600	1,800
I-5 Crossing	1,100	1,600	1,800
Memorial Park Pump Station	1,100	1,600	1,800
Coffee Creek Interceptor (UD North)	1,100	1,700	1,900
Coffee Creek Interceptor (UD South)	1,100	1,600	1,800
Villebois	900	1,300	1,500
Wood School	1,200	1,700	1,900
WWTP[1]	1,100	1,600	1,800

Note 1. A meter on SW Evergreen Avenue indicated an RDII rate of 3,500 gpad during the January 2012 event for the small contributing upstream service area. This area is located in the WWTP meter basin and should be considered for pipeline repair and replacement. This meter was later moved to the Villebois Interceptor.

EXISTING SYSTEM EVALUATION

The City's collection system model was used to identify system hydraulic response to existing dry and wet weather flows based on the design criteria presented in Table 6-3 and the 10-year design storm. Results of the analysis indicate zero hydraulic deficiencies for all existing pipelines and pump stations based on maximum dry and wet flow rates. These results are presented in Figure 6-4 which depict the maximum flow depth to diameter ratio in each pipeline for the peak wet flow scenario. Similar results for the peak dry weather flow

scenario are presented in Appendix B, Figure B-1. Additionally, estimated peak flows into each pump station during the design storm were compared to pump station existing firm capacity. The results of the pump station capacity analysis are presented in Table 6-5.

The City's system has been sized to accommodate future growth and as a result, the daily velocities may not exceed 2 feet per second (fps) in the near-term for some locations. Pipeline locations where the 2 fps scouring velocities do not occur during existing dry flow conditions are highlighted in Figure 6-5. To achieve appropriate scouring and prevent solids deposition, these pipelines may require additional maintenance and flushing.

Table 6-5 | Existing Pump Station Capacity

Pump Station	Firm Capacity (gpm)	Peak Flow to Pump Station (gpm)
Canyon Creek	600	360
Charbonneau	750	300
Corral Creek	160	10
Memorial Park	900	900
Morey's Landing	260	140
Parkway/ Town Center	220	60
River Village	250	50
Rivergreen	285	130

FIGURE 6-4

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM EXISTING WET WEATHER FLOW SCENARIO

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Canyon Creek

Town Center

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WWTP

Public Pump Station

Private Pump Station

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Street

Water Body

Urban Growth Boundary

City Boundary

Study Area

Developed UGB

Wet Weather Results Modeled Trunk line
depth/diameter ratio

- Less than 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

0 2,500 5,000 Feet

N

FIGURE 6-5

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM EXISTING DRY WEATHER SCOUR VELOCITY

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Canyon Creek

Town Center

Memorial Park

Rivergreen

Corral Creek

Moreys Landing

River Village

Charbonneau

- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- Street
- Urban Growth Boundary
- City Boundary
- Study Area
- Developed UGB
- Water Body

Dry Weather Scouring Velocity

- < 2 feet/second

0 2,500 5,000 Feet

N

G:\PDX_Projects\13\1488\GIS\MXD\Wilsonville_11-03-2014_Fig 6-5.mxd 11/3/2014 2:46:20 PM SJR

BUILD-OUT FLOW GENERATION

Flow generation for build-out conditions assumes full development of the net acreage within the UGB and development of specific areas of the URA. Three scenarios were developed and modeled assuming high, medium, and low densities for land use classifications in urban areas. The medium density scenario represents the average development potential. The low and high density scenarios were developed to characterize system sensitivity to lower or higher peak flows. The sensitivity analysis is intended to identify trends in system deficiencies and to assist with improvement prioritization. Assumptions related to the build-out dry weather flow generation for all scenarios are detailed in Section 5, "Population and Flow Projections." Assumptions related to dry weather and wet weather flow loading to the hydraulic model are provided below.

Dry Weather Build-out Loading

- Existing average dry weather loading was applied to parcels identified as presently served. The presently served parcels were developed from water consumption data for the City's Water Master Plan.
- An average 65% net acreage factor was applied to the gross acreage of each undeveloped or unserved parcel. The net acreage factor accounts for undevelopable areas such as wetlands, right of way, etc. METRO designated "open areas" were excluded from the gross and net acreages.
- Unit loading factors by City land classification/zoning, as described in Section 5, "Population and Flow Projections," were applied to net acres of presently undeveloped or unserved parcels within the UGB and URA to develop build-out average loads.
- Residential unit loading factors were based on projected densities and a per household wastewater usage of 166 gallons per day (GPD) based on 67 gallons per capita wastewater usage and City projected household size of 2.48 people per unit.
- Land use classifications for undeveloped parcels of Exclusive Farm or Forest Use (EFU, AF-10, AF-5), Future Development (FD-20), Agricultural Holdings (RAH), and Rural Residential (RRFF5) assume land use re-classification with equivalent dwelling unit (EDU) densities varying for high (15 units/acre), medium (10 units/acre), and low (6 units/acre) flow scenarios.
- Commercial and industrial flow factors were varied for high, medium, and low flow scenarios based on typical values based on the City's winter-time water consumption data. Commercial unit loading factors range from 500 to 1,000 gallons per acre per day (gpad). Industrial unit loading factors range from 350 to 1,000 gpad.
- Diurnal patterns from the model calibration were applied to existing and future average loads to calculate peak dry flow rates at each modeled time step.
- Based on review of the existing system diurnal patterns, the pattern from the Canyon Creek flow meter was assigned to presently undeveloped or unserved parcels. The Canyon Creek meter is located in the upper sub-basins and the pattern is less affected

by travel time (flow attenuation) as demonstrated by a conservative peaking factor of approximately two.

Wet Weather Build-out Loading

- Unit hydrographs developed from flow monitoring data for each metered basin during the model calibration were applied to existing sewershed areas to develop wet weather system response from presently served parcels.
- Based on review of the existing system unit hydrographs, one composite unit hydrograph was developed for future growth areas based on average (moderate) system response to RDII. The composite unit hydrograph was applied to future sewershed areas to develop wet weather response from presently undeveloped or unserved parcels.
- Wet weather contributions from future sewersheds were extrapolated by applying a reduction factor to the net acres of presently undeveloped or unserved parcels. The reduction factor is based on the ratio of existing sewershed acreage to presently served net acreage (0.14).
- The 10-year design storm was applied to both the presently served and presently undeveloped or unserved parcels. The combination of the design storm, sewershed extrapolation, and unit hydrograph produces approximately 1,800 gpad of RDII in future development areas.

Build-out Loading Assignment

Build-out loading and sewershed areas were assigned to model junctions (manholes) based on sub-basin delineation, proximity to the manhole, and available 10-foot contour data. The build-out loading assignment is presented in Figure 6-6.

FIGURE 6-6

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM BUILD-OUT SYSTEM LOADING

MSA Murray, Smith & Associates, Inc. Engineers/Planners

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SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Basalt Creek

Coffee Creek

Canyon Creek

Frog Pond

Advance Rd URA

Advance Road School

Villebois

Brenchley Estates

Town Center

Boeckman Interceptor

Coffee Creek Interceptor

Parkway Interceptor

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WILLAMETTE RIVER

TONQUIN

WALDO

NORWOOD

GREENHILL

CLAY

GRAHAMS FERRY

BOONES FERRY

DAY

COMMERCE

GARDEN ACRES

CLUTTER

RIDDER

WHEATLAND

MORGAN

ELLIGSEN

76TH

84TH

82ND

65TH

GAGE

NODAWAY

BRIAR PATCH

KAHLE

FROG POND

XEROX

PRINTER

PARKWAY

FREEMAN

95TH

CANYON CREEK

STAFFORD

ADVANCE

53RD

KRUSE

BRUCK

EILERS

GLASS

KAME

TOOZE

MALLOY

WESTFALL

BOECKMAN

KINSMAN

BOBERG

TOWN CENTER

WILSONVILLE

COURTSIDE

CAMELOT

JAMAICA

INDUSTRIAL

MONTGOMERY

FRENCH PRAIRIE

FAIRWAY

LAWNVIEW

AIRPORT

PRAIRIE VIEW

BUTTEVILLE

GRAHAM

CEDAR BROOK

DENBROOK

I5

PS

W

WWTP

Public Pump Station

Private Pump Station

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Urban Growth Boundary

City Boundary

Study Area

Street

Parcel Load to Model Manhole

Metro Open Space

Water Body

Development (2014)

Developed UGB

Undeveloped UGB

Urban Reserve

0 2,500 5,000 Feet

N

BUILD-OUT SYSTEM EVALUATION

The City's collection system model was used to identify system hydraulic response to build-out dry and wet weather flows based on the design criteria presented in Table 6-3 and the 10-year design storm. Preliminary scenarios were performed for the high, medium, and low density scenarios. Additionally, a "worst case" scenario was analyzed for build-out within the UGB only for the high density scenario. Improvement results of these scenarios are presented in Appendix B, Figures B-2 through B-5 as outlined below.

- High Density Build-out Scenario – Figure B-2
- Medium Density Build-out Scenario – Figure B-3
- Low Density Build-out Scenario – Figure B-4
- High Density UGB Build-out Only Scenario – Figure B-5

Capacity-related improvement trends were identified for the high, medium, and low density scenarios as listed below.

- Improvements to the Upper Coffee Creek Interceptor, Memorial Park Pump Station, Boberg Diversion Structure, and Memorial Drive Flow Splitter were identified for all scenarios independent of density. These improvements are required for development within the UGB as well as development within the URA. Improvement sizing varied within one pipe size for the range of flow rates.

- Improvements to the Parkway Interceptor, Boeckman Interceptor, and Canyon Creek pump station were identified for all scenarios independent of density for development within the URA. These improvements are not required for development within the UGB. Improvement sizing varied within one pipe size for the range of flow rates. The length of piping requiring improvement is similar for the high and medium density scenarios. The length of piping requiring improvement for the low density scenario is approximately 20% and 35% less than the other scenarios for the Parkway and Boeckman Interceptors respectively.

- Improvements to the Lower Coffee Creek Interceptor were identified only for the high density scenario for development within the URA. This improvement is not required for development within the UGB and is considered low priority for URA development.

The City selected the high density scenario for capital improvement sizing based on the consistency of the improvements identified for all three scenarios and the similar sizing between the high and medium density scenarios. The improvement trends provide critical information to the City to identify improvement priorities. All scenarios were used to establish improvement priorities. Those improvements identified in all scenarios were given highest priority. Those improvements identified in only the high scenario were given the lowest priority. Specific improvement identifiers, lengths, sizes, and priorities are specified in Section 7, "Capital Improvement Program."

Summarized below are the major improvements related to system capacity described from west to east.

Coffee Creek Interceptor

The upper portion of the Coffee Creek Interceptor extends from Barber Street to the P&W Railroad Undercrossing along the future Kinsman Road alignment. This interceptor has capacity for existing customers and development in Coffee Creek. Improvements are required for development in Basalt Creek, Southwest Tualatin, and West Railroad areas within the UGB. The improvement is divided into three projects including:

- *The P&W Railroad Undercrossing* (CIP-01) – The undercrossing currently has limited slope resulting in upstream backwater impacts as flows increase from development. The existing undercrossing has capacity to serve existing customers including the prison, plus 100% of the Coffee Creek development and approximately 13% of Basalt Creek, West Railroad, and SW Tualatin prior to improvement.

- *Coffee Creek Interceptor Phase 1* (CIP-02) – This segment extends between Barber Street and Boeckman Road and aligns with the near-term Kinsman Road construction project. The existing piping has capacity to serve existing customers, plus 100% of the Coffee Creek development. Improvements are required for development of Basalt Creek, West Railroad, and SW Tualatin. The City is currently designing the interceptor improvements. 36-inch and 30-inch pipe sizes are being considered immediately upstream of Barber Blvd. The sizing is controlled by limiting existing pipeline slopes of less than 0.05%. A 30-inch pipeline flows full at a 0.08% slope. A 30-inch pipeline experiences less than 6-inches of surcharging (greater than 4 feet of freeboard) during peak flows at 0.05% existing slope.

- *Coffee Creek Interceptor Phase 2* (CIP-04) - This segments extends between Boeckman Road and the P&W Railroad Undercrossing. The existing piping has capacity to serve existing customers, plus 100% of the Coffee Creek development and approximately 25% of Basalt Creek, West Railroad, and SW Tualatin prior to improvement.

The lower portion of the Coffee Creek Interceptor (phase 3, CIP-10) requires improvement only for the high density scenario serving the URA immediately east of Basalt Creek. This lower section is located on Kinsman Road between Orepac Avenue and Barber Street with one pipeline segment immediately downstream on Orepac Avenue. The improvement is considered a low priority and may not be required if future flows align with the low or medium density scenarios or if the UGB is not expanded to serve the applicable URA east of Basalt Creek.

Parkway Interceptor

The Parkway Interceptor is located east of I-5 between Elligsen Road and Boeckman Road. The interceptor crosses I-5 near the Brenchley Estates subdivision. West of I-5, the interceptor conveys wastewater towards the Boberg Diversion Structure which is located on Boberg Road north of SW Barber Street. This diversion structure routes wastewater through the Parkway Interceptor's lower branch with overflows to a lateral pipeline heading south on Boberg Road. Both the Parkway Interceptor and the overflow pipeline discharge into the Coffee Creek Interceptor at SW Kinsman Road.

- *Parkway Interceptor* (CIP-09) – The interceptor has capacity for existing customers and future development within the UGB. Improvements are required to the upper segments of the interceptor (west of I-5) to accommodate growth in the URA. The Parkway Interceptor has isolated pipe "bellies" that have sagged over time creating sediment deposition and contributed to surcharging (see condition-based improvements discussion later in this section). The condition-based improvements are likely to occur prior to capacity upgrades. At the time of the condition improvements, sizing for build-out should be considered.

- *Boberg Diversion Structure* (CIP-11) – Modifications are required to the existing diversion structure to lower the overflow weir and provide a more efficient flow split between the Parkway Interceptor and the lateral heading south on Boberg Road. This improvement will allow more effective use of available downstream pipeline capacity and avoid upsizing of the lower Parkway Interceptor. The improvement is recommended for all scenarios and is additionally identified as a "condition-based" improvement.

Canyon Creek Pump Station

The Canyon Creek Pump Station is located near the intersection of Canyon Creek Road and SW Thornton Drive. The pump station (CIP-08) requires capacity improvements for all scenarios to accommodate growth in the URA north of the Canyon Creek Interceptor. To accommodate peak flows from the high, medium, and low density scenarios, the pump station firm capacity requirements are 1,100 gpm, 900 gpm, and 800 gpm respectively. The improvement is only required if the UGB is expanded to serve the applicable URA north of Canyon Creek.

Boeckman Interceptor

The upper segments of the Boeckman Interceptor are located on the west side of Boeckman Creek extending from Boeckman Road to the Memorial Park pump station. The interceptor has adequate capacity for existing customers and proposed development in the UGB including Advance Road School and Frog Pond. The interceptor requires improvement for all scenarios to accommodate growth in the Advance Road URA and the URA adjacent to Elligsen Road and 65th Avenue. The improvement is divided into two project phases:

- *Boeckman Interceptor Phase 1* (CIP-05) – This segment extends from Hathaway Park (confluence with High School Interceptor) to Memorial Park Pump Station. Improvement pipe sizes range from 18 to 24-inches.

- *Boeckman Interceptor Phase 2* (CIP-06) – This segment is the upper portion of the interceptor and extends from Boeckman Road to Hathaway Park (confluence with High School Interceptor). The improvement pipe size is 18-inches.

The City has discussed potential Boeckman Creek trail and access road improvements to be constructed in conjunction with the Boeckman Interceptor improvements, but funded independently. Planning and construction of the interceptor may also require an extended timeframe due to specific environmental mitigation associated with adjacent creek and wetland corridors.

Memorial Park Pump Station and Force Main

The Memorial Park Pump Station is located in Memorial Park immediately north of the sports fields. It is situated at the downstream end of the Boeckman Creek Interceptor main branch within the flood plain of Boeckman Creek. The pump station (CIP-03) requires capacity improvements to accommodate growth in the UGB, Advance Road URA, and the URA adjacent to Elligsen Road and 65th Avenue. To accommodate peak flows from the high, medium, and low density scenarios, the pump station firm capacity requirements are 3,800 gpm, 3200 gpm, and 2700 gpm respectively. Based on the high density scenario, the existing pump station has capacity to serve Advance Road School and approximately 40% of Frog Pond development prior to improvement. The pump station requires improvements to serve the remainder of Frog Pond, Advance Road URA, and Elligsen Road URA. The existing force main has capacity to serve Advance Road School, Frog Pond, and Advance Road URA prior to improvement. The force main requires improvement only to serve the Elligsen Road URA. The Memorial Park pump station and force main improvements are additionally identified as a "condition-based" improvement later in this due to its location in the floodplain.

Memorial Drive Flow Splitter Structure

The Memorial Drive flow splitter is located in a manhole near the intersection of SW Parkway Avenue and Memorial Drive, downstream of the Boeckman Creek Interceptor and Memorial Park Pump Station, and east of Interstate 5. Flows are split into an existing 15-inch diameter reinforced concrete pipe and a parallel 18-inch diameter PVC pipe; both run west under Interstate 5 and combine again along Fir Street.

Modifications are required to the flow splitter structure (CIP-12) to provide a more efficient flow split between the 15-inch and 18-inch parallel pipelines at the I-5 undercrossing. Improvements to the pipelines are not anticipated. This improvement will allow more effective use of available pipeline capacity by modifying the flow split. The improvement is recommended for all density scenarios and is additionally identified as a "condition-based" improvement later in this section.

Build-out Deficiencies and Improvement Results

Based on the preliminary results and improvement trends, improvement sizes were finalized for the high density scenario. Results of system deficiencies as a response to the high density build-out flows are presented in Figure 6-7 for the peak wet flow scenario. Similar results are provided for the peak dry flow scenario in Appendix B, Figure B-6. The results depict the maximum flow depth to diameter ratio in each pipeline. Equivalent results showing the elimination of all deficiencies with system improvements are presented in Figures 6-8 and Figure B-7. Additionally, estimated peak build-out flows into each pump station during the design storm were compared to pump station existing firm capacity. The results of the build-out pump station capacity analysis are presented in Table 6-6.

Table 6-6| Future Pump Station Capacity

Pump Station	Firm Capacity (gpm)	Peak Flow to Pump Station (gpm)[1]	Comment
Canyon Creek	600	1100	Capacity improvement required
Charbonneau	750	220	
Corral Creek	160	10	
Memorial Park	900	3800	Capacity improvement required
Morey's Landing	260	160	
Parkway/ Town Center	220	60	
River Village	250	50	
Rivergreen	285	150	

Note 1. Based on High Density Scenario.

FIGURE 6-7

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM BUILD-OUT WET WEATHER FLOW SCENARIO DEFICIENCIES (HIGH DENSITY)

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Canyon Creek

Frog Pond

Advance Rd URA

Advance Road School

Villebois

Brenchley Estates

Town Center

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WILLAMETTE RIVER

TONQUIN

WALDO

GREENHILL

CLAY

GRAHAMS FERRY

BOONES FERRY

DAY

COMMERCE

ELLIGSEN

CLUTTER

RIDDER

WHEATLAND

MORGAN

NORWOOD

GAGE

NODAWAY

65TH

76TH

82ND

84TH

BRIAR PATCH

KAHLE

KAME

TOOZE

MALLOY

WESTFALL

BOECKMAN

ADVANCE

53RD

60TH

KRUSE

BRUCK

EILERS

PRINTER

FROGPOND

XEROX

STAFFORD

PARKWAY

TOWN CENTER

COURTSIDE

CAMELOT

MONTGOMERY

MEMORIAL

INDUSTRIAL

JAMAICA

CHANTILLY

FREEMAN

95TH

KINSMAN

BOBERG

110TH

CANYON CREEK

FAIRWAY

LAWNVIEW

AIRPORT

PRAIRIE VIEW

BUTTEVILLE

CEDAR BROOK

DENBROOK

GRAHAM

GLASS

I5

0.3 0.4 0.5 0.4 0.9 0.7 0.4 0.4 0.3 0.4 0.3 0.5 0.4 0.3 0.4 0.3 0.4 0.9 0.6 0.7 0.8 0.9 0.3 0.8 0.9 0.3 0.2 0.1 0.3 0.2 0.3 0.5 0.3 0.2 0.4 0.9 0.6 0.5 0.3 0.4 0.3 0.9 0.6 0.8 0.5 0.5 0.8 0.5 0.1 0.6 0.7 0.8 0.8 0.9 0.7 0.8 0.7 0.8 0.9 0.7 0.2 0.5 0.3 0.2 0.1 0.2

PS Public Pump Station

PS Private Pump Station

W WWTP

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Street

Water Body

Urban Growth Boundary

City Boundary

Study Area

Development (2014)

Developed UGB

Undeveloped UGB

Urban Reserve

PS Pump Station Capacity Deficiency

Wet Weather Results Unimproved Trunk line

depth/diameter ratio

Less than 0.5

0.5 - 0.6

0.6 - 0.7

0.7 - 0.8

0.8 - 0.9

0.9 - 1.0

0 2,500 5,000 Feet

N

FIGURE 6-8

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

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SANITARY SEWER COLLECTION SYSTEM BUILD-OUT WET WEATHER FLOW SCENARIO IMPROVED (HIGH DENSITY)

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Basalt Creek
Canyon Creek
Frog Pond
Advance Rd URA
Advance Road School
Villebois
Brenchley Estates
Town Center
Memorial Park
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

WWTP
Public Pump Station
Private Pump Station
Manhole
Pipe Public
Pipe Private
Force Main Public
Force Main Private
Pump Station Improvement
Flow Diversion Improvement
Flow Splitter Improvement
Undercrossing Improvement
Improved Pipe Segment
Urban Growth Boundary
City Boundary
Study Area
Street
Water Body

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

Wet Weather Results Improved Trunk line
depth/diameter ratio
Less than 0.5
0.5 - 0.6
0.6 - 0.7
0.7 - 0.8
0.8 - 0.9
0.9 - 1.0

0 2,500 5,000 Feet

N

PIPELINE AND PUMP STATION SERVICE EXTENSIONS

New trunk line extensions and pump stations are required to serve future development areas within the UGB and URA. The Frog Pond, Advance Road School, Advance Road URA and Coffee Creek developments have concept plans which define infrastructure sizing and alignments. Concept plan facility and pipeline sizes were updated to reflect flow and density assumptions in the CSMP. The improvements associated with these concept plan areas are described below and presented in Section 7, "Capital Improvement Program," Figure 7-3.

- *Frog Pond, Advance Road School, and Advance Road URA* (CIP-33 thru 38, 47 thru 51) – Frog Pond, Advance Road School, and Advance Road URA improvements include gravity piping, pump station, and force main improvements. All improvements were conservatively sized for build-out conditions of the UGB and URA. Gravity improvements between 10-inch and 18-inch diameters on SW Boeckman Road, SW Stafford Road, along Boeckman Creek (extension of the Boeckman Interceptor), South of Frog Pond Lane, and SW 60th Avenue are required for development of Frog Pond and Advance Road School within the UGB. A pump station and force main with 600 gpm capacity located on SW 60th Avenue and SW Kruse Road is required to serve Advance Road School. The pump station conveys flow north to the new gravity sewer on SW Boeckman Road. Gravity improvements between 10-inch and 15-inch diameters on Advance Road and SW Briar Patch Lane are required for development of Advance Road URA. Three local pump stations and force mains with approximately 200 gpm capacity each are also required to serve localized areas within Advance Road URA. Pump station sizing and pipeline sizing, alignments, and profiles were defined in the *"Frog Pond Area Plan (Wilsonville, Draft 2014)."* Infrastructure sizing was validated to accommodate build-out high density average flows multiplied by a wet plus dry peaking factor of 3.5. This factor accounts for peaking of all flow components including (DWF, GWI, and RDII).

- *Coffee Creek* (CIP-27 thru CIP-32) – Coffee Creek improvements include gravity piping between 8-inch and 18-inch diameters on Clutter Road, Ridder Road, Grahams Ferry Road, Garden Acres, Day Road, and Kinsman Road. The pipeline alignments and profiles were defined in the *"Coffee Creek Master Plan (Wilsonville, 2007)."* Pipe sizes were updated to accommodate full pipe flow during build-out high density average flows multiplied by a wet plus dry peaking factor of 3.5.

Additional development areas (without concept plans) within the UGB and URA were divided into 14 sub-basins as highlighted in Section 7, "Capital Improvement Program," Figure 7-3. New trunk line extensions (10-inches and larger) and pump stations (CIP-39 thru 46, 52 thru 57) were conceptually sized based on the following:

- Gravity pipe sizes assumed minimum slopes based on City design standards. Pipelines were verified for approximate depths of 10-15 feet based on 10 foot contour data.

- Gravity pipes were sized to flow full during build-out high density average flows multiplied by a wet plus dry peaking factor of four. This factor accounts for peaking of all flow components including (DWF, GWI, and RDII).
- Trunk line pipe lengths assumed 100 feet per developable acre based on similar pipe density in the Frog Pond, Advance Road, and Coffee Creek concept plans.
- Pump stations were limited to one station per sub-basin.
- Pump stations and force mains were sized to accommodate build-out high density average flows multiplied by a wet plus dry peaking factor of four.
- Pump station total dynamic head requirements were estimated based on elevation change plus friction losses in the downstream force main.
- Force mains were sized to accommodate a velocity of 3.5 fps. The low velocities minimize frictional losses and reduce total dynamic head pump requirements.
- Force main lengths were approximated based on the distance between the low point of the sub-basin and existing downstream gravity manhole.

The improvement sizes for each sub-basin are summarized in Table 6-7. The infrastructure sizing should be refined during future concept planning for these areas.

Table 6-7| Future Infrastructure Sizing

Subbasin Number	Improvement Type	Peak Flow (gpm)	Net Acres	Pipe Length (feet)	Minimum Slope (feet/feet)	Pipe Size (inch)	Pump Station Total Dynamic Head (feet)
1	Gravity	790	130	13050	0.0022	12	
2	Gravity	682	98	9846	0.0022	12	
3	Gravity	361	66	6567	0.0028	10	
4	Pump Station/Forcemain	290	42	4200		8	57
5	Pump Station/Forcemain	800	115	3250		12	80
6	Pump Station/Forcemain	205	30	1425		6	69
7	Gravity	908	131	13122	0.0015	15	
8	Pump Station/Forcemain	297	43	1750		8	12
9	Pump Station/Forcemain	405	77	2600		8	37
10	Pump Station/Forcemain	201	29	1300		6	24
11	Gravity	568	82	8209	0.0022	12	
12	Gravity	985	142	14224	0.0015	15	
13	Gravity	577	83	8340	0.0022	12	
14	Gravity	565	83	8306	0.0022	12	

GRAVITY SYSTEM CONDITION ASSESSMENT

The City maintenance staff reports that the gravity collection system is generally performing adequately with zero reported overflows. Routine cleaning and maintenance of the system includes high pressure washing and vacuum suction to remove clogged debris. City staff are currently performing video review of the gravity piping to identify specific condition issues for repair or replacement including root intrusion, cracks, and collapsed or poorly graded piping. Interviews with City staff regarding ongoing system maintenance have revealed isolated areas of poor performance or limited accessibility as summarized below:

- The Coffee Creek Interceptor has access challenges due to wetlands and proximity to P&W Railroad and Bonneville Power Administration transmission lines.
- Most of the Boeckman Creek Interceptor between Schroeder Road and Boeckman Road has limited accessibility due to its location adjacent to Boeckman Creek.
- Wood School Interceptor flows through a privately owned filbert orchard limiting aces for inspection and maintenance. The pipeline is of questionable integrity with potential root intrusion and limited accessibility.
- The Parkway Interceptor has isolated pipe "bellies" that have sagged over time creating sediment deposition and contributed to surcharging.
- City-wide concrete piping installed in the 1970s is experiencing root intrusion problems.
- Charbonneau sewer conditions include collapsed pipe, pipe separation, offset joints, major blockages and pipe sag.
- The Boberg diversion structure bypass frequently experiences blockages.
- The Memorial Drive Flow splitter structure has stagnant water conditions in the low-flow line.
- Seely Ditch Undercrossing has limited slopes and maintenance staff identify the undercrossing as having high potential for backwater.

The City plans and budgets annual improvement programs, as described below, to eliminate or minimize condition based issues in the gravity portion of the collection system.

Charbonneau Repair and Replacement Program

The City developed the "*Charbonneau Consolidated Improvement Plan [Weigel, 2014]"* which identifies a 20-year schedule for the Charbonneau basin to repair or replace sewer, water, storm, and road infrastructure. The sewer collection system portion of the plan includes prioritization of 38 project areas for improvement including more than 23,000 feet of piping (CIP-14, 15, 21, 24). The extents of the Charbonneau repair and replacement program are presented in Section 7, "Capital Improvement Program," Figure 7-2.

Pipeline Repair and Replacement

An annual repair and replacement program (CIP-16, 22, 25) exists for pipelines throughout the City. The program focuses on areas identified for repair through the City's video

inspection work. The primary focus is on locations of known adverse grade, root intrusion, and older concrete piping as discussed below.

- *Adverse Grade* – If the soil supporting collection system piping settles over time, the pipe will also settle. The collapsed or "sagging" pipe restricts flow and creates an environment for sediment deposition resulting in potential blockage and backwater.

- *Aging Pipes* – Concrete piping installed in the 1970s is approaching 50 years of service and in many cases is nearing the end of its useful life. Significant root intrusion has occurred in some locations due to adjacent trees. The tree roots are causing blockages and also introducing groundwater into the collection system, which effectively reduces the capacity of the system to convey wastewater.

The extents of the annual repair and replacement program are presented in Section 7, "Capital Improvement Program," Figure 7-2. It is anticipated that approximately 50% of the identified concrete piping will be repaired or replaced over 20-years.

Pipeline Improvement Techniques

The following discussion summarizes common pipeline improvement techniques that may be applied to the City's Charbonneau and annual pipeline repair and replacement programs.

Chemical Grouting - Chemical grouting is commonly used to seal leaking joints in structurally sound pipe and manholes. The equipment used consists of a sealing packer and television (TV) camera pulled inside the sewer pipe with cables and winches. Because the sealing is done inside the pipe, excavation is not required unless unique problems develop.

The chemical grouts typically used are acrylamide, acrylate, or urethane gel. The chemicals necessary to form the gels are usually mixed in two separate tanks and pumped through separate hoses to the joint to be sealed. One tank is used to mix and dispense the grouting chemical and the other tank is used to mix and dispense a catalyst. The catalyst initiates a chemical reaction when mixed with the chemical grout. The materials are injected simultaneously into a leaking joint, a gel is formed and the leak is stopped. Urethane gel differs from acrylamide and acrylate gels in that water is the catalyst for the urethane gel material.

Chemical grouting does not improve the structural strength of the pipeline. This rehabilitation technology should not be used on pipes that are broken or deteriorated. If the ground water table drops below the level of the pipe, the chemical grout may become dehydrated and its useful life shortened. When used appropriately, rehabilitation by chemical grouting has a useful like of 10 to 15 years.

The costs for chemical grouting vary depending upon the number of grouting locations and the quality of sealant used. The chemical grouting process generally includes pipelines cleaning, television inspection, testing all joints, sealing deficient joints, and sealing leaking

manholes where needed. The television inspection will occasionally locate a section of pipe not repairable by chemical grouting. A point excavation is required to repair such a leak.

Grouting must be repeated approximately every 10 years to control the quantity of RDII in the system because of the limited life of chemical grout. For portions of the system conducive to chemical grouting, one application performed initially and at the end of 10 years should effectively seal the pipeline during the planning period.

Conventional Pipe Replacement - Pipeline replacement by conventional, open-cut excavation and backfill is normally done when the existing pipeline is deteriorated so badly that other methods of rehabilitation are not feasible. Replacement provides the opportunity to correct misalignments, increase the hydraulic capacity of the line by increasing the pipe diameter, repair service connections, and eliminate sags or stormwater entry points. Replacing pipelines can also remove any "incidental" RDII (i.e., minor leaks that would not be cost-effective to remove). A rehabilitation alternative that is similar to complete pipe replacement is point repairs or spot repairs, which involve excavation, backfill, and pipe replacement for selected areas.

The advantage of pipe replacement is that service life with modern materials and methods is generally greater than 50 years. The cost of replacement is generally high. The replacement has associated inconveniences, and restoration requirements that may be costly in developed areas.

Pipe Bursting - Pipe bursting consists of expanding and breaking in-ground pipe and towing in segments of new polyethylene (PE) or polyvinyl chloride (PVC) pipe. For the pipe cracking operation, a modified soil displacement hammer is pulled through a pipe run via an above-ground winching system. Cutting blades of different size are fixed on the hammer to break the existing pipe. An expander fitted on the rear of the hammer enlarges the original bore so that pipe of equal or larger diameter can be pulled behind the pipe cracking process. The new pipe is fitted into the trailing end of the hammer unit. As the hammer advances through the old main, it cracks the pipe and the fragments are displaced laterally. Simultaneously, the new liner/pipe is then towed in. If a liner is required, the new conduit pipe is then towed in after the entire length of old main has been cracked and lined.

Pipe bursting is most often used under highways, railroads, and other structures where excavation is not possible or cost-effective. The service life is virtually identical to a new sewer pipe (50 years), since new pipe is actually being installed. Spot excavations are required to connect service laterals.

Sliplining - Sliplining involves inserting a slightly smaller new flexible pipeline, usually polyethylene, into the existing sewer pipe. This method is typically used where the existing sewer lines are extensively cracked such as in areas with unstable soil conditions, where the lines are badly deteriorating, or in lines with relatively flat grades. Sliplining will reduce the inside diameter of sewer pipe and reduce its flow capacity. Sliplining is generally used on mainlines larger than 8 inches in diameter.

Sliplining involves minimum excavation and accompanying dewatering work. Excavations are required only at insertion pits and for service lateral re-connections. For this reason, sliplining is advantageous in inaccessible or difficult areas, or under landscaping or structures. Sliplining can be installed in existing pipelines having moderate horizontal or vertical deflections. Wastewater flow may be allowed to continue while sliplining operations occur.

The liner pipe is commonly pulled through the existing pipe with a winch assembly placed at a manhole and the liner pipe fed into the existing pipe through an insertion pit. The pipe is pulled by steel cable with the cable attached to a pulling head at the pipe end. The polyethylene pipe will stretch during pulling (one foot per 100 feet is common) and a relax procedure is required after pulling and before connection at manholes. Increased temperatures will also tend to stretch the pipe.

The service life of a sliplined sewer is similar to a new sewer replaced by conventional trench excavation and backfill, which is about 50 years. The new liner pipe is a pressure-capable pipe itself. A disadvantage of sliplining is that excavations are required at service laterals. This is often time consuming, labor intensive, and correspondingly expensive.

Inversion Lining - Inversion lining installs a flexible lining material against the existing sewer pipe that is thermally hardened and requires access to the sewer pipe at a manhole. The liner is fed through the manhole and into the sewer pipe by filling the pipe and manhole with water. As water is pumped into the manhole, the flexible fabric is pushed through the pipe and inverted into place. The water is heated to cure and harden the thermo-setting resins.

Inversion lining is appropriate for pipelines requiring minor structural repair or with misalignments and for correcting corrosion problems. Because this method of rehabilitation does not require excavations, it may be used under highways and buildings. A television inspection of the existing sewer typically precedes the inversion lining work. Video inspection during a period of high groundwater table should be performed following lining to make sure laterals are not leaking or other small holes were not introduced into the side of the liner during lateral cutting. The life of an inversion lined pipe has been claimed by the lining manufacturers to be 50 years. Installations with almost 30 years of service are known to exist.

The inversion lining will reduce the inside diameter of an 8-inch pipe by up to ¾-inch depending on the service requirements. Flow capacity of the pipe may be reduced by the reduced pipe cross-sectional area, or increased by smoothing the flow channel.

Accessibility

The CSMP does not identify specific condition-based to improve pipeline accessibility; however, capacity projects to improve the Boeckman and Coffee Creek Interceptors will provide opportunities for pipeline re-routing and improved accessibility. The Boeckman

Interceptor work may include a coordinated trail system adjacent to Boeckman Creek which would also function as an access road to the sanitary sewer.

Flow Diversions and Splitters

Improvements identified to improve the Boberg diversion structure and Memorial Drive flow splitter structure are both capacity and condition related. These improvements will more efficiently use existing pipe capacities and also improve the stagnant water conditions by more evenly splitting or diverting flow into both downstream pipelines. Routine flushing is recommended in the overflow pipeline downstream of each structure.

Seely Ditch Undercrossing

The existing 10-inch Seely Ditch Undercrossing (CIP-13) has limited slope resulting in upstream backwater impacts. City maintenance staff identified this improvement as a potential condition and capacity improvement. The undercrossing improvement is recommended at 15-inches with potential consideration of maximizing pipeline slope.

PUMP STATION CONDITION ASSESSMENT

The City's public wastewater pump stations (lift stations) are functioning as intended within the context of their age and existing wastewater loading. During interviews with CH2M HILL operations staff, the structures that house these facilities were reported to be in good condition. Overall, the pump stations that utilized Gorman-Rupp brand pumps (Canyon Creek, Charbonneau, Memorial Park, Morey's Landing, and Town Center Loop) were reported to require weekly maintenance due to clogging problems, and several pump stations have site specific conditional problems as summarized below.

Corral Creek Pump Station

The Corral Creek Pump Station generally operates well, however a recent property development adjacent to the facility has blocked the "line of sight" for the radio telemetry monitoring and control equipment. Communication between the pump station and the City's central control room at the WWTP has essentially ceased. The City is presently addressing the problem through placement of an elevated antenna on an adjacent cell phone tower, and no further action is recommended.

Canyon Creek Pump Station

The Canyon Creek Pump Station generally operates well, however this facility also has a weak "line of sight" for the radio telemetry control equipment. Communication between the pump station and the WWTP control room has been intermittent since the equipment was switched to radio in 2009. The City has indicated that this intermittent communication is acceptable for the time being, and no further action is recommended.

Memorial Park Pump Station

The Memorial Park Pump Station is located within the 100-year flood plain of Boeckman Creek. The location places the pump station at risk during conditions of heavy rain and flooding. The pump station was inundated by approximately six feet of water during a flood event in the winter of 1996. Flood waters may overwhelm the capacity of the pumps or cause electrical failures, both of which would result in sewage overflows to Boeckman Creek. Relocation of the pump station is required to fully comply with Federal Emergency Management Agency and Oregon Department of Environmental Quality requirements.

Relocating the pump station is a complex issue that is significantly impacted by the recreational programming needs for Memorial Park and the location of the floodplain. The City is presently conducting a master plan of the park which includes an assessment of potential relocation sites for the pump station and force main. Although adequate capacity exists in the short-term, anticipated development of the Frog Pond planning area, Advance Road URA, and Elligsen Road URA will generate wastewater flows in excess of the pump station's capacity. When eventually relocated, the pump station will be sized larger, making a portion of the pump station relocation project eligible for SDC funding.

Parkway/Town Center Loop Pump Station

Originally named the Parkway Sanitary Sewer Pump Station, the Town Center Loop Pump Station was constructed in 1997 in conjunction with surrounding development. The pump station is located on Town Center Loop near I-5. The City reports that the pumps frequently lose their prime due to debris that enters the station. The amount of trash in this facility is greater than the City's other pump stations due to the exclusive commercial nature of the service area, including a movie theatre and Family Fun Center with high customer turnover.

More importantly, the entire discharge force main is below the elevation of the pump case, and therefore no effective backpressure is applied to the flap valve to hold it closed. It is believed this combination of factors greatly increases the frequency of pump failure relative to the City's other stations. In order to reduce the City's on-going maintenance expenses and reduce the potential for overflow due to failure, replacement of the pump station is recommended (CIP-17).

River Village Pump Station

The River Village Pump Station is a small station constructed in 1983 to serve a trailer park immediately south of the WWTP and areas of lower elevation. The pump station is one of the oldest facilities within the City and has exceeded its' service life. The electrical components that control the pumps are beginning to fail on a regular basis. These components, such as the alternator and switches are disconnecting and require routine maintenance to restart.

Currently, the trailer park is abandoned and the pump station is only serving the Boones Ferry Park restrooms and Tauchman House. The City anticipates that the River Village parcel will be redeveloped in the future requiring a new developer-funded pump station.

Because of age, condition, and limited service, decommissioning of the River Village Pump Station is recommended (CIP-18). New grinder pumps discharging to the existing force main and downstream lower Charbonneau Interceptor are recommended to maintain service to the Boones Ferry Park facilities (CIP-19).

Other Pump Stations

Over the 20-year planning horizon, several public pump stations (not identified as having capacity or existing condition issues) are anticipated to reach the end of their useful service life. These pump stations include Corral Creek (1990), Rivergreen (1991), Charbonneau (1996), and Morey's Landing (1997). For these pump stations, pump and electrical rehabilitation are recommended at approximately 25-years of service (CIP-20, 23, 26).

INTRODUCTION

This section summarizes the City's Capital Improvement Program (CIP) which consists of a list of prioritized wastewater collection system projects and estimated costs in 2014 dollars. The CIP is a blueprint for forecasting capital expenditures, and is one of the most important means of meeting the City's obligation towards community development and financial planning.

The CIP is a direct result of the capacity and condition improvement analyses described in detail in Section 6, "System Analysis." All projects are analyzed at a planning level of accuracy based on population and land use assumptions described in Section 5, "Population and Flow Projections." Prior to implementation, each project should undergo standard engineering design phases to finalize improvement sizing and location.

COLLECTION SYSTEM CAPITAL IMPROVEMENT PROGRAM

The City's CIP is organized into categories based on project type and prioritized based on timing and development potential. The major organizational categories are described below.

Project Type

Existing System Capacity Upgrades - These improvements include existing trunk line and pump station upgrades to increase capacity for future development. The major improvement projects in this category are listed below and presented in Figure 7-1. Project descriptions and cost estimates are provided in Table 7-1 (CIP-01 thru 10).

- Coffee Creek Interceptor Phases 1, 2, & 3
- Parkway Interceptor
- Boeckman Interceptor Phases 1 & 2
- Memorial Park Pump Station and Force Main
- Canyon Creek Pump Station
- P&W Railroad Undercrossing

The Memorial Park pump station improvement is both a capacity upgrade and condition-based improvement. The pump station improvement is listed in the "Existing System Capacity Upgrades," Table 7-1.

Condition Based Improvements – These improvements include replacement of existing pipelines, pump stations, and diversions to address aging infrastructure and to satisfy current system loading as identified by Operations and Maintenance personnel. Additionally, rehabilitation projects are identified for pump stations exceeding their design life within the 20-year planning horizon. The major improvement projects in this category are listed below

and presented in Figure 7-2. Project descriptions and cost estimates are provided in Table 7-2 (CIP-11 thru CIP-26).

- Annual pipeline replacement program (concrete piping)
- Charbonneau District pipeline repair program
- Boberg Diversion structure
- Memorial Drive Flow Splitter structure
- Seely Ditch
- Memorial Park Pump Station
- Town Center Loop Pump Station
- River Village Pump Station
- Corral Creek Pump Station
- River Green Pump Station
- Charbonneau Pump Station
- Morey's Landing Pump Station

The Boberg Diversion structure and Memorial Drive Flow Splitter structure improvements are both capacity and condition-based improvements. These improvements are listed in the "Condition-Based Improvements," Table 7-2.

New Infrastructure for Future Development – These improvements include new trunk line extensions (10-inches and larger) and pump stations to service future development areas. The improvement projects are presented in Figure 7-3 with project descriptions and cost estimates provided in Table 7-3 (CIP-27 thru 57). The improvements are further categorized as described below.

- Infrastructure identified in concept plans for Frog Pond, Advance Road School, and Coffee Creek within the existing UGB.
- Future development areas that do not currently have concept plans within the UGB.
- Infrastructure identified in concept plans for Advance Road URA.
- Future development areas that do not currently have concept plans within the URA.

The future development areas without concept plans have been subdivided into 14 sub-basins. Place-holder trunk line or pump station improvements have been identified for each area. Cost estimates for these areas should be refined once additional concept planning has been completed.

Project Prioritization

For condition based improvements, projects are prioritized into three timeframes: short-term (0-5 years), medium-term (6-10 years), and long-term (11-20 years) based on the following guidelines:

- Improvements to eliminate existing pump station condition issues as identified by Operations and Maintenance personnel are identified in the 0-5 year timeframe.
- Improvements to eliminate diversion and flow splitter structure condition and capacity issues as identified by Operations and Maintenance personnel are identified in the 0-5 year timeframe.
- Charbonneau District pipeline repairs as described in the *Charbonneau Consolidated Improvement Plan* (City of Wilsonville, 2014) are categorized for all three timeframes.
- Fifty percent of concrete piping is assumed to be replaced over 20 years with equal length of pipe replacement occurring in each year and 1/20th of the cost assigned annually.
- Improvements to rehabilitate existing pump stations are identified during the timeframe at which the design life of the pump station ends.

For development driven improvements, projects are prioritized into three growth potential categories as described below:

UGB - These projects are required to provide service to in-fill and development growth within the UGB and are considered the highest priority.

UGB Concept Plan – These projects are required to provide service to development outside of the existing UGB and include the URA adjacent to Advance Road. Concept plans are currently being developed for these areas and METRO has designated the areas for potential UGB expansion. These projects are considered medium priority.

UGB Expansion – These projects are driven by development outside of the current UGB requiring a time intensive process involving METRO to expand the boundary. Because of the high level of uncertainty about the timing and extent of the development, these projects are considered the lowest priority.

Development driven improvements are also categorized into three timeframes: short-term (0-5 years), medium-term (6-10 years), and long-term (11-20 years) based on current City understanding of growth potential including the following assumptions:

- Coffee Creek – 25% developed in 0-5 year timeframe, 75% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
- Advance Road School – 100% developed in 0-5 year timeframe.
- Frog Pond - 40% developed in 0-5 year timeframe, 95% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
- Basalt Creek, SW Tualatin, West Railroad – 0% developed in 0-5 year timeframe, 25% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
- Advanced Road URA – 0% developed in 0-5 year timeframe, 25% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
- URA – development in 11-20 year timeframe.

Project Driver

In addition to the prioritization categories and timeframe, information is provided in the CIP tables identifying the project catalyst or driver. Common drivers include:

- Basin specific development
- Infrastructure age and condition
- Road construction projects

If the driver does not materialize, a project's timeframe can be postponed without impacting the performance of the collection system. At times, phased development may be allowed without full implementation of a project. Likewise, if the project driver occurs sooner than the assumed timeframe, some improvements projects may require acceleration. Notes are provided in the CIP tables to assist the City in understanding project timing related to specific development.

Timing of phased development and associated projects such as the pipeline upsizing for Coffee Creek, Boeckman, and Parkway interceptors may benefit from long-term flow monitoring to identify specific capacity and flow triggers. Flow meters should be placed immediately upstream and downstream of the proposed improvement phase.

Cost Estimation

Costs presented in the CIP tables are estimated using an approach outlined in the *Basis of Opinion of Probable Cost* contained in Appendix C. This document contains the assumptions used in developing project costs, addressing such items as unit costs for materials, labor and construction, contingency factors, and the City's administrative costs.

All project descriptions and cost estimates in this document represent a Class 5 budget estimate in 2014 dollars, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

The cost estimates are consistent with the definition of OAR 660-011-0005(2) and OAR 660-011-035 which define "rough cost estimates" for facility plans as "approximate costs expressed in current-year dollars." These estimates are intended to "provide an estimate of the fiscal requirements to support the land use designation" and "for use by the facility provider in reviewing the provider's existing funding mechanisms." They are intended to be used as guidance in establishing funding requirements based on information available at the time of the estimate. The CIP cost estimates should be reevaluated periodically to account for changes in inflation. It is important to note that the CIP omits costs for routine maintenance.

The cost estimates for improvements associated with the 14 areas identified for "service area extensions" in Figure 7-3 and Table 7-3 are place-holders and should be updated with specific concept planning. The cost estimates in this document for these areas assumed 100 feet of piping per developable acre (as outlined in Sections 5 and 6) for gravity trunk line improvements. For areas where pumping is required, one pump station per area was assumed with cost estimates based on rough calculations of total dynamic head and build-out flow projections.

CAPITAL IMPROVEMENT PROGRAM FUNDING

Capital improvements within the City are primarily funded through the following mechanisms:

- The City funds capital improvements impacting existing customers through utility revenues generated from wastewater rates. These costs are allocated to the City's Sewer Operating Fund.

- Capital improvements for future development, or growth are funded through System Development Charges (SDCs) as allowed under Oregon Revised Statute 223.297 through 223.314. These costs are allocated to the City's Sewer SDC Fund.

- The City's current policy requires developers to fully fund/construct sewer line extensions of 8-inches in diameter or smaller. Sewer lines in excess of 8-inches in diameter are considered "oversized" by the City since they typically convey wastewater from properties upstream of the developer. Developers constructing oversized sewer lines are eligible to receive SDC credits above the cost to install an 8-inch sewer. Oversize costs for new infrastructure associated with future development are provided in Table 7-3.

The City may also seek funding and financing of specific projects through these additional internal and external sources:

- Business Oregon, including Community Development Block Grants, the Water/Wastewater program, and the Special Public Works Funds
- Developer dedications
- Oregon DEQ Clean Water State Revolving Fund
- Oregon Immediate Opportunity Program
- Oregon Industrial Development Revenue Bonds
- Oregon Infrastructure Bank
- City General Obligation Bonds
- City Local Improvement Districts
- City Sewer Revenue Bonds
- City Urban Renewal Program

SDCs and Percent Related to Growth

For each improvement project, a growth percentage is provided in the CIP tables to aid the City in establishing SDCs for the collection system. For improvements that benefit both current and new customers, the growth percentage can be applied to the project cost to allocate funding requirements through collection of SDCs.

The method used to calculate growth percentage for a proposed pipe or pump station project employs a formula (shown below) based on the ratio of existing and future flows.

Percent Related to Growth = 1 – (Peak Existing Flow / Peak Build-out Flow)

The growth percentage relates directly to SDC percentage. The percentage not related to growth is funded through wastewater rates (e.g. Sewer Operating Fund).

Table 7-1 Capital Improvement Program, Existing System Capacity Upgrades for Future Development									
Project ID No.	Project Information				Estimated Cost[1, 2]	Prioritization Category	Time Frame[3]	Driver	Percent Related to Growth[5]
	Name	Type	Description[4]	Project Limits					
CIP-01	Coffee Creek Interceptor Railroad Undercrossing	Undercrossing	160 LF 21"Ø, Railroad Undercrossing	Under P&W Railroad	$480,000	UGB	0-5 Years	The existing undercrossing has capacity to serve Coffee Creek development and approximately 13% of Basalt Creek, West Railroad, and SW Tualatin development prior to improvement. May require bore and jack construction.	65%
CIP-02	Coffee Creek Interceptor Phase 1	Gravity - Pipe Upsizing	1030 LF 27"Ø; 610 LF 30"Ø; 1,020 LF 36"Ø	From Boeckman Road to Barber Street	$2,600,000	UGB	0-5 Years	Kinsman Road Construction Project. The existing interceptor has capacity to serve Coffee Creek development. Improvements are required for development of Basalt Creek, West Railroad, and SW Tualatin.	60%
CIP-03	Memorial Park Pump Station[6]	Pump Station + Force Main - Upsizing & Relocation	1,220 LF 16"Ø FM; Pump station relocation/expansion to 3,800 gpm	Pump Station relocation within Memorial Park, Force main from pump station to Rogue Ln	$5,130,000	UGB	6-10 Years	Flood plain impacts, Frog Pond & Advance Rd School development. Existing pump station can serve Advanced Road School and approximately 40% of Frog Pond development prior to improvement. Existing force main has capacity to serve Advanced Road School, Frog Pond, and Advanced Road URA prior to improvement.	85%
CIP-04	Coffee Creek Interceptor Phase 2	Gravity - Pipe Upsizing	2,000 LF 21"Ø	From P&W Railroad to Boeckman Road	$1,700,000	UGB	6-10 Years	The existing interceptor has capacity to serve Coffee Creek development and approximately 25% of Basalt Creek, West Railroad, and SW Tualatin development prior to improvement.	65%
CIP-05	Boeckman Interceptor Phase 1	Gravity - Pipe Upsizing	2,320 LF 18"Ø; 920 LF 21"Ø; 970 LF 24"Ø	From High School Interceptor to Memorial Park Pump Station	$4,270,000	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond). The existing interceptor has capacity to serve Advance Road School and Frog Pond.	80%
CIP-06	Boeckman Interceptor Phase 2	Gravity - Pipe Upsizing	3,760 LF 18"Ø;	From Boeckman Road to High School Interceptor	$3,240,000	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond). The existing interceptor has capacity to serve Advance Road School and Frog Pond.	100%
CIP-07	Master Plan Update	Other	Update the Collection System Master Plan	N/A	$300,000	URA	6-10 Years	5-10-years or significant URA development	70%
CIP-08	Canyon Creek Pump Station	Pump Station - Upsizing	Pump station expansion to 1,100 gpm	Existing pump station	$865,000	URA	11-20 Years	URA development	80%
CIP-09	Parkway Interceptor	Gravity - Pipe Upsizing	4,540 LF 12"Ø; 2,150 LF 15"Ø	From Elligsen Road to Boeckman Road	$4,360,000	URA	11-20 Years	URA development (east of Basalt Creek)	60%
CIP-10	Coffee Creek Interceptor Phase 3	Gravity - Pipe Upsizing	4,090 LF 36"Ø	From Barber Street to Orepac Avenue	$6,000,000	URA	11-20 Years	URA development (east of Basalt Creek)	65%
				Total	$28,945,000				

Table 7-2 Capital Improvement Program, Condition Based Improvements							
Project ID No.	Project Information				Estimated Cost[1, 2]	Time Frame	Driver
	Name	Type	Description[4]	Project Limits			
CIP-11	Boberg Diversion Structure[6]	Diversion Structure - Replacement	Replace Diversion Structure	Boberg Rd	$150,000	0-5 Years	Condition and capacity (upstream development); overflow operation not fully functional
CIP-12	Memorial Drive Flow Splitter Structure[6]	Flow Splitter Structure - Replacement	Replace Diversion Structure	I-5 Downstream of Memorial Park Pump Station	$150,000	0-5 Years	Condition and capacity (upstream development); maximize capacity of dual pipe system
CIP-13	Seely Ditch Undercrossing[6]	Undercrossing	200 LF 15"Ø, modify slope and connection to downstream interceptor to minimize backwater	Ditch crossing near Industrial Way and Orepac Avenue	$390,000	0-5 Years	Backwater from downstream interceptor, stagnant conditions. May require bore and jack construction.
CIP-14	Charbonneau District Spot Repair[7]	Gravity - Pipe Repair	Per *Charbonneau Consolidated Improvement Plan*	Various	$442,000	0-5 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-15	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	Per *Charbonneau Consolidated Improvement Plan*	Various	$1,809,000	0-5 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-16	Pipe Replacement - (0 To 5 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$1,750,000	0-5 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-17	Town Center Loop Pump Station	Pump Station - Replacement	Replace Pump Station	Existing pump station	$440,000	0-5 Years	Priming and debris issues, limited back pressure, excessive maintenance
CIP-18	River Village Pump Station	Pump Station - Decommission	Decommission Pump Station	Existing pump station	$30,000	0-5 Years	End of pump station service life, electrical equipment failure
CIP-19	Boones Ferry Park Grinder Pump	Pump Station - Restroom Grinder Pump	New grinder pump for park restrooms	Boones Ferry Park	$30,000	0-5 Years	Service to park restrooms with decommissioning of River Village pump station
CIP-20	Pump Station Rehabilitation - (0 To 5 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Corral Creek and Rivergreen pump stations	$375,000	0-5 Years	End of pump station service life
CIP-21	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	3,500 LF 8"Ø; 790 LF 10"Ø; 680 LF 12"Ø	Various	$1,275,000	6-10 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-22	Pipe Replacement - (6 To 10 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$1,750,000	6-10 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-23	Pump Station Rehabilitation - (6 To 10 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Charbonneau pump station	$100,000	6-10 Years	End of pump station service life
CIP-24	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	9,835 LF 8"Ø; 1,240 LF 15"Ø	Various	$3,293,000	11-20 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-25	Pipe Replacement - (11 To 20 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$3,500,000	11-20 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-26	Pump Station Rehabilitation - (11 To 20 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Morey's Landing pump station	$200,000	11-20 Years	End of pump station service life
				Total	$15,684,000		

Table 7-3 Capital Improvement Program, New Infrastructure for Future Development									
Project ID No.	Project Information				Estimated Cost[1, 2]	Oversize Cost[10]	Prioritization Category	Time Frame[3]	Driver
	Name	Type	Description[4]	Project Limits					
CIP-27	Coffee Creek - Clutter Road	Gravity - New Pipe	1,410 LF 15"ø	From Grahams Ferry Road to Garden Acres Road	$1,990,000	$310,000	UGB	0-5 Years	Coffee Creek development
CIP-28	Coffee Creek - Ridder Road	Gravity - New Pipe	910 LF 18"ø	From Garden Acres Road to BPA Substation	$1,890,000	$370,000	UGB	0-5 Years	Coffee Creek development
CIP-29	Coffee Creek - Grahams Ferry Road	Gravity - New Pipe	600 LF 8"ø; 580 LF 12"ø	From Clutter Road to Cahalin Road	$1,100,000	$70,000	UGB	0-5 Years	Coffee Creek development
CIP-30	Coffee Creek - Garden Acres	Gravity - New Pipe	1,480 LF 8"ø	From 25450 SW Garden Acres Road to Cahalin Road	$990,000	$0	UGB	0-5 Years	Coffee Creek development
CIP-31	Coffee Creek - Day Road	Gravity - New Pipe	2,060 LF 18"ø; 900 LF 12"ø	From Grahams Ferry Road to Boones Ferry Road	$2,790,000	$580,000	UGB	0-5 Years	Coffee Creek development
CIP-32	Coffee Creek - Kinsman Road	Gravity - New Pipe	3,100 LF 18"ø	From Day Road to Ridder Road	$5,390,000	$1,120,000	UGB	0-5 Years	Coffee Creek development
CIP-33	Frog Pond/Advance Rd URA - SW Boeckman Road	Gravity - New Pipe	2,800 LF 18"ø	From Stafford Road to Boeckman Creek	$4,170,000	$910,000	UGB	0-5 Years	Frog Pond development
CIP-34	Frog Pond/Advance Rd URA – SW Stafford Road	Gravity - New Pipe	2,700 LF 12"ø	From Kahle Road to Boeckman Road	$2,520,000	$300,000	UGB	0-5 Years	Frog Pond development
CIP-35	Frog Pond/Advance Rd URA - Boeckman Interceptor Extension	Gravity - New Pipe	3,350 LF 12"ø	From UGB to Boeckman Road	$3,970,000	$480,000	UGB	0-5 Years	Frog Pond development
CIP-36	Frog Pond/Advance Rd URA - South Of Frog Pond Lane	Gravity - New Pipe	1,800 LF 10"ø	From Frog Pond Lane to Boeckman Road	$820,000	$80,000	UGB	0-5 Years	Frog Pond development
CIP-37	Frog Pond/Advance Rd URA - SW 60th Avenue	Gravity - New Pipe	1,850 LF 10"ø; 1,250 LF 12"ø	From 28424 SW 60th Avenue to Advance Road	$2,180,000	$210,000	UGB	0-5 Years	Advance Rd School development
CIP-38	Frog Pond/Advance Rd URA - SW 60th Avenue Pump Station	Pump Station + Force Main - New	1,350 LF 8"ø FM, ~600 gpm pump station	From pump station to 60th Avenue sewer	$1,360,000	Note 11	UGB	0-5 Years	Advance Rd School development
CIP-39	Area 1 (Basalt Creek - East)[9]	Gravity - New Pipe	13,100 LF 10-12"ø	Basalt Creek East - Concept Plan Required	$10,490,000	$1,470,000	UGB	6-10 Years	Basalt Creek development
CIP-40	Area 2 (Basalt Creek - Central)[9]	Gravity - New Pipe	9,900 LF 10-12"ø	Basalt Creek Central - Concept Plan Required	$7,920,000	$1,110,000	UGB	6-10 Years	Basalt Creek development
CIP-41	Area 3 (Basalt Creek - West)[9]	Gravity - New Pipe	6,600 LF 10"ø	Basalt Creek West - Concept Plan Required	$4,930,000	$380,000	UGB	6-10 Years	Basalt Creek development
CIP-42	Area 4 (SW Tualatin)[9]	Pump Station + Force Main - New	4,200 LF 8"ø FM, ~300 gpm pump station	SW Tualatin - Concept Plan Required	$2,260,000	Note 11	UGB	6-10 Years	SW Tualatin development
CIP-43	Area 5 (West Railroad - North)[9]	Pump Station + Force Main - New	3,300 LF 12"ø FM; ~800 gpm pump station	West Railroad North - Concept Plan Required	$3,060,000	Note 11	UGB	6-10 Years	West Railroad development
CIP-44	Area 6 (West Railroad - South)[9]	Pump Station + Force Main - New	1,400 LF 6"ø FM; ~200 gpm pump station	West Railroad South - Concept Plan Required	$1,170,000	Note 11	UGB	6-10 Years	West Railroad development
CIP-45	Area 9 (South UGB - West)[9]	Pump Station + Force Main - New	2,600 LF 8"ø FM; ~400 gpm pump station	South UGB West - Concept Plan Required	$1,660,000	Note 11	UGB	6-10 Years	South UGB development
CIP-46	Area 10 (South UGB - East)[9]	Pump Station + Force Main - New	1,300 LF 6"ø FM; ~200 gpm pump station	South UGB East - Concept Plan Required	$1,130,000	Note 11	UGB	6-10 Years	South UGB development

Table 7-3 Capital Improvement Program, New Infrastructure for Future Development

Project ID No.	Project Information				Estimated Cost[1, 2]	Oversize Cost[10]	Prioritization Category	Time Frame[3]	Driver
	Name	Type	Description[4]	Project Limits					
CIP-47	Frog Pond/Advance Rd URA - Advance Road	Gravity - New Pipe	1,150 LF 10"Ø; 1,450 LF 15"Ø	From 5696 SW Advance Road to Stafford Road	$2,110,000	$300,000	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-48	Frog Pond/Advance Rd URA - SW Briar Patch Lane	Gravity - New Pipe	1,200 LF 10"Ø	From Newland Creek to Stafford Road	$1,460,000	$90,000	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-49	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 1	Pump Station + Force Main - New	2,400 LF 4"Ø FM, ~200 gpm pump station	From pump station to Briar Patch Lane sewer	$1,680,000	Note 11	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-50	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 2	Pump Station + Force Main - New	1,100 LF 4"Ø FM, ~200 gpm pump station	From pump station to Briar Patch Lane sewer	$1,140,000	Note 11	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-51	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 3	Pump Station + Force Main - New	860 LF 4"Ø FM, ~200 gpm pump station	From pump station to Advance Road sewer	$1,050,000	Note 11	Advance Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-52	Area 7 (URA Near Westfall Rd & Grahams Ferry Rd)[9]	Gravity - New Pipe	13,100 LF 10"Ø	URA West Falls and Grahams Ferry North - Concept Plan Required	$11,280,000	$2,220,000	URA	11-20 Years	URA development
CIP-53	Area 8 (URA Near Willamette Way & Wilsonville Rd)[9]	Pump Station + Force Main - New	1,800 LF 8"Ø FM; ~300 gpm pump station	URA Willamette and Wilsonville - Concept Plan Required	$1,340,000	Note 11	URA	11-20 Years	URA development
CIP-54	Area 11 (URA Northeast - To Canyon Creek Interceptor - South)[9]	Gravity - New Pipe	8,200 LF 10-12"Ø	URA Northeast, Canyon Creek Trunk South - Concept Plan Required	$6,600,000	$920,000	URA	11-20 Years	URA development
CIP-55	Area 12 (URA Northeast - To Boeckman Interceptor)[9]	Gravity - New Pipe	14,200 LF 10-15"Ø	URA Northeast, Boeckman Trunk - Concept Plan Required	$12,240,000	$2,410,000	URA	11-20 Years	URA development
CIP-56	Area 13 (URA Northeast - To Canyon Creek Interceptor - North)[9]	Gravity - New Pipe	8,300 LF 10-12"Ø	URA Northeast, Canyon Creek Trunk North - Concept Plan Required	$6,700,000	$940,000	URA	11-20 Years	URA development
CIP-57	Area 14 (URA Northeast - To Parkway Interceptor)[9]	Gravity - New Pipe	8,300 LF 10-12"Ø	URA Northeast, Parkway Trunk - Concept Plan Required	$6,680,000	$940,000	URA	11-20 Years	URA development
				Total	$114,070,000	$15,210,000			

SUMMARY

This section presents a proposed City CIP for the 20-year period between 2014 and 2034, based on Tables 7-1 through 7-3. Improvements are defined to address condition issues within the existing system, future growth within the UGB, and potential UGB expansion. The total estimated project costs are summarized in Table 7-4.

Table 7-4 Capital Improvement Program Summary (Estimated Total Costs)

Improvement Category	Prioritization Category	Time Frame (Cost)[1, 2, 3]			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
Existing System Upgrades for Future Development[6]	UGB	$3,080,000	$6,830,000	---	$9,910,000
	Advance Road URA	---	$7,510,000	---	$7,510,000
	URA	---	$300,000	$11,225,000	$11,525,000
	Total	$3,080,000	$14,640,000	$11,225,000	$28,945,000
New Infrastructure for Future Development	UGB	$29,170,000	$32,620,000	---	$61,790,000
	Advance Road URA	---	$7,440,000	---	$7,440,000
	URA	---	---	$44,840,000	$44,840,000
	Total	$29,170,000	$40,060,000	$44,840,000	$114,070,000
Condition Based[13]	UGB	$5,566,000	$3,125,000	$6,993,000	$15,684,000

The CIP costs are categorized in Table 7-5 by funding mechanism including the following categories:

- City's Sewer Operating Fund – Condition-based improvements
- City's Sewer Operating Fund – Existing system upgrades [*Operating Fund Cost = Total Cost x (Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – Existing system upgrades [SDC Fund Cost = *Total Cost x (1 - Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – New Piping Infrastructure, Oversizing Component
- Developer Direct Contribution – New Piping Infrastructure, Non-oversizing Component
- Developer Direct Contribution – New Pump Stations and Associated Force mains (may require formation of reimbursement district)

Table 7-5 Capital Improvement Program Summary By Funding Mechanism (Estimated Total Costs)					
Funding Mechanism[12]	Prioritization Category	Time Frame (Cost)[1, 2, 3]			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
City's Sewer Operating Fund - Condition Based[13]	UGB	$5,566,000	$3,125,000	$6,993,000	$15,684,000
City's Sewer Operating Fund - Existing System Upgrades	UGB	$1,208,000	$1,364,500	---	$2,572,500
	Advance Road URA	---	$854,000	---	$854,000
	URA	---	$90,000	$4,017,000	$4,107,000
	Total	$1,208,000	$2,308,500	$4,017,000	$7,533,500
City's SDC Fund - Existing System Upgrades	UGB	$1,872,000	$5,465,500	---	$7,337,500
	Advance Road URA	---	$6,656,000	---	$6,656,000
	URA	---	$210,000	$7,208,000	$7,418,000
	Total	$1,872,000	$12,331,500	$7,208,000	$21,411,500
City's SDC Fund - New Piping Infrastructure, Oversizing Component	UGB	$4,430,000	$2,960,000	---	$7,390,000
	Advance Road URA	---	$390,000	---	$390,000
	URA	---	---	$7,430,000	$7,430,000
	Total	$4,430,000	$3,350,000	$7,430,000	$15,210,000
Developer Direct Contribution - New Piping Infrastructure, Non-oversizing Component	UGB	$23,380,000	$20,380,000	---	$43,760,000
	Advance Road URA	---	$3,180,000	---	$3,180,000
	URA	---	---	$36,070,000	$36,070,000
	Total	$23,380,000	$23,560,000	$36,070,000	$83,010,000
Developer Direct Contribution - New Pump Stations & Associated Force mains	UGB	$1,360,000	$9,280,000	---	$10,640,000
	Advance Road URA	---	$3,870,000	---	$3,870,000
	URA	---	---	$1,340,000	$1,340,000
	Total	$1,360,000	$13,150,000	$1,340,000	$15,850,000

Notes for Tables 7-1, 7-2, 7-3, 7-4, and 7-5

Note 1. Cost estimates represent a Class 5 budget estimate, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate. The cost estimates are consistent with the definition of OAR 660-011-0005(2) and OAR 660-011-035. They are intended to be used as guidance in establishing funding requirements based on information available at the time of the estimate.

Note 2. Cost estimates for existing system upgrades and new infrastructure improvements assume unit costs for new materials and construction. Cost estimates for condition based improvements assume unit costs for replacement materials and construction. All cost estimates include markups for construction contingency, owner administrative costs, and contract costs.

Note 3. The timing for improvement implementation is dependent on development timing. The information presented in the "time frame" column assume the following:

a. Coffee Creek – 25% developed in 0-5 year timeframe, 75% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
b. Advance Road School – 100% developed in 0-5 year timeframe.
c. Frog Pond - 40% developed in 0-5 year timeframe, 95% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
d. Basalt Creek, SW Tualatin, West Railroad – 0% developed in 0-5 year timeframe, 25% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
e. Advanced Road URA – 0% developed in 0-5 year timeframe, 25% developed in 6-10 year timeframe, 100% developed in 11-20 year timeframe.
f. URA – development in 11-20 year timeframe.

Note 4. All improvements are sized for build-out of the upstream service area at a planning level of accuracy based on population, density and land use assumptions described in Section 5 of this document. Prior to implementation, each project should undergo standard engineering design phases to finalize improvement sizing and location.

Note 5. The growth percentage is an estimate of the percentage of the build-out flow associated with future development as of 2014. *Percent related to growth = 1 – (Peak Existing Flow / Peak Build-out Flow).* The growth percentage relates directly to SDC percentage. The percentage not related to growth is funded through wastewater rates (e.g. Sewer Operating Fund).

Note 6. The Boberg diversion (CIP-01), Memorial Drive Flow Splitter (CIP-02), Seely Ditch Undercrossing (CIP-05), and Memorial Park Pump Station (CIP-06) are required for both capacity and condition. The Boberg diversion (CIP-01), Memorial Drive Flow Splitter (CIP-02), Seely Ditch Undercrossing (CIP-05) improvements are listed in Table 7-2, "Condition Based Improvements." Memorial Park Pump Station is listed in Table 7-1, "Existing System Upgrades for Future Development."

Note 7. Charbonneau condition improvements (CIP-14, CIP-15, CIP-21, and CIP-24) assume a 20-year improvement schedule.

Note 8. Pipeline replacement cost estimates assume 50% of all concrete piping will be replaced over 20-years. Pipe replacement projects including location and scope will be refined through video inspection and pipe condition inventories.

Note 9. The future development areas without concept plans have been subdivided into 14 sub-basins. Place-holder trunk line or pump station improvements have been identified for each area (CIP-39 thru CIP-46 and CIP-52 thru CIP-57). Cost estimates and improvement sizing for these areas should be refined once additional concept planning has been completed.

Note 10. The City's current policy requires developers to fully fund sewer line extensions of 8-inches in diameter or smaller. Sewer lines in excess of 8-inches in diameter are considered "oversized" by the City and may be eligible to receive SDC credits. The "oversize" cost estimate equals the total project cost minus the cost of the project if sized at 8-inches.

Note 11. Pump station improvements may require formation of a reimbursement district.

Note 12. The CIP costs are categorized in Table 7-5 by funding mechanism including the following categories:

- City's Sewer Operating Fund – Condition-based improvements
- City's Sewer Operating Fund – Existing system upgrades [*Operating Fund Cost = Total Cost x (Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – Existing system upgrades [SDC Fund Cost = *Total Cost x (1 - Peak Existing Flow / Peak Build-out Flow)*]
- City's SDC Fund – New Piping Infrastructure, Oversizing Component
- Developer Direct Contribution – New Piping Infrastructure, Non-oversizing Component
- Developer Direct Contribution – New Pump Stations and Associated Force mains (may require formation of reimbursement district)

Note 13. Condition based portion of the Memorial Park Pump Station improvement (CIP-06) excluded. Full cost of Memorial Park Pump Station included in "Existing System Upgrades for Future Development."

FIGURE 7-1

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS EXISTING SYSTEM CAPACITY UPGRADES

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Railroad Undercrossing

Canyon Creek

Boberg Diversion

Town Center

Memorial Dr Flow Splitter

Memorial Park

WWTP

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Basalt Creek

Villebois

Brenchley Estates

Frog Pond

Advance Rd URA

Advance Road School

Phase 1

Phase 2

Phase 3

Coffee Creek Interceptor

Parkway Interceptor

Boeckman Interceptor

WILLAMETTE RIVER

TONQUIN

WALDO

GREENHILL

CLAY

DAY

COMMERCE

CLUTTER

RIDDER

PRINTER

FROGPOND

XEROX

PARKWAY

BOECKMAN

TOWN CENTER

COURTSIDE

ELLIGSEN

BRIAR PATCH

NORWOOD

MORGAN

WHEATLAND

KAME

TOOZE

MALLOY

WESTFALL

CAMELOT

FREEMAN

ADVANCE

EILERS

BUTTEVILLE

CEDAR BROOK

LAWNVIEW

FRENCH PRAIRIE

CHARBONNEAU

FAIRWAY

AIRPORT

PRAIRIE VIEW

GRAHAM

GLASS

BRUCK

KRUSE

NODAWAY

GAGE

KAHLE

STAFFORD

GRAHAMS FERRY

BOONES FERRY

I5

82ND

76TH

84TH

65TH

60TH

53RD

95TH

110TH

- W WWTP
- PS Public Pump Station
- PS Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Forcemain Public
- Forcemain Private
- Urban Growth Boundary
- City Boundary
- Study Area
- Metro Open Space

Development (2014)

- Developed UGB
- Undeveloped UGB
- Urban Reserve

Other Improvement

- D Flow Diversion
- S Flow Splitter
- U Undercrossing

Pump Station Improvement

- PS UGB
- PS URA

Pipeline Improvement

- UGB, Gravity
- Advance Road URA, Gravity
- Advance Road URA, Forcemain
- URA, Gravity

0 2,500 5,000 Feet

N

G:\PDX_Projects\131488\GIS\MXD\Wilsonville_CIP_Figures_10-01-2014_Fig7-1.mxd 11/2/2014 8:12:10 PM SJR

FIGURE 7-2

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS CONDITION BASED

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Frog Pond

Advance Rd URA

Villebois

Brenchley Estates

Advance Road School

Coffee Creek Interceptor

Parkway Interceptor

Boeckman Interceptor

Canyon Creek

Boberg Diversion

Town Center

Memorial Dr Flow Splitter

Seely Ditch Undercrossing

Memorial Park

WWTP

River Village decommission

Grinder Pump @ Park

Charbonneau

Corral Creek

Rivergreen

Moreys Landing

WILLAMETTE RIVER

BUTTEVILLE

CEDAR BROOK

TONQUIN

WALDO

GREENHILL

CLAY

DAY

COMMERCE

ELLIGSEN

CLUTTER

RIDDER

PRINTER

FROGPOND

XEROX

BOECKMAN

COURTSIDE

TOWN CENTER

FAIRWAY

LAWNVIEW

FRENCH PRAIRIE

BRIAR PATCH

NORWOOD

MORGAN

WHEATLAND

KAME

TOOZE

MALLOY

WESTFALL

ADVANCE

KRUSE

EILERS

GLASS

BRUCK

NODAWAY

GAGE

KAHLE

GRAHAMS FERRY

BOONES FERRY

GARDEN ACRES

KINSMAN

BOBERG

PARKWAY

STAFFORD

CAMELOT

MONTEBELLO

MONTGOMERY

CHANTILLY

JAMAICA

AIRPORT

PRAIRIE VIEW

GRAHAM

65TH

76TH

84TH

82ND

95TH

60TH

53RD

110TH

I5

PS

W

Pipe Public
Pipe Private
Forcemain Public
Forcemain Private
Manhole
Urban Growth Boundary
City Boundary
Study Area
Metro Open Space
Pipe Replacement (Concrete)
Charbonneau Pipe Replacement

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

Other Improvement (0-5 Years)
D Flow Diversion
S Flow Splitter
U Undercrossing

Pump Station Improvement
PS 0-5 Years
PS 6-10 Years
PS 11-20 Years

0 2,500 5,000 Feet

N

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FIGURE 7-3

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS NEW INFRASTRUCTURE

MSA Murray, Smith & Associates, Inc. Engineers/Planners

NOVEMBER 2014

SW Tualatin
Coffee Creek Correctional Facility
Basalt Creek
West Railroad
Coffee Creek
Coffee Creek Interceptor
Parkway Interceptor
Canyon Creek
Frog Pond
Advance Rd URA
Advance Road School
Boeckman Interceptor
Brenchley Estates
Villebois
Town Center
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

Future Development Area: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

W WWTP
PS Public Pump Station
PS Private Pump Station
Manhole

Pipe Public
Pipe Private
Force Main Public
Force Main Private

Urban Growth Boundary
City Boundary
Study Area
Metro Open Space

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

New Infrastructure (No Concept Plan)
UGB, Gravity
UGB, Pump
URA, Gravity
URA, Pump

Planned Piping
UGB
Advance Road URA

Pump Station Improvement
Advance Road URA

0 2,500 5,000 Feet

N

Appendix A includes plots of metered versus modeled flow rates for the hydraulic model calibration. Figures A-1 through A-10 depict dry weather calibration results. Figures A-11 through A-17 depict wet weather calibration results during the January 2012 storm event.

Figure A-1 | Model dry weather flow calibration for Parkway Interceptor (2012)

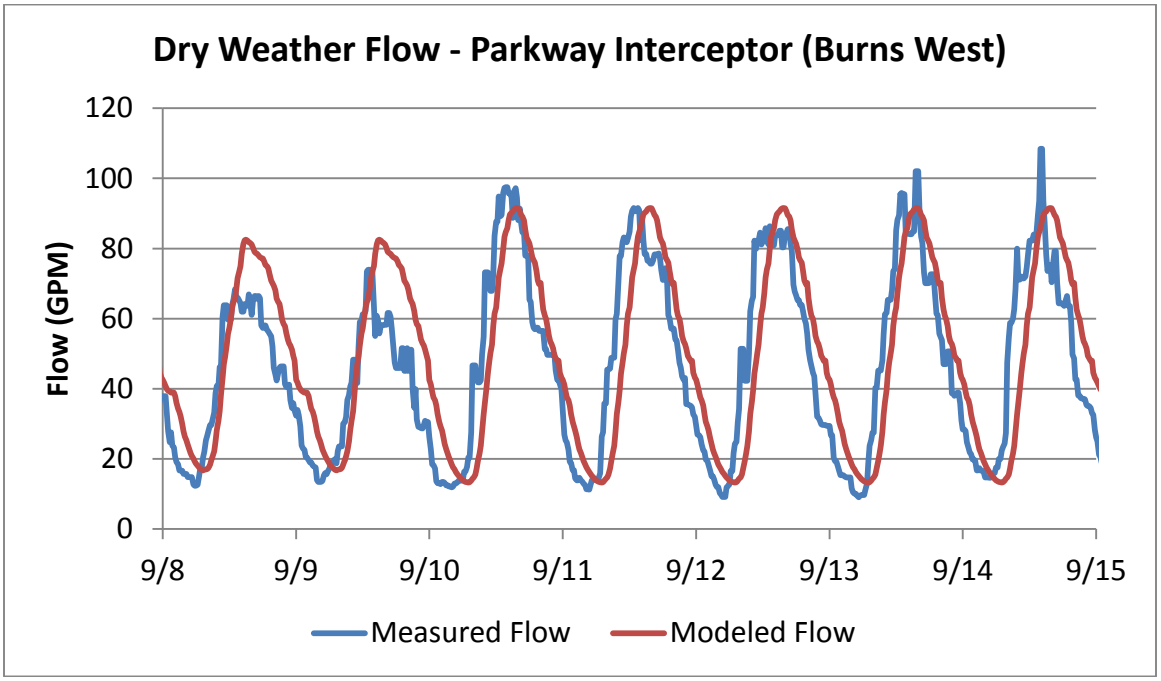


Figure A-2 | Model dry weather flow calibration for Canyon Creek (2012)

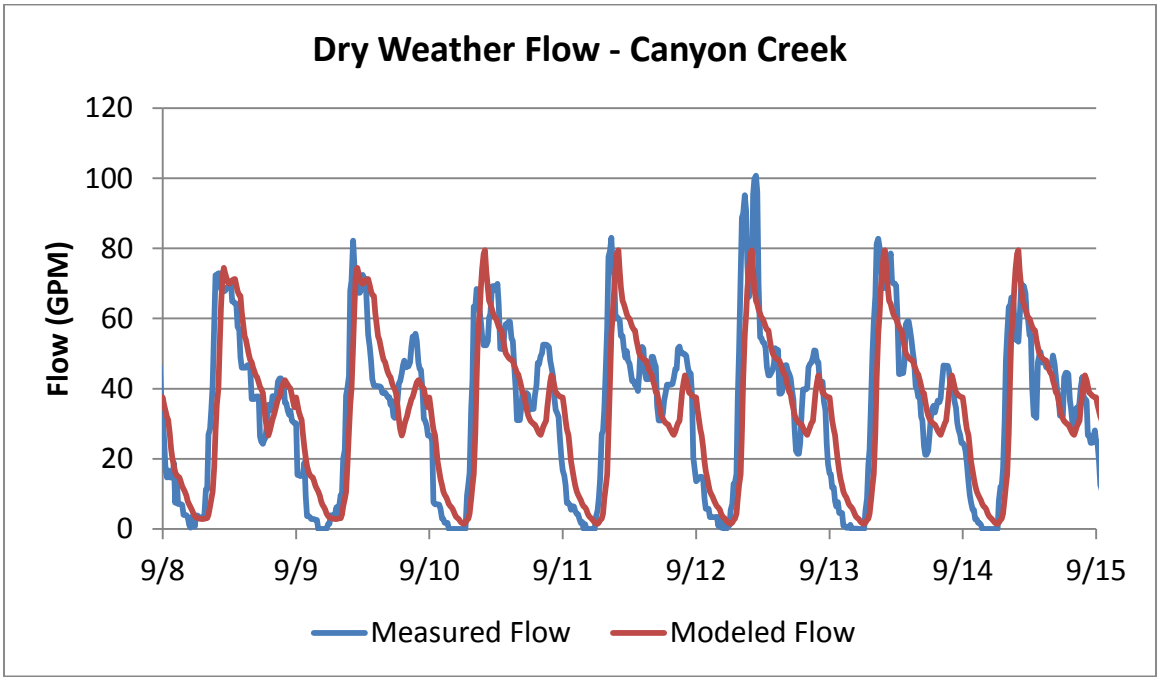


Figure A-3 | Model dry weather flow calibration for Boeckman Interceptor (2012)

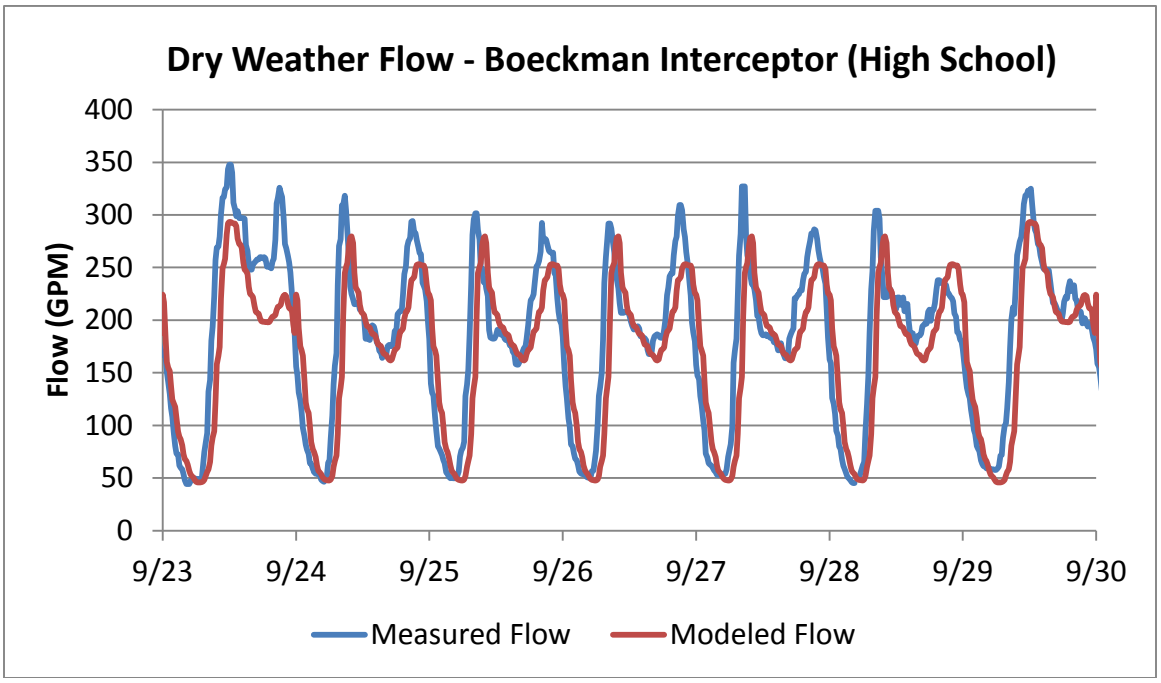


Figure A-4 | Model dry weather flow calibration for I-5 Crossing (2012)

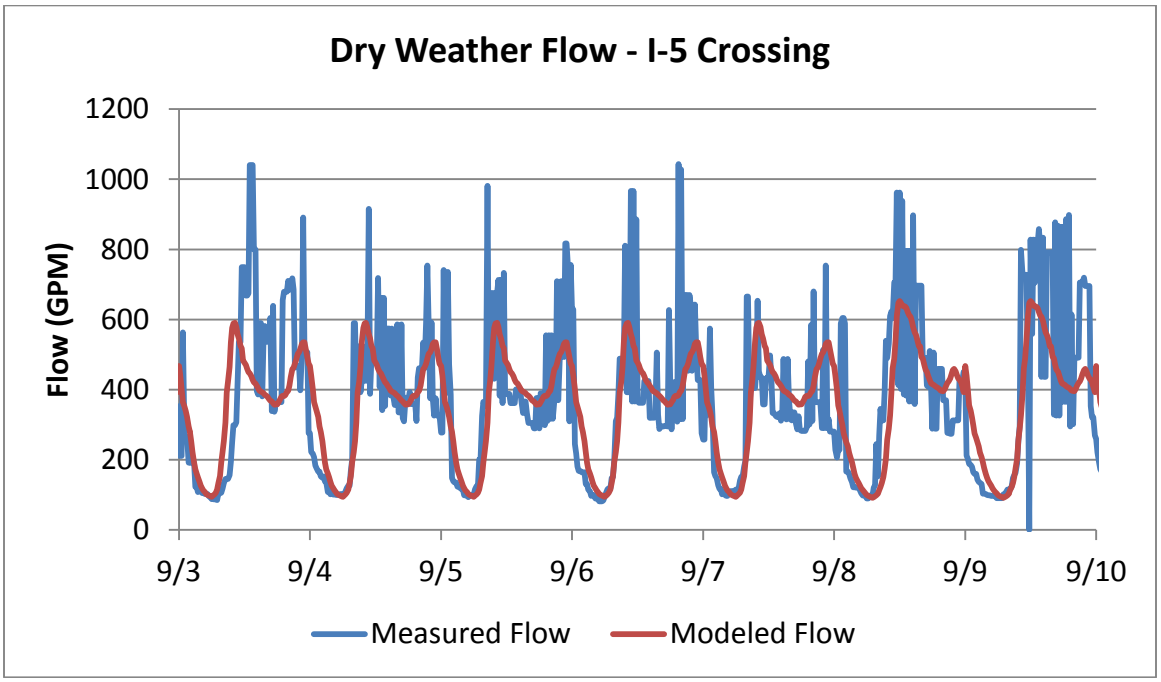


Figure A-5 | Model dry weather flow calibration for Memorial Park Pump Station (2012)

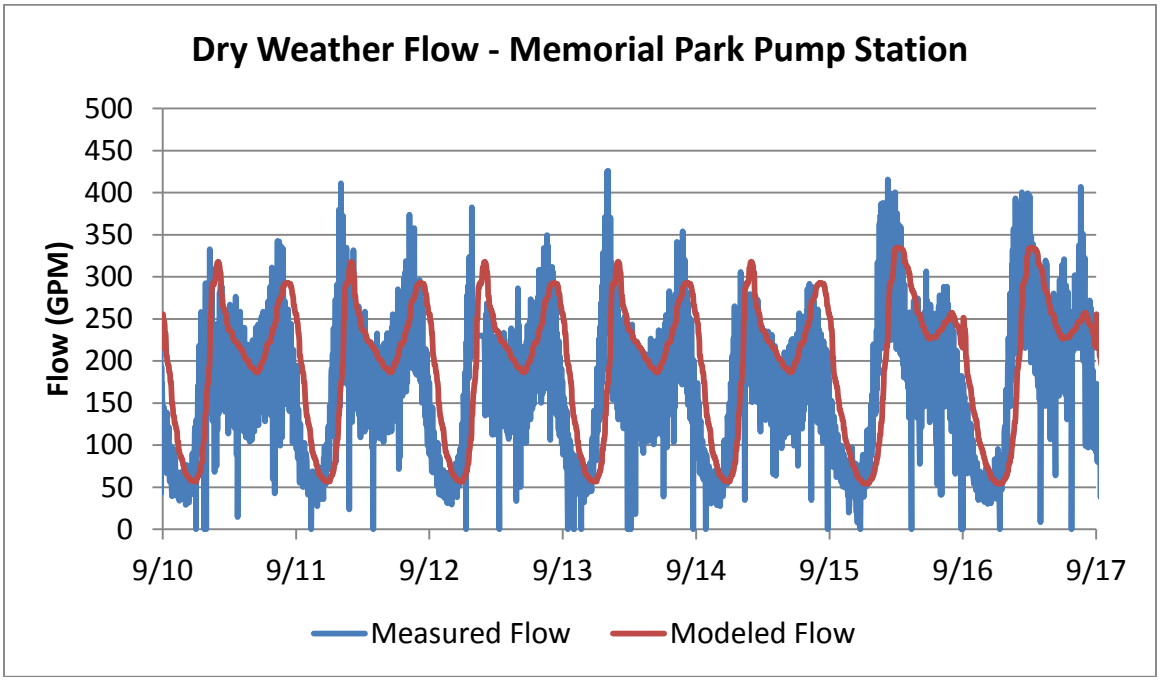


Figure A-6 | Model dry weather flow calibration for Coffee Creek Interceptor North (2012)

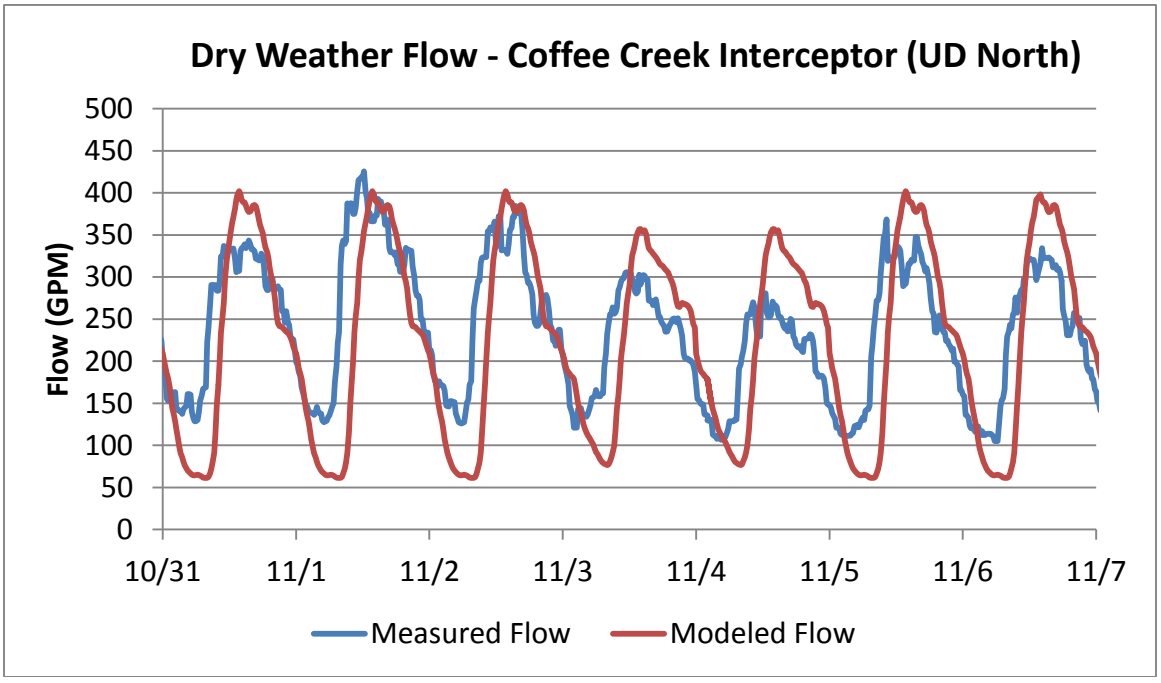


Figure A-7 | Model dry weather flow calibration for Coffee Creek Interceptor South (2012)

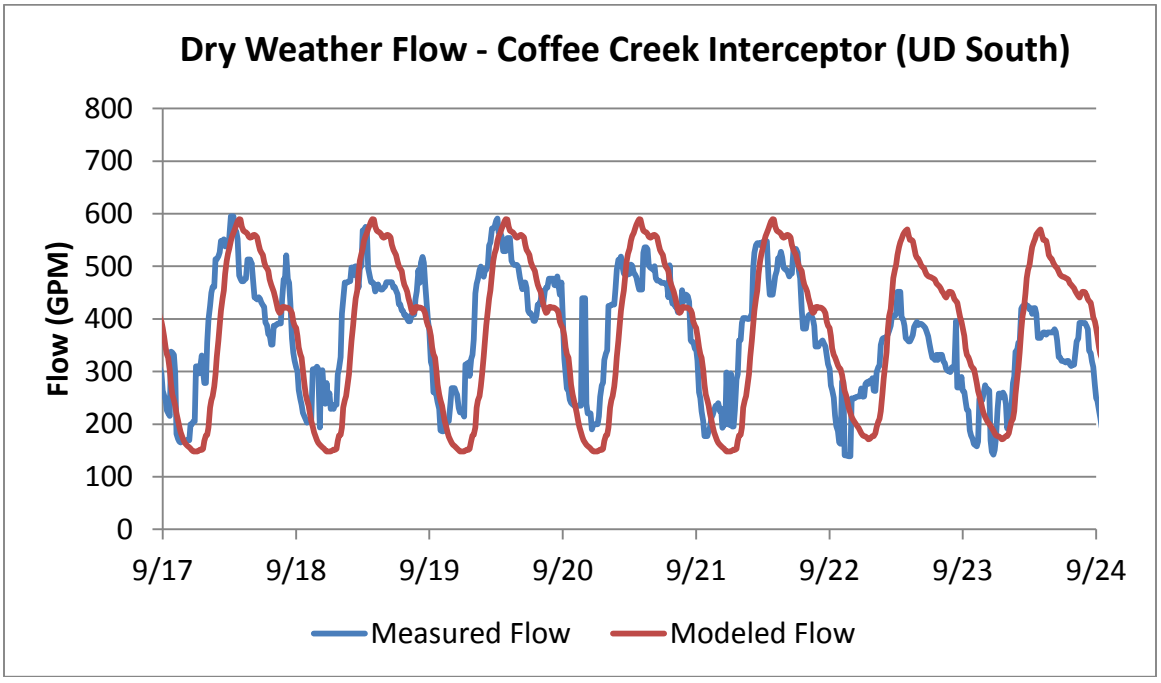


Figure A-8 | Model dry weather flow calibration for Villebois (2012)

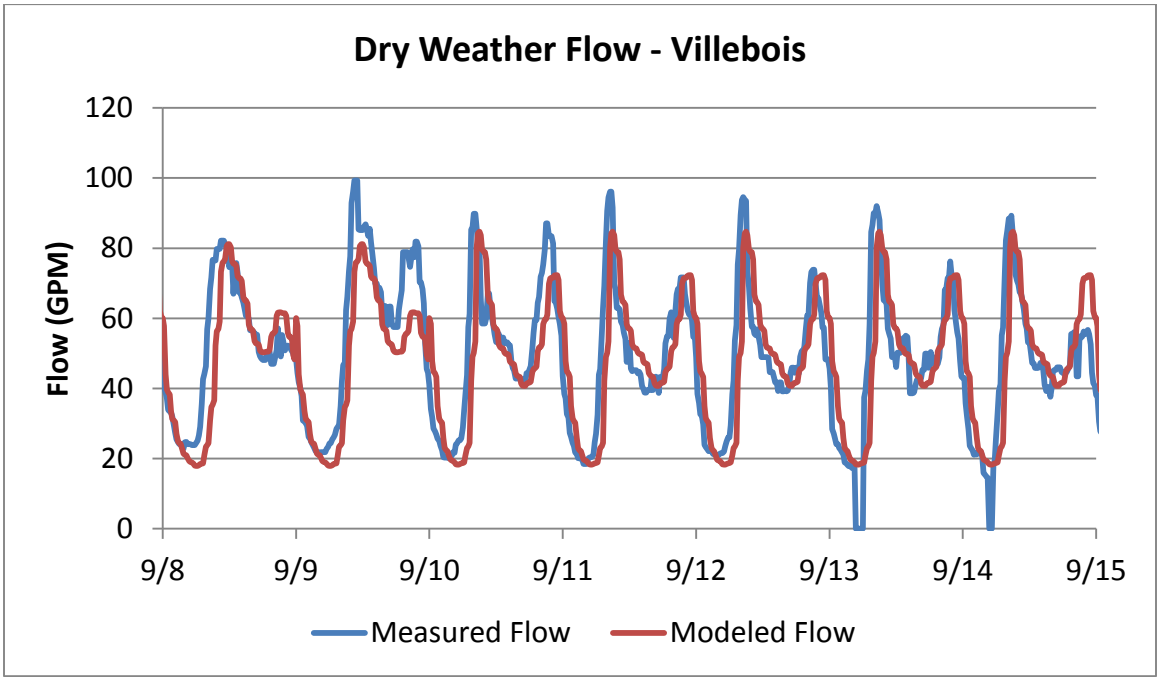


Figure A-9 | Model dry weather flow calibration for Wood School (2012)

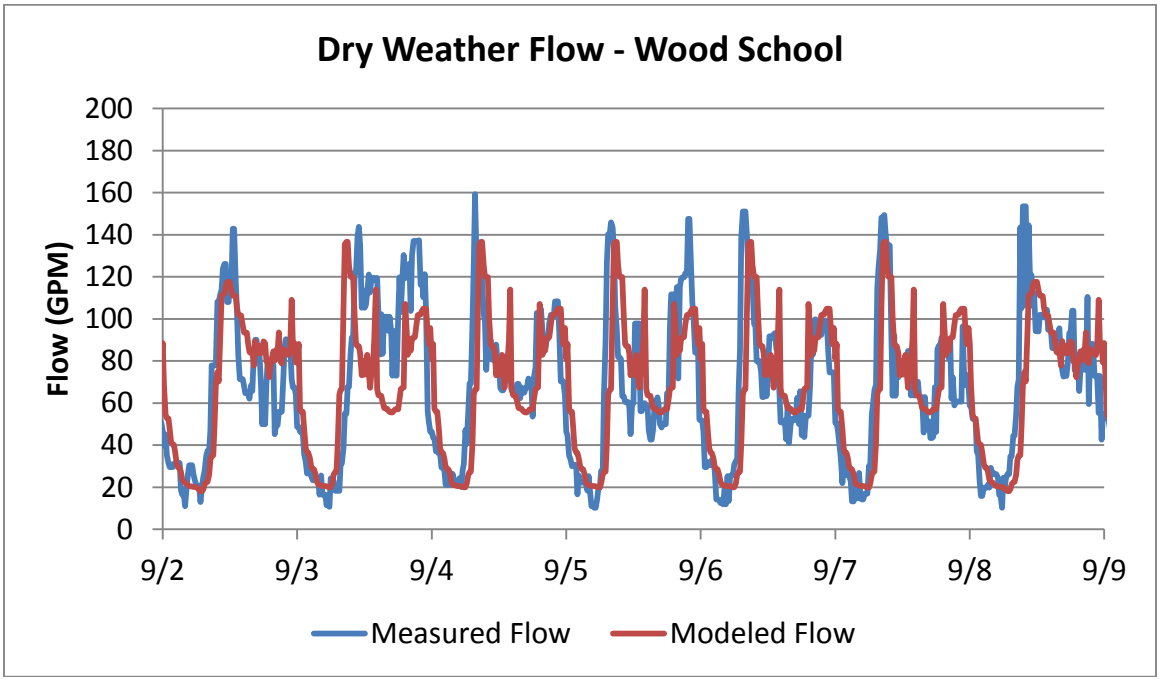


Figure A-10 | Model dry weather flow calibration for WWTP (2012)

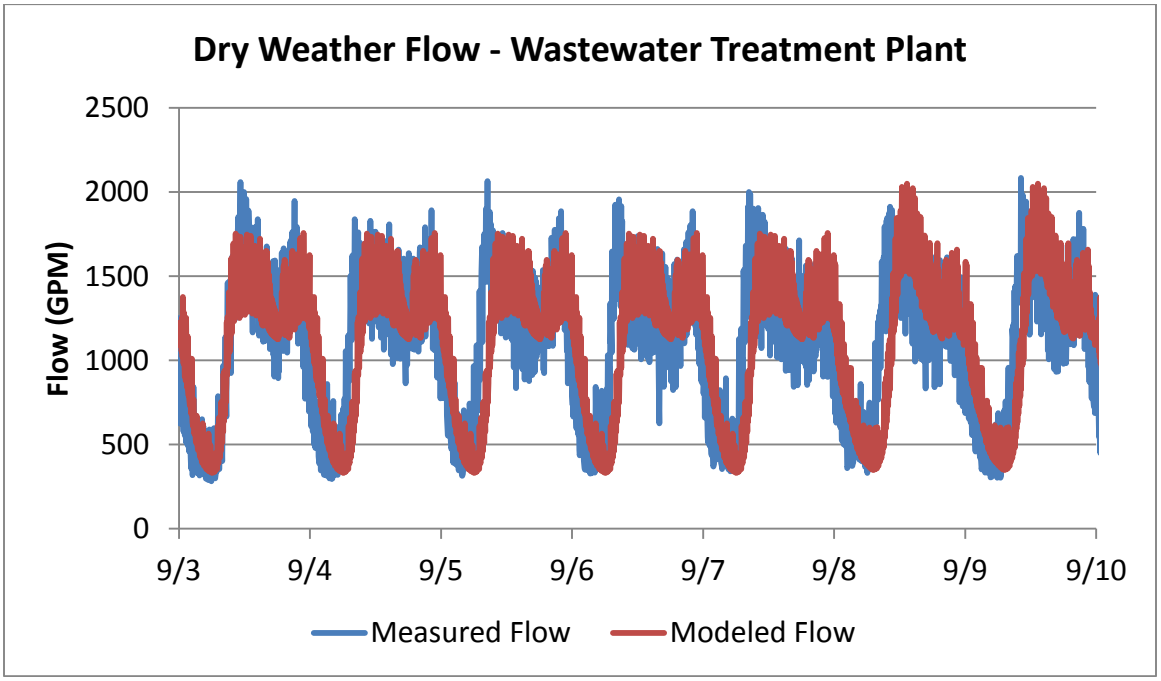


Figure A-11 | Model wet weather flow calibration for Parkway Interceptor (2012)

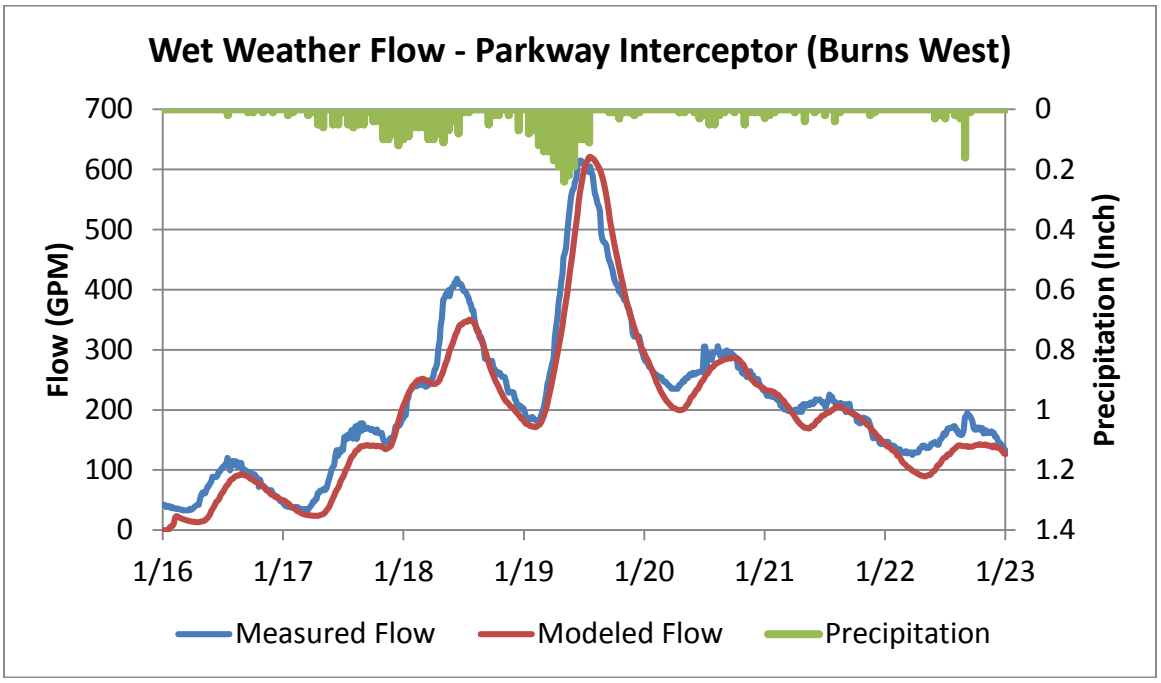


Figure A-12 | Model wet weather flow calibration for Evergreen (2012)

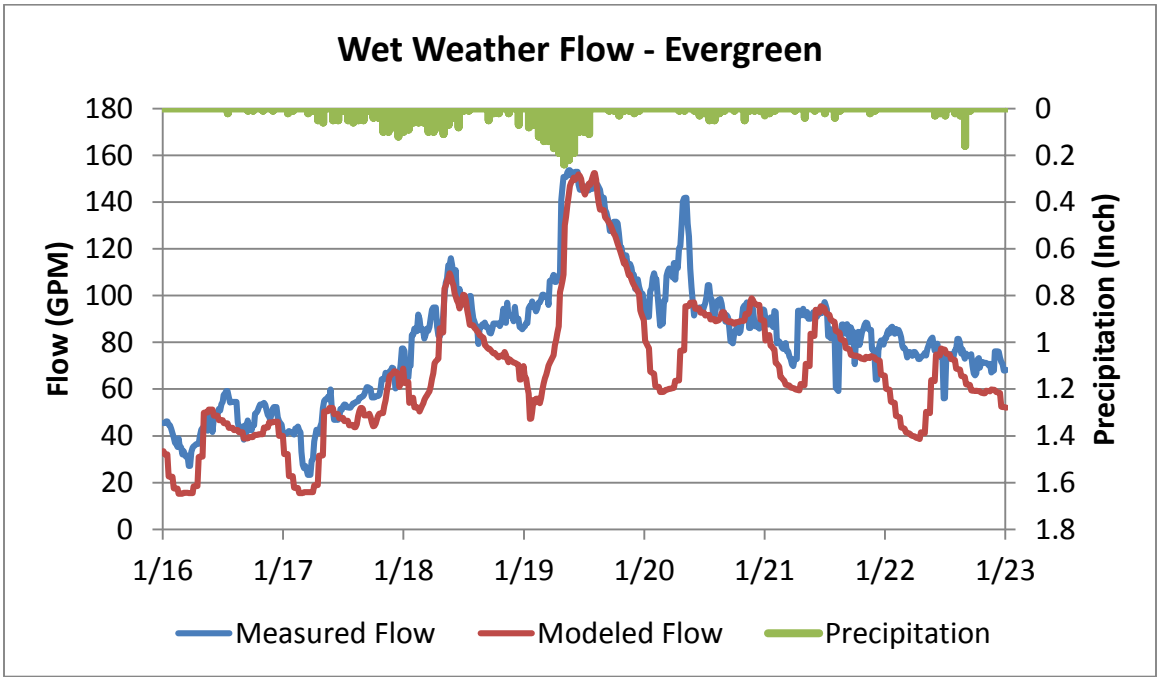


Figure A-13 | Model wet weather flow calibration for Boeckman Interceptor (2012)

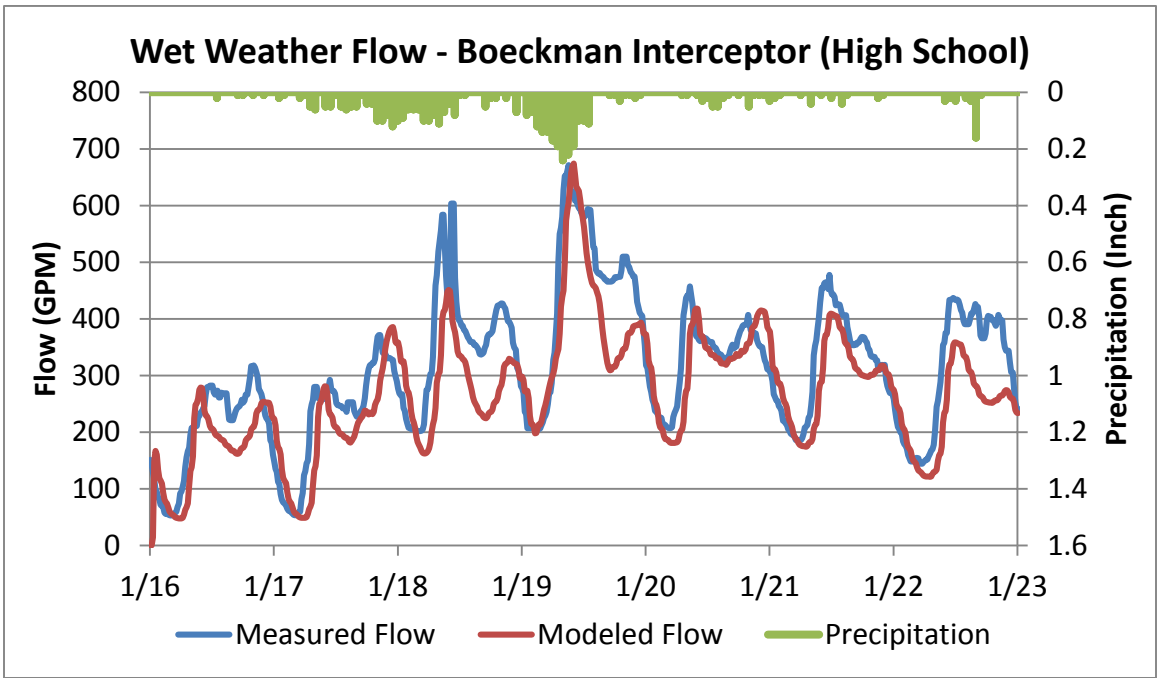


Figure A-14 | Model wet weather flow calibration for Memorial Park Pump Station (2012)

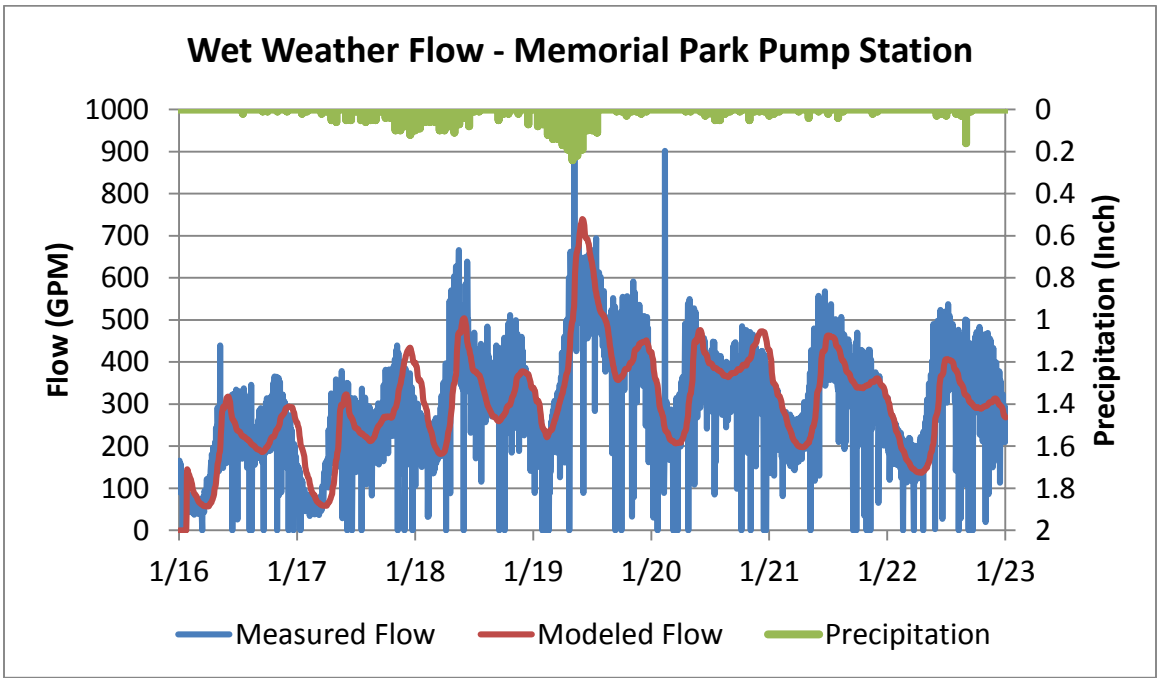


Figure A-15 | Model wet weather flow calibration for Coffee Creek Interceptor North (2012)

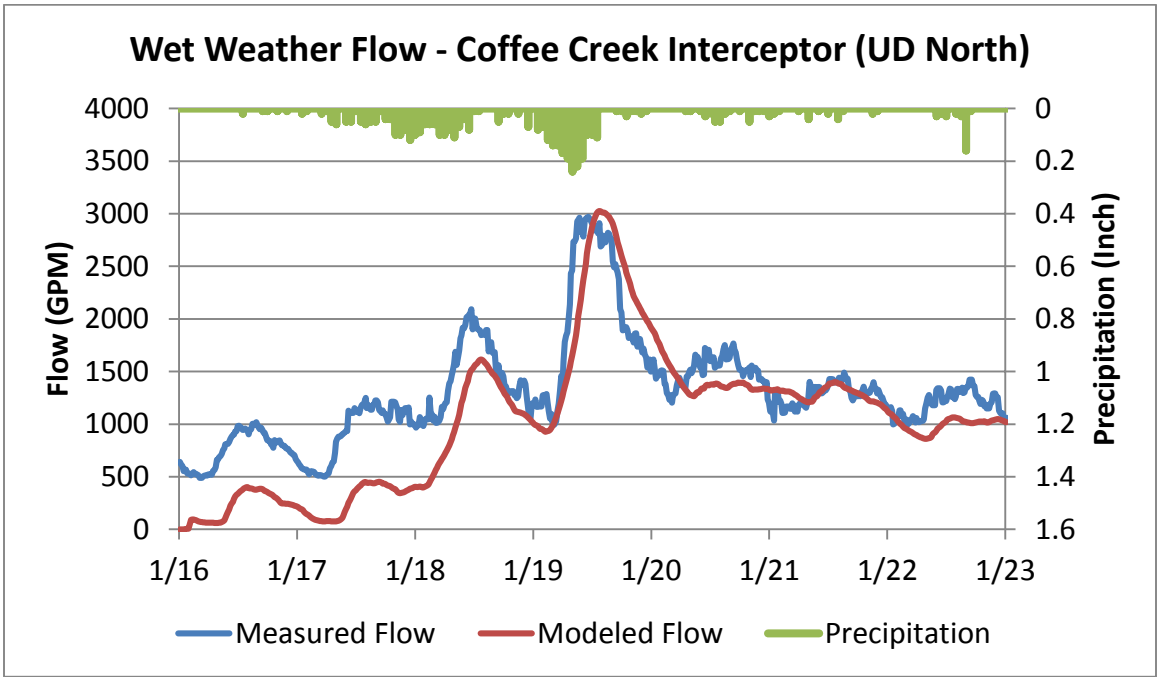


Figure A-16 | Model wet weather flow calibration for Wood School (2012)

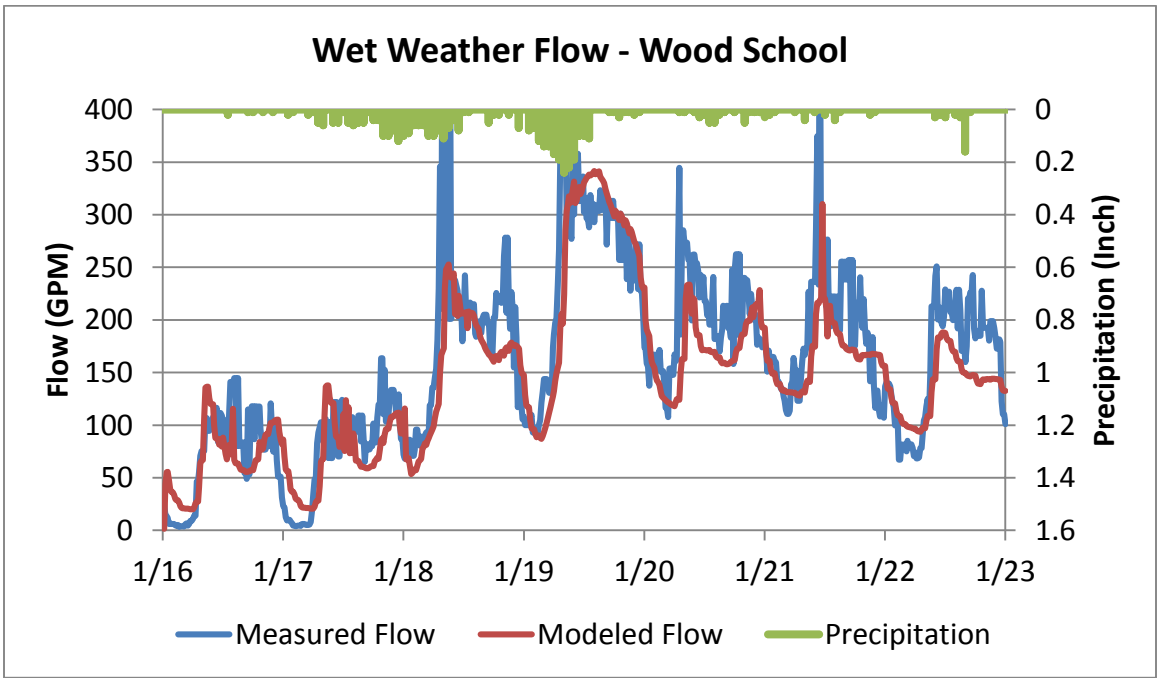
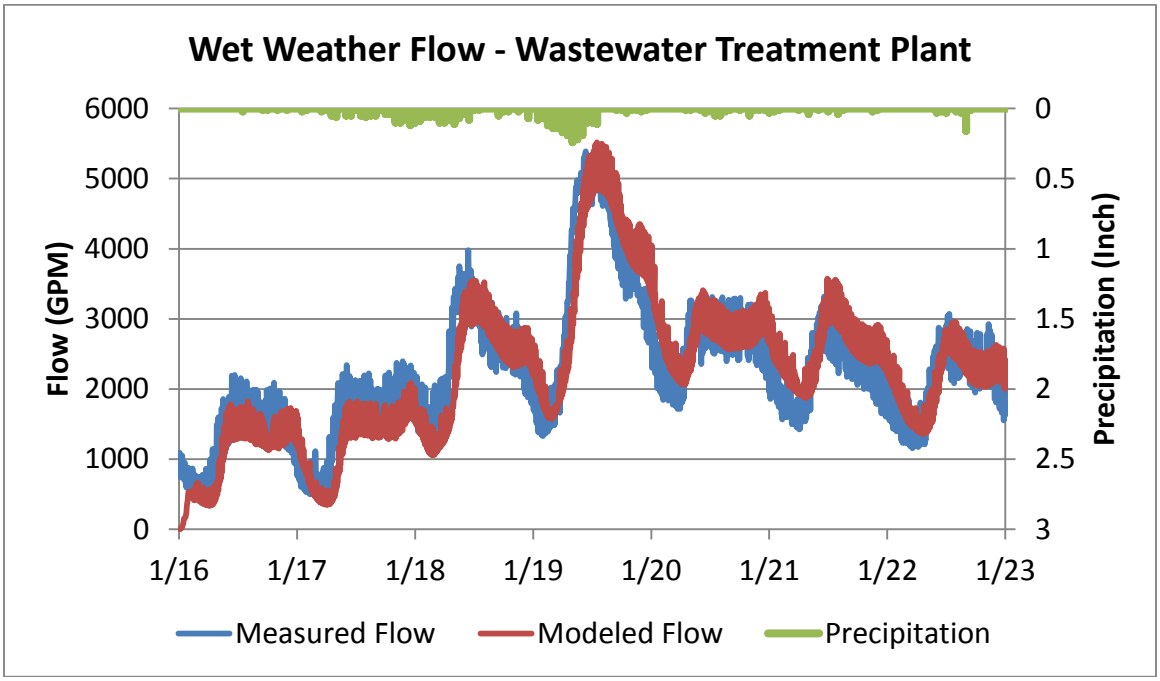


Figure A-17 | Model wet weather flow calibration for WWTP (2012)



Appendix B includes additional model results and flow sensitivity results mapping as referenced in Section 6, "System Analysis."

Figure B-1: Existing Dry Weather Flow Scenario (depth/diameter, d/D ratio model results)
Figure B-2: Build-out Improvements, High Loading (high density sensitivity analysis)
Figure B-3: Build-out Improvements, Mid Loading (medium density sensitivity analysis)
Figure B-4: Build-out Improvements, Low Loading (low density sensitivity analysis)
Figure B-5: Build-out Improvements, UGB Only (high density sensitivity within the UGB)
Figure B-6: Build-out Dry Weather Flow Scenario (d/D results, no improvements)
Figure B-7: Build-out Dry Weather Flow Scenario (d/D results, with improvements)

FIGURE B-1

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM EXISTING DRY WEATHER FLOW SCENARIO

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Canyon Creek

Town Center

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WILLAMETTE RIVER

- W WWTP
- PS Public Pump Station
- PS Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- Urban Growth Boundary
- City Boundary
- Study Area
- Street
- Water Body
- Developed UGB

Dry Weather Results Modeled Trunk line
depth/diameter ratio

- Less than 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

0 2,500 5,000 Feet

N

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FIGURE B-2

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT IMPROVEMENTS (HIGH LOADING)

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 SW Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

Basalt Creek
SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Villebois
Brenchley Estates
Canyon Creek
Town Center
Frog Pond
Advance Rd URA
Advance Road School
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

WALDO TONQUIN GRAHAMS FERRY BOONES FERRY HELENIUS NORWOOD GREENHILL CLAY DAY CAHALIN PIONEER ELLIGSEN COMMERCE CLUTTER RIDDER WHEATLAND FREEMAN NIKE HILLMAN PRINTER XEROX FROGPOND BOECKMAN ADVANCE SUNRIDGE KNOLLWOOD EASTGATE GAGE NODAWAY MORGAN MEADOWBROOK KAME MALLOY WESTFALL TOOZE MOFFETT LISBON BARBER PEYTON VLAHOS BURNS HOMESTEADER BRIAR PATCH KAHLE STAFFORD KRUSE 53RD 60TH BECKE GLASS BROWNDALE FARM EILERS LAWNVIEW PRAIRIE VIEW BUTTEVILLE GRAHAM DENBROOK BELL JAMAICA WILLAMETTE RIVER GORDON

PS U D S W

12 15 18 21 24 27 30 36

Urban Growth Boundary
City Boundary
Study Area
Water Body
Street
Metro Open Space
Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve
Flow Diversion Improvement
Flow Splitter Improvement
Undercrossing Improvement
Pump Station Capacity Improvement
Pipeline Improvement (HIGH LOADING)
WWTP
Public Pump Station
Private Pump Station
Manhole
Pipe Public
Pipe Private
Force Main

0 2,500 5,000 Feet

N

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FIGURE B-3

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT IMPROVEMENTS (MID LOADING)

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 SW Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

Basalt Creek
SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Canyon Creek
Frog Pond
Advance Rd URA
Advance Road School
Brenchley Estates
Villebois
Town Center
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

WALDO TONQUIN GRAHAMS FERRY BOONES FERRY HELENIUS 10TH 11TH NORWOOD 82ND GREENHILL CLAY DAY CAHALIN PIONEER ST HELENS SALISH ELLIGSEN COMMERCE CLUTTER RIDDER WHEATLAND MORGAN MEADOWBROOK SUNRIDGE NODAWAY GAGE EASTGATE KNOLLWOOD HOMESTEADER BRIAR PATCH KAME MALLOY WESTFALL TOOZE FREEMAN 95TH NIKE HILLMAN PRINTER XEROX FROGPOND BOECKMAN ADVANCE STAFFORD KAHLE 53RD 60TH KRUSE MOFFETT 110TH SURREY LISBON PARKWOOD BARBER PEYTON MAXINE VLAHOS TOWNE CENTRE PARK WILSONVILLE SEELY MONTGOMERY ROSE BELL JAMAICA OLYMPIC NUTTING INDUSTRIAL PARKWAY WILLAMETTE RIVER GORDON BECKE GLASS EILERS BROWNDALE FARM BUTTEVILLE GRAHAM DENBROOK PRAIRIE VIEW LAWNVIEW SAGERAWEA FAIRWAY

PS Public Pump Station
PS Private Pump Station
W WWTP
Manhole
Pipe Public
Pipe Private
Force Main
Urban Growth Boundary
City Boundary
Study Area
Water Body
Street
Metro Open Space
Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve
D Flow Diversion Improvement
S Flow Splitter Improvement
U Undercrossing Improvement
PS Pump Station Capacity Improvement
Pipeline Improvement (MID LOADING)

0 2,500 5,000 Feet

N

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FIGURE B-4

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT IMPROVEMENTS (LOW LOADING)

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 SW Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

Basalt Creek
SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Villebois
Brenchley Estates
Canyon Creek
Town Center
Frog Pond
Advance Rd URA
Advance Road School
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

WALDO TONQUIN GRAHAMS FERRY BOONES FERRY 82ND MORGAN SUNRIDGE NODAWAY GAGE EASTGATE KNOLLWOOD MEADOWBROOK WHEATLAND KAME MALLOY WESTFALL TOOZE MOFFETT 110TH SURREY LISBON BARBER PEYTON WILSONVILLE MAIN BOONES FERRY PARKWAY PARK VLAHOS BOECKMAN ADVANCE 53RD 60TH KRUSE HOMESTEADER BRIAR PATCH STAFFORD KAHLE FROGPOND XEROX HILLMAN NIKE FREEMAN PRINTER BURNS ELLIGSEN CLUTTER RIDDER COMMERCE PIONEER ST HELENS SALISH GRAHAM BUTTEVILLE DENBROOK BECKE GLASS BROWNDALE FARM LAWNVIEW PRAIRIE VIEW EILERS GORDON WILLAMETTE RIVER

Legend

- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main
- Urban Growth Boundary
- City Boundary
- Study Area
- Water Body
- Street
- Metro Open Space
- Development (2014)
- Developed UGB
- Undeveloped UGB
- Urban Reserve
- Flow Diversion Improvement
- Flow Splitter Improvement
- Undercrossing Improvement
- Pump Station Capacity Improvement
- Pipeline Improvement (LOW LOADING)

0 2,500 5,000 Feet

N

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FIGURE B-5

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT IMPROVEMENTS (UGB ONLY)

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 SW Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

Basalt Creek
SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Villebois
Brenchley Estates
Canyon Creek
Frog Pond
Advance Road School
Town Center
Memorial Park
WWTP
Charbonneau
Corral Creek
Rivergreen
Moreys Landing
River Village

WALDO TONQUIN HELENIUS 10TH 11TH BOONES FERRY NORWOOD GRAHAMS FERRY GREENHILL 82ND CLAY DAY CAHALIN MORGAM MEADOWBROOK WHEATLANDS KAME MALLOY WESTFALL TOOZE MOFFETT 110TH SURREY LISBON STAFFORD KAHLE FROGPOND XEROX BOECKMAN ADVANCE 53RD 60TH KRUSE SUNRIDGE NODAWAY GAGE EASTGATE KNOLLWOOD ST HELENS SALISH ELLIGSEN COMMERCE CLUTTER RIDDER FREEMAN NIKE 95TH HILLMAN PRINTER BURNS HOMESTEADER BRIAR PATCH PARKWAY CENTER GWENDOLYN ARGYLE I5 BARBER PEYTON MAXINE WILSONVILLE MAIN PARK PARKWAY TOWN CENTER LOOP WEST BAILEY MONTGOMERY ROSE OLD TOWN BROWN ROAD INDUSTRIAL MONTEBELLO SEELY NUTTING OTTO BELL JAMAICA WILLAMETTE RIVER GORDON BECKE GLASS EILERS BROWNDALE FARM BUTTEVILLE GRAHAM DENBROOK PRAIRIE VIEW LAWNVIEW FAIRWAY SAGEBRUSH SAGEWEA HERMITAGE

W WWTP
PS Public Pump Station
PS Private Pump Station
• Manhole

Urban Growth Boundary
City Boundary
Study Area
Pipe Public
Pipe Private
Force Main
Street
Water Body

Metro Open Space
Development (2014)
Developed UGB
Undeveloped UGB

D Flow Diversion Improvement
S Flow Splitter Improvement
U Undercrossing Improvement
PS Pump Station Capacity Improvement
Pipeline Improvement (UGB Only)

0 2,500 5,000 Feet

N

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FIGURE B-6

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT DRY WEATHER FLOW SCENARIO DEFICIENCIES

Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Frog Pond

Advance Rd URA

Advance Road School

Villebois

Brenchley Estates

Canyon Creek

Town Center

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WILLAMETTE RIVER

TONQUIN

WALDO

GREENHILL

CLAY

DAY

COMMERCE

ELLIGSEN

CLUTTER

RIDDER

FREEMAN

PRINTER

XEROX

FROGPOND

BOECKMAN

TOWN CENTER

COURTSIDE

CAMELOT

MALLOY

WESTFALL

TOOZE

KAME

MORGAN

WHEATLAND

NORWOOD

BRIAR PATCH

GAGE

NODAWAY

ADVANCE

KRUSE

BRUCK

EILERS

GLASS

LAWNVIEW

FAIRWAY

CEDAR BROOK

DENBROOK

BUTTEVILLE

GRAHAM

AIRPORT

PRAIRIE VIEW

CHAMPOEG

GRAHAMS FERRY

BOONES FERRY

PARKWAY

MORGAN

CANYON CREEK

KAHLE

STAFFORD

MONTGOMERY

INDUSTRIAL

KINSMAN

BOBERG

SONNIVILLE

95TH

110TH

60TH

53RD

65TH

76TH

84TH

82ND

I5

PS

W

WWTP

Public Pump Station

Private Pump Station

Manhole

Pipe Public

Pipe Private

Force Main Public

Force Main Private

Street

Water Body

Urban Growth Boundary

City Boundary

Study Area

Metro Open Space

Development (2014)

Developed UGB

Undeveloped UGB

Urban Reserve

Pump Station Capacity Deficiency

Dry Weather Results Unimproved Trunk line

depth/diameter ratio

Less than 0.5

0.5 - 0.6

0.6 - 0.7

0.7 - 0.8

0.8 - 0.9

0.9 - 1.0

0 2,500 5,000 Feet

N

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FIGURE B-7

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM BUILD-OUT DRY WEATHER FLOW SCENARIO IMPROVED

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Basalt Creek

Villebois

Brenchley Estates

Frog Pond

Advance Rd URA

Advance Road School

Canyon Creek

Town Center

Memorial Park

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

WILLAMETTE RIVER

TONQUIN

WALDO

GREENHILL

CLAY

GRAHAMS FERRY

BOONES FERRY

DAY

COMMERCE

CLUTTER

RIDDER

GARDEN ACRES

WHEATLAND

MORGAN

NORWOOD

76TH

84TH

82ND

I5

GAGE

NODAWAY

65TH

ELLIGSEN

BRIAR PATCH

KAHLE

FROGPOND

XEROX

PRINTER

CANYON CREEK

PARKWAY

STAFFORD

BOECKMAN

ADVANCE

53RD

60TH

KRUSE

BRUCK

EILERS

GLASS

TOWN CENTER

COURTSIDE

KINSMAN

BOBERG

MONTEBELLO

CAMELOT

INDUSTRIAL

MONTGOMERY

MEMORIAL

FAIRWAY

LAWNVIEW

AIRPORT

PRAIRIE VIEW

FRENCH PRAIRIE

FREEMAN

95TH

KAME

TOOZE

MALLOY

WESTFALL

BUTTEVILLE

GRAHAM

CHANTILLY

JAMAICA

CEDAR BROOK

LAKE OSWEGO

TUALATIN

SHERWOOD

PS

U

D

S

W

- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- Pump Station Improvement
- Flow Diversion Improvement
- Flow Splitter Improvement
- Undercrossing Improvement
- Improved Pipe Segment
- Urban Growth Boundary
- City Boundary
- Study Area
- Street
- Water Body

Development (2014)

- Developed UGB
- Undeveloped UGB
- Urban Reserve

Dry Weather Results Improved Trunk line
depth/diameter ratio

- Less than 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

0 2,500 5,000 Feet

N

INTRODUCTION

This section summarizes the approach used in development of unit costs and project costs used in the Capital Improvement Plan (CIP).

All project descriptions and cost estimates in this document represent a Class 5 budget estimate, as established by the American Association of Cost Engineers. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

Cost estimates are intended to be used as guidance in establishing funding requirements based on information available at the time of the estimate. The procedure used to generate cost information presented herein is consistent with the definition of "rough cost estimates" under OAR 660-011-0005(2) and OAR 660-011-035. The final cost of individual projects will depend on actual labor and material costs, site topography, existing utility installations within the limits of work, competitive market conditions, regulatory requirements, project schedule, contractor bidding strategies and other factors. All cost estimates are in 2014 dollars.

Due to the project definition maturity level at this phase in system planning, the following considerations are excluded from the opinion of costs:

- Land or Right-of-Way Acquisition;
- Required improvements or upgrades to the WWTP to accommodate system expansion;
- Studies, planning or modeling of the Transportation System, Collection System, Water System, or Stormwater System;
- Borrowing or finance charges during the planning, design, or construction of assets;
- Improvements to distribution, conveyance, pumping, storage, or treatment facilities in response to changes in regulatory standards or rules;
- Remediation or fines associated with system violations.

PROJECT COST DEVELOPMENT

Project costs were developed through a progression of steps, starting with development of construction costs. Construction costs consist of the sum of materials, labor and equipment of easily identifiable features of a project. The estimated costs for each improvement are based on averages from the *RS Means Heavy Construction Cost Data* (Reed Construction Data, 2014), supplemented with quotes from local suppliers, City input and construction costs for similar projects near Wilsonville. Information from RS Means is derived from a national average of construction cost indexes from over 700 cities. As of the date of

publication, construction costs for labor and materials in proximity to the City of Portland correlate essentially on par with the national average, therefore a city cost index to adjust unit prices from RS Means to Wilsonville was not used. The historical cost index for the date of publication is 202.7 (January 2014).

Component Unit Costs

The unit costs are applied to improvement pipe lengths for varied depths and manhole spacing at approximately 400 feet. The unit costs account for the materials, labor, and equipment necessary to complete the improvements. Unit costs for wastewater collection system improvements are shown in Tables C-1 through C-6. These costs include considerations for:

- Trench saw cutting, excavation and hauling of waste;
- Encountering rock at 10-foot excavation depths;
- Importing and placement of pipe zone bedding;
- Importing and placement of trench backfill when encountering rock excavations;
- Pipe material and installation labor;
- Trench safety systems (temporary shoring or trench box);
- Testing and video inspection;
- Surface restoration of unpaved streets, or paved local versus arterial roads;
- Dewatering;
- Bypass pumping on pipe replacement projects.
- Subcontractor's markup for profit and overhead

The CIP presents projects defined into three categories; existing system capacity upgrades, condition based improvements, and new infrastructure for future development. The unit costs were applied differently depending on the category of project, as summarized below:

- Cost estimates for projects specifying replacement of existing pipes for condition utilize the unit costs tabulated in Tables C-1, C-2, C-3 and C-4.
- Cost estimates for projects specifying pipe trunk line upsizing or new infrastructure utilize the unit costs contained within Tables C-1, C-2, C-5 and C-6.

Table C-1 | 2014 Unit Costs for Surface Restoration of Pipelines ($/linear-foot)		
Surface Restoration Cost with Road Category		
Local – 4" Asphalt	Arterial – 6" Asphalt	Unpaved
$53	$62	$5

Table C-2 | 2014 Unit Costs for Force Mains ($/linear-foot)		
Pipe Diameter (inch)	Material	Installation and Equipment Cost with Depth Category
		<10 ft
4	$6	$126
6	$11	$138
8	$15	$147
10	$22	$158
12	$26	$169
16	$54	$186
18	$60	$204
21	$63	$221
24	$86	$238

Table C-3 | 2014 Unit Costs for Condition Based Replacement of Existing Gravity Pipelines ($/linear-foot)					
Pipe Diameter (inch)	Material Cost	Installation and Equipment Cost with Depth Category			
		<10 ft	10-15 ft	15-20 ft	20-25 ft
8	$11	$57	$94	$161	$258
10	$19	$62	$100	$167	$265
12	$26	$67	$104	$172	$270
15	$22	$73	$112	$181	$280
18	$27	$81	$121	$190	$290
21	$30	$88	$128	$198	$299
24	$39	$97	$137	$208	$309
27	$47	$110	$152	$223	$325
30	$62	$118	$161	$233	$336
36	$75	$120	$164	$238	$342
42	$87	$132	$178	$253	$359
48	$117	$151	$198	$275	$382

Table C-4 | 2014 Unit Costs for Condition Based Repair of Existing Manholes ($/each)					
Manhole Diameter (inch)	Corresponding Pipe Size	Installation and Equipment Cost with Depth Category			
		<10 ft	10 to 15 ft	15 to 20 ft	20 to 25 ft
48	Pipe Ø< 24”	$735	$940	$1,145	$1,350
60	24” ≤ Pipe Ø < 48”	$1,060	$1,375	$1,680	$1,980
72	Pipe Ø ≥ 48”	$1,825	$2,620	$3,485	$4,415

Table C-5 | 2014 Unit Costs for New and Upsized Gravity Pipelines ($/linear-foot)					
Pipe Diameter (inch)	Material Cost	Installation and Equipment Cost with Depth Category			
		<10 ft	10-15 ft	15-20 ft	20-25 ft
8	$11	$147	$267	$414	$587
10	$19	$158	$285	$439	$619
12	$26	$169	$302	$463	$651
15	$22	$186	$331	$502	$701
18	$27	$204	$359	$541	$750
21	$30	$221	$386	$579	$799
24	$39	$238	$415	$618	$849
27	$47	$260	$448	$662	$903
30	$62	$277	$475	$700	$952
36	$75	$299	$519	$765	$1,038
42	$87	$331	$572	$839	$1,134
48	$117	$367	$629	$918	$1,234

Table C-6 | 2014 Unit Costs for New Manholes ($/each)									
Manhole Diameter (inch)	Corresponding Pipe Size	Material Cost with Depth Category				Installation and Equipment Cost with Depth Category			
		<10 ft	10 to 15 ft	15 to 20 ft	20 to 25 ft	<10 ft	10 to 15 ft	15 to 20 ft	20 to 25 ft
48	Pipe Ø< 24”	$2,100	$2,800	$3,425	$3,975	$4,715	$6,375	$8,250	$12,010
60	24” ≤ Pipe Ø < 48”	$3,850	$5,200	$6,625	$7,950	$6,050	$9,600	$13,670	$17,200
72	Pipe Ø ≥ 48”	$4,950	$6,985	$8,860	$10,580	$6,250	$10,700	$16,360	$19,170

Unit Cost Notes Applicable to Tables C-1 through C-6:

1. Unit costs exclude lateral tie-ins.
2. Unit costs exclude utility relocation associated with potential conflicts.
3. Road resurfacing assumes:
   a. Local = 4-inch AC + 12-inch base course
   b. Arterial = 6-inch AC + 12-inch base course
   c. Unpaved = 8-inch base course.
4. All trench work is assumed to be vertical (no side slope) with either trench box or temporary shoring.
5. The pipe material for gravity sewer was assumed to be PVC (ASTM D-3034, SDR 35) for 15-inch diameter pipe and smaller, and Class III (ASTM C-76) reinforced concrete for pipe with a diameter greater than 15 inches.
6. The pipe material assumed for new sewer force mains was PVC (AWWA C-900) for 4-inch to 12-inch diameter pipe**.** Force mains were assumed to be at a minimum cover depth of four feet.
7. Manhole installation assumes that surface restoration effort is covered under the surface restoration cost associated with the pipeline (Table A-1).
8. The bypass pumping is for above grade application (no trenchwork) and includes the cost of the piping, installation and removal.

Lift Stations

Where improvements to existing pump stations are recommended, costs include allowances for mechanical piping, electrical, and system controls. These estimates exclude expansion of the pump house or wet well. New pump station projects include provisions for architectural housing of the mechanical devices.

New lift station project costs were developed through comparison of recently constructed projects of similar size and scope around the Northwest. The lift stations are served by force mains ranging in diameter from 4 to 12 inches. For conservative planning cost estimates it was generally assumed the lift station would utilize concrete wet well construction and submersible pumping equipment with power provided by a dedicated supply and a backup standby generator. Installations are assumed to include liquid level, pressure and flow monitoring and a bypass pumping port. The costs include basic site, civil, mechanical, electrical, and instrumentation and control conditions and already include mobilization, contractor overhead and profit, contingency, engineering, legal and administration fees.

Rock Excavation

Specific geotechnical investigations were not provided during this master planning effort; however the Natural Resource Conservation Service (NRCS) Soil Survey was referenced for any obvious conflicts for pipe installation with lithic bedrock. Additionally, well logs were referenced from the Oregon Water Resources Department with mixed results. There are numerous domestic water wells within the study area reporting encountering rock within 10 feet of the ground surface. For this reason, unit costs associated with construction of new and upsized pipelines conservatively included rock excavation. Pipeline replacement costs for condition-based improvements excluded rock excavation since presumably any rock encountered during installation of the existing pipeline has been removed and replaced with granular backfill.

Trenchless Construction Methods

Where existing pipes are recommended to be replaced with new larger pipes, upsizing within two pipe diameters of the original pipe size is assumed to be a candidate for pipe bursting. In the absence of site specific geotechnical information which would preclude this construction practice, this trenchless approach is typically less expensive than open trench construction. Pipe bursting costs are highly variable and rely upon site specific influences such as soil type, installation depth, length of construction, and ability to excavate departure and receiving pits.

The information presented in Table C-7 is provided for the City's reference in budgeting future pipe replacement projects utilizing the pipe bursting approach. Due to the absence of geotechnical information for the projects presented in the CIP, these prices have been excluded from use during preparation of project cost estimates.

Table C-7 | 2014 Unit Costs for Replacing Existing Gravity Pipelines Using Pipe Bursting ($/linear-foot)			
	From Existing Pipe Dia. To New Pipe Dia. (Inch)	Material Cost	Installation and Equipment Cost
Increase One Pipe Diameter	8 to 10	$19	$47
	10 to 12	$26	$53
	12 to 15	$41	$61
	15 to 18	$46	$70
	18 to 21	$48	$95
	21 to 24	$66	$107
	24 to 27	$74	$125
	27 to 30	$89	$143
Increase Two Pipe Diameter	8 to 12	$26	$81
	10 to 15	$41	$90
	12 to 18	$46	$102
	15 to 21	$48	$115
	18 to 24	$66	$155
	21 to 27	$74	$172
	24 to 30	$89	$198
	27 to 36	$130	$225

CONSTRUCTION COST ALLOWANCES

Costs for commonly occurring general work elements in wastewater collection projects were factored into the construction costs through the use of assumed allowances. Table C-8 presents a summary of these allowances, and when they are combined with the unit costs and multiplied by the improvement lengths, create an estimated "bid price" for the work. Detailed information justifying the assumed allowance values is provided below.

Table C-8 | Construction Cost Allowances	
Additional Cost Factor	Percent
Traffic Control	2%
Erosion Control	5%
General Contractor's Overhead	10%
General Contractor's Profit	8%
Mobilization	10%

Traffic Control

Traffic control will be required for all projects that occur in roadways. The traffic control mark-up is intended to account for such costs as signage, flagging and temporary barriers, pavement markings, lane delineators and lighting at flagging locations.

Erosion Control

The erosion control mark-up accounts for materials and practices to protect adjacent property, stormwater conveyance systems, and surface water in accordance with regulatory requirements. The City of Wilsonville's NPDES Permit stipulates that construction site runoff control is required for activities that result in a land disturbance exceeding 1,000 square feet. More complex projects may require the development of a stormwater pollution prevention plan, 1200-C permit application and reporting, installation of erosion control best management practices (BMPs), and routine maintenance, testing and inspection of all installed BMPs.

General Contractors Overhead

Overhead costs associated with the General Contractor's day-to-day operations such as staff salary, taxes, benefits, insurance, marketing, and proposal preparation are an inherent cost of running their business. Contractors will typically markup their subcontractor's costs as a management expense as a way to keep their business running.

General Contractors Profit

In addition to the overhead costs, contractors will typically markup their subcontractors to realize a profit for their effort. This is one of the most highly variable parts of a budget and depends upon the type of project, its size, the amount of risk involved, how much money the contractor wants to make, the general market conditions, and bidding strategies.

Mobilization

Before construction of a project may begin, setup and preparatory activities are necessary to become ready to perform the work. Mobilization is a general term that used to capture many variables but typically relates to:

- Moving staff, equipment, supplies, and incidentals to the project site
- Establishing site trailers or offices or other facilities necessary for the project
- Incurring costs as necessary before beginning work on the project. This may include expenses associated with acquisition of bonds and insurance.

PROJECT COST ALLOWANCES

The project cost is the sum of construction component unit costs with additional cost allowances for contingency, engineering, permitting, legal and administration fees. Table C-9 below presents the cost allowances for each additional project cost. These project cost

allowances are factored on top of the total construction cost, not the individual unit costs. The engineering costs include design and surveying. Construction administration is the cost associated with managing the construction of the project. The administration and legal costs are those associated with the City providing financial and legal oversight of the contract.

Table C-9 | Project Cost Allowances	
Additional Cost Factor	**Percent**
Engineering, Legal, Permitting and Construction Services	20%
Contingency	30%
City Internal Overhead	12%

Engineering, Legal, Permitting and Construction Services

This category is intended to capture the costs needed for development of all the upfront project related documentation to make a project bid ready. Construction drawings, specifications and permit applications are both time and resource intensive, often requiring months of preparatory work before a project may be bid. Additional services typically provided by the engineering team during construction include site inspections, assisting the contractor in interpretation of the contract documents and preparation of record drawings.

Contingency

A contingency was included in each project's cost to account for the uncertainties inherent within the preliminary level of the estimate. Contingency is a term used in estimating that refers to costs that will probably occur based on past experience, but with some uncertainty regarding the amount. This factor was applied to all estimated project costs except for the City Internal Overhead. The contingency is provided to account for factors such as:

- Unanticipated utilities;
- Relocation and connection to existing infrastructure;
- Minor elements of work not addressed in component unit cost development;
- Details of construction;
- Changes in site conditions;
- Variability in construction bid climate.

The contingency excludes:

- Major scope changes such as end product specification, capacities and location of project;
- Extraordinary events such as strikes or natural disasters;
- Management reserves;
- Escalation and currency effects.

City Internal Overhead

The City of Wilsonville has an assortment of departments and personnel that are involved in the realization of a construction project. This cost allowance is intended to capture the effort

needed on the part of the City related to project management, plan review, permit processing, code compliance, construction inspections and financial management.

PROJECT COST MULTIPLIER

For simplicity in estimating overall project costs, a multiplier can be applied against the construction costs determined from unit pricing. This multiplier accounts for the allowances for both construction costs and project costs into one easily used factor. An example calculation showing how this multiplier was developed is provided in Table C-10 below.

Table C-10 | Project Cost Multiplier

Construction and Project Cost Allowances	Allowance Factor	Cost
Example Construction Cost Total	-	$1,000,000
Traffic Control	2%	$20,000
Erosion Control	5%	$50,000
Mobilization	10%	$100,000
	Subtotal	*$1,170,000*
General Contractor's Overhead	10%	$117,000
General Contractor's Profit	8%	$94,000
Engineering, Legal, Permitting and Construction Services	20%	$234,000
	Subtotal	*$1,615,000*
Contingency	30%	$485,000
	Subtotal	*$2,100,000*
City Internal Overhead	12%	$252,000
	Project Cost Subtotal	**$2,352,000**

Project Cost Multiplier	
Total Project Cost divided by	$2,352,000
Unit Construction Costs	$1,000,000
= Project Cost Multiplier	**2.4**

City of
WILSONVILLE
in OREGON

MSA
MURRAY, SMITH & ASSOCIATES, INC.
ENGINEERS|PLANNERS

Planning Commission
Wastewater Collection System Master Plan Update
Record Index

November 12, 2014 Committee for Citizen Involvement Open House

- Distributed to PC prior to Open House:
  - Meeting Announcement
  - Draft Executive Summary to the Wilsonville Wastewater Collection System Master Plan.
  - PowerPoint to be presented at the Open House: November2014 Wilsonville Wastewater Collection System Master Plan

City of WILSONVILLE in OREGON
Planning Division
29799 SW Town Center Lp. E
Wilsonville, OR 97070
503-682-4960

THE WILSONVILLE PLANNING COMMISSION*

In its role as the

Committee for Citizen Involvement (CCI)

is hosting:

Wastewater Collection System Master Plan Public Open House

Wilsonville City Hall Council Chambers
29799 SW Town Center Loop East

Wednesday, November 12, 2014
6:00 p.m.

The Committee for Citizen Involvement invites you to a public Open House to learn about, ask questions, and comment on the future planning for this piece of essential City infrastructure. To help ensure there is a system to meet the City's needs over the next 20 years, the City would like the community to become aware of and give their input on the wastewater collection system plan and projects.

The project will result in a Wastewater Collection System Master Plan that will identify system needs and a 20-year list of prioritized capital improvement projects that will be used to efficiently program improvements and maintain infrastructure with long-term capacity to serve the City over time.

*** The regular November 12, 2014 Planning Commission meeting has been cancelled.**

INTRODUCTION

The purpose of this wastewater Collection System Master Plan (CSMP) is to provide the City of Wilsonville (City) a guidance document that summarizes the needs of the collection system and assists in its sound stewardship. The primary goals of this CSMP are to: present criteria required for evaluating the system; identify current and future system deficiencies and describe recommended improvements to correct them; and provide planning-level cost information for general budgeting and the development of a prioritized Capital Improvement Program (CIP).

Study Area

The study area for the CSMP, presented in Figure ES-1, includes the urban growth boundary (UGB), where the City currently provides wastewater collection service. Also included within the study area are urban reserve areas (URAs) identified by the Metropolitan Service District (METRO). Build-out of the UGB is estimated to occur over the next 20 years. Over the planning horizon, consideration will be given to incorporating the adjacent URAs into the UGB. Because wastewater flows from the URAs would likely impact the collection system, these future growth areas are also included within the study area.

The study area has been delineated at the northern border with the City of Tualatin, allowing service by gravity conveyance based on topography. The exact delineation of the Tualatin/Wilsonville service area will be further refined as future planning of the Basalt Creek Planning Area continues over the next several years.

Wastewater Collection System and Sewer Basins

Wastewater generated within Wilsonville is conveyed through a City-owned and operated sewer collection system. These wastewater flows are transmitted through both gravity and pumped pipelines to the Wilsonville Wastewater Treatment Plant (WWTP). The existing and future wastewater service areas are divided into seven primary basins, covering nearly 12 square miles. The primary basins and associated main interceptors are identified in red text in Figure ES-2.

The collection system is comprised of gravity pipes between 4 and 36 inches in diameter. The total length of the gravity collection system is approximately 69.5 miles, nearly 70% of which consists of pipelines 8-inches in diameter and smaller. The oldest portion of the collection system is referred to as Old Town and is located around the WWTP, Boones Ferry Road, Town Center and Charbonneau areas. The pipes within these areas are 35 to 40 years old and comprised primarily of original concrete pipe and manholes. As the collection system has expanded over time, newer piping generally consists of polyvinyl chloride (PVC) with concrete manholes.

FIGURE ES-1

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM STUDY AREA

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 S.W. Salmon, Suite 900 PHONE 503.225.9010
Portland, Oregon 97204-2919 FAX 503.225.9022

OCTOBER 2014

ONEIDA
COMLITZ
TONQUIN
WALDO
NORWOOD
84TH
I5
82ND
GREENHILL
CLAY
GRAHAMS FERRY
BOONES FERRY
DAY
COMMERCE
GARDEN ACRES
ELLIGSEN
CLUTTER
RIDDER
WHEATLAND
MORGAN
GAGE
NODAWAY
65TH
BRIAR PATCH
CANYON CREEK
95TH
FREEMAN
PRINTER
KAME
TOOZE
MALLOY
WESTFALL
FROGPOND
XEROX
PARKWAY
STAFFORD
BOECKMAN
ADVANCE
110TH
KINSMAN
BOBERG
60TH
53RD
KRUSE
TOWN CENTER
WILSONVILLE
BRUCK
CAMELOT
MONTEBELLO
COURTSIDE
INDUSTRIAL
MEMORIAL
MONTGOMERY
EILERS
JAMAICA
WILLAMETTE RIVER
FRENCH PRAIRIE
GLASS
BUTTEVILLE
FAIRWAY
MILEY
LAWNVIEW
AIRPORT
PRAIRIE VIEW
GRAHAM
CEDAR BROOK
DENBROOK
HWY 551
COUNTRYSIDE
KNIGHTS BRID

County Boundary
City Boundary
Street
Water Body
Study Area
Urban Growth Boundary
Urban Reserve Area
Taxlot

0 2,500 5,000 Feet

N

G:\PDX_Projects\13\1488\GIS\MXD\Wilsonville_StudyArea_FigureES-1.mxd 11/3/2014 9:44:11 AM SJR

The City owns and operates eight public pump stations (lift stations) of various sizes, which discharge wastewater through pressurized force main piping to the gravity trunk system. The largest and most significant pump station within the system is the Memorial Park Pump Station. In addition to these public pump stations, there are several privately-owned pump stations within the City maintained by their respective owners. Figure ES-2 shows the pump station locations throughout the system.

Flow Projection and Capacity Analysis

The CSMP documents existing wastewater flows and future flow projections based on designated land use. For future flow assumptions, all currently unsewered parcels within the UGB were assumed to be sewered. The capacity of the collection system was evaluated using an estimate of the total peak wastewater flow projected for both existing and future conditions.

The peak wastewater flow is a combination of dry weather flow (DWF), groundwater infiltration (GWI), and wet weather flow (WWF). DWF is the assumed wastewater base flow contributed by residents and businesses, and varies throughout the day in response to personal habits and business operations. GWI is water which enters the collection system through defective pipes, pipe joints, and manhole walls. GWI varies with groundwater depth and is generally seasonal in nature. WWF is stormwater inflow which enters the collection system during or immediately following a precipitation event. This water enters the system through leaky manhole covers and defective underground pipes, as well as through illegal direct connections such as roof drains, yard and area drains, and storm drains. Figure ES-3 illustrates how these flow components are combined to estimate the peak wastewater flow for all areas in the collection system.

Existing peak wastewater flows were derived from water usage records and flow measurement data collected at the wastewater treatment plant and at 11 flow measurement sites over the past 7 years. Future flows were estimated assuming complete build-out of the City, including all parcels within the City limits and UGB, and development of specific areas of the URA, as currently defined by the City. Future peak wastewater flows used in analysis of the system were generated using a hypothetical winter rainfall event with a reoccurrence interval once in 10 years, or 10 percent probability, in accordance with City standards.

Three scenarios assuming relative low, medium and high development densities were applied to undeveloped areas, with the medium density scenario representing the average development potential. The low and high density scenarios were used to characterize system sensitivity to higher or lower peak flows, and provide an overall range of capacity-related improvements anticipated to be necessary as the City develops.

A computer model of the collection system was created using the Innovyze InfoSWMM software package to evaluate the capacity of the various system components under peak wastewater flows. To maximize accuracy of the analysis, the model was first calibrated using flow measurement data collected by the City during the most significant winter storm event in the recent past, the January 18-19, 2012 storm.

FIGURE ES-2

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

SANITARY SEWER COLLECTION SYSTEM BASIN AND SYSTEM MAP

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Coffee Creek

Coffee Creek Correctional Facility

Railroad Undercrossing

Canyon Creek

Boeckman

Villebois

Boberg Diversion

Parkway Interceptor I-5 Undercrossing

Canyon Creek/ Town Center

Town Center

Canyon Creek Flow Splitter

Wood School Interceptor

Seely Ditch Undercrossing

Old Town

Memorial Drive Flow Splitter

Wood School

Memorial Park

Beockman Creek Interceptor I-5 Undercrossing

Corral Creek

Rivergreen

Moreys Landing

River Village

Charbonneau

Coffee Creek Interceptor

Parkway Interceptor

Canyon Creek Interceptor

Boeckman Interceptor

WILLAMETTE RIVER

W WWTP

PS Public Pump Station

PS Private Pump Station

· Manhole

D Flow Diversion

S Flow Splitter

U Undercrossing

Pipe Public

Pipe Private

Forcemain Public

Forcemain Private

Study Area

Urban Growth Boundary

City Boundary

Street

Water Body

Sewer Basin

Charbonneau

Canyon Creek/Town Center

Coffee Creek

Boeckman

Villebois

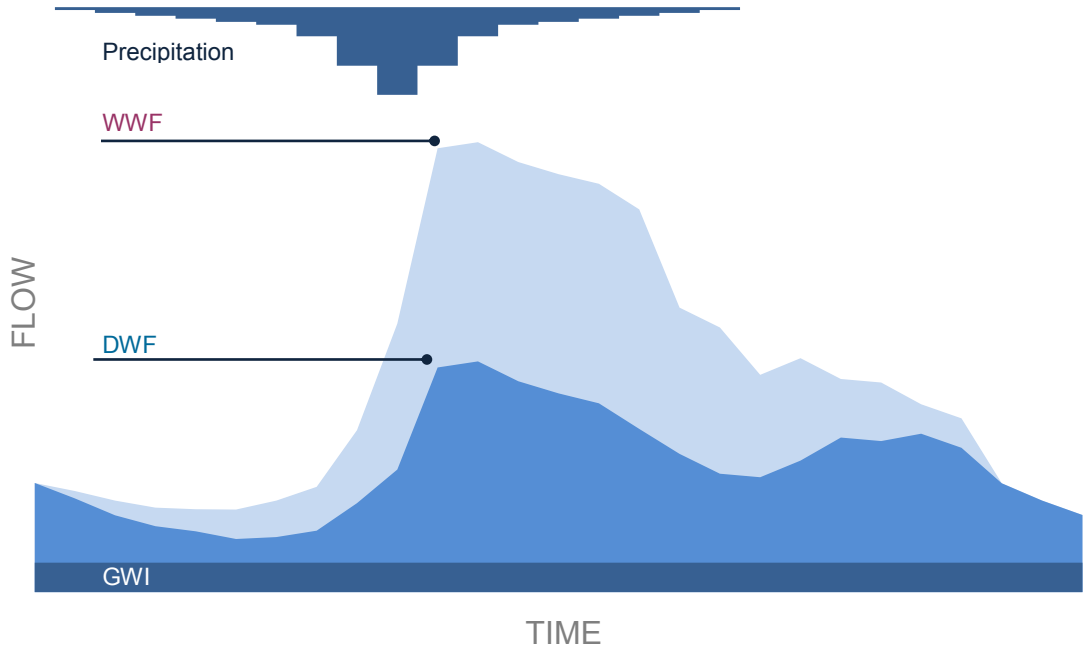
Old Town

Wood School

0 2,500 5,000 Feet

N

Figure ES-3 | Generic Schematic of Wastewater Flow Components



The system analysis identified components which do not meet minimum criteria as defined by City Public Works Standards and the Oregon Department of Environmental Quality (DEQ). The primary standard is that the depth of flow in all pipes must be less than the pipe diameter at peak flow. Where the pipe is flowing at greater than full depth, this condition is called "surcharged", and the pipe is considered to be capacity-deficient. Pump stations are considered deficient when they are not able to handle the peak flow with their largest pump out of service. Other criteria were also evaluated to identify areas where additional maintenance and flushing may be required due to low pipeline velocities.

Historic and Future Population Data

For consistency purposes, this wastewater CSMP utilized population projections previously developed for the City's 2012 Waster Master Plan (WSMP). Based on land use and densities outlined in the WSMP, a population build-out condition of 52,400 residents for the study area may be reached in the year 2045, assuming an annual growth rate of 2.9%.

The City selected the high density growth scenario for capital improvement selection and sizing. The peak total flow projections (DWF+WWF) at build-out conditions under the high density scenario are 17.9 million gallons per day (mgd) within the UGB and 23.5 mgd within the UGB and potential URA. Those improvements identified in the high density scenario, but not identified in the medium and low density scenarios were given lowest priority in the CIP. Improvements identified in all three scenarios or to serve future areas within the UGB were given highest priority in the CIP. Sizing improvements based on these flow projections

accommodates the future population projections as well as industrial and commercial growth potential.

Condition Assessment Results

A general condition assessment for the gravity piping and pump stations was conducted. The majority of the City's gravity piping system is reported to function in good condition; however, known problem areas were identified within the Charbonneau basin and select areas containing concrete piping installed in the 1970s. Several pump stations that require regular maintenance were indicated. All of the City's pump stations are projected to require some level of condition-based upgrades within the CIP timeframe due to the wear of mechanical and electrical components.

Capacity Analysis Results and Capital Improvement Plan Summary

The capacity analysis indicated that there are no capacity-related restrictions under existing development conditions. To accommodate full build-out of the UGB, the collection system requires capacity upgrades at an estimated cost of $9.9 million over the next ten years. The collection system would require an additional $19.1 million of capacity upgrades over the next 20 years to accommodate areas within the URA but outside the UGB. Capacity upgrade improvements related to future growth are funded by development through system development charges (SDCs). Memorial Park Pump Station, diversion structure, and flow splitter improvements in the CIP are required for both capacity and condition-based issues. The capacity portion of these improvements are also funded by development through SDCs. An additional $15.0 million in condition-based only improvements were identified over the 20-year planning horizon. The recommended CIP for the short-term period (next 5 years) includes $8.0 million in capacity and condition-based improvements.

Placeholder costs for new collection system infrastructure needed to serve future development within the study area were estimated. The new infrastructure costs will be entirely paid for by new development through a combination of SDCs and infrastructure constructed by developers. These costs are estimated at $114 million and are currently under review.

The overall CIP cost estimates for the 20-year period between 2014 and 2034 are summarized in Table ES-1. Capital improvements are illustrated in Figures ES-4 (capacity upgrades), ES-5 (condition-based improvements), and ES-6 (new infrastructure).

It is recommended the City implement the short-term improvements identified in the CIP to address capacity and condition issues. It is also recommended that the City continue to improve the quality of available collection system information, through continued flow monitoring, and maintaining a consistent program of performing closed-circuit television (CCTV) inspections of all pipelines. Additionally, it is recommended the City reassess long-term improvements (beyond 6 years) by periodically updating the hydraulic model using actual development conditions and additional flow monitoring information.

Table ES-1 Capital Improvement Program Summary (Estimated Costs)[1]					
Improvement Category	Prioritization Category	Time Frame (Cost)			Total Cost
		0-5 Years	6-10 Years	11-20 Years	
Existing System Upgrades for Future Development[2]	UGB	$3,100,000	$6,830,000	---	$9,930,000
	Advance Road URA	---	$7,510,000	---	$7,510,000
	URA	---	$500,000	$11,225,000	$11,725,000
	Total	$3,100,000	$14,840,000	$11,225,000	$29,165,000
Condition Based	UGB	$4,876,000	$3,125,000	$6,993,000	$14,994,000
New Infrastructure for Future Development[3]	UGB	$29,170,000	$32,620,000	---	$61,790,000
	Advance Road URA	---	$7,440,000	---	$7,440,000
	URA	---	---	$44,840,000	$44,840,000
	Total	$29,170,000	$40,060,000	$44,840,000	$114,070,000

Note 1. Cost estimates represent a Class 5 budget estimate, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate.

Note 2: Capacity upgrade improvements related to future growth are funded by development through SDCs. Memorial Park Pump Station, diversion structure, and flow splitter improvements in the CIP are required for both capacity and condition-based issues and listed in the "Existing System Upgrades for Future Development" category. The capacity portion of these improvements are also funded by development through SDCs.

Note 3: New infrastructure costs are funded through SDCs and infrastructure constructed by developers. These cost estimates are under review.

Note: See Section 7, "Capital Improvement Program" for additional cost assumptions and notes.

FIGURE ES-4

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS EXISTING SYSTEM CAPACITY UPGRADES

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Railroad Undercrossing

Canyon Creek

Boberg Diversion

Brenchley Estates

Town Center

Memorial Dr Flow Splitter

Memorial Park

Seely Ditch Undercrossing

Corral Creek

Rivergreen

Moreys Landing

WWTP

River Village

Charbonneau

SW Tualatin

Basalt Creek

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Villebois

Frog Pond

Advance Rd URA

Advance Road School

Phase 1

Phase 2

Phase 3

Coffee Creek Interceptor

Parkway Interceptor

Boeckman Interceptor

W Wilsonville Public Pump Station Private Pump Station Manhole

Pipe Public Pipe Private Forcemain Public Forcemain Private

Urban Growth Boundary City Boundary Study Area Metro Open Space

Development (2014) Developed UGB Undeveloped UGB

Urban Reserve

Other Improvement: D Flow Diversion; S Flow Splitter; U Undercrossing

Pump Station Improvement: PS UGB; PS URA

Pipeline Improvement: UGB, Gravity; Advance Road URA, Gravity; Advance Road URA, Forcemain; URA, Gravity

0 2,500 5,000 Feet

N

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FIGURE ES-5

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS CONDITION BASED

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Basalt Creek

SW Tualatin

Coffee Creek Correctional Facility

West Railroad

Coffee Creek

Villebois

Brenchley Estates

Frog Pond

Advance Rd URA

Advance Road School

Boeckman Interceptor

Coffee Creek Interceptor

Parkway Interceptor

Canyon Creek

Boberg Diversion

Town Center

Memorial Dr Flow Splitter

Seely Ditch Undercrossing

Corral Creek

Rivergreen

Moreys Landing

WWTP

River Village decommission

Grinder Pump @ Park

Charbonneau

Memorial Park

WILLAMETTE RIVER

TONQUIN

WALDO

GREENHILL

CLAY

GRAHAMS FERRY

BOONES FERRY

DAY

COMMERCE

GARDEN ACRES

CLUTTER

RIDDER

WHEATLAND

MORGAN

ELLIGSEN

PRINTER

FREEMAN

95TH

PARKWAY

XEROX

FROGPOND

BOECKMAN

STAFFORD

TOWN CENTER

COURTSIDE

CAMELOT

MONTEBELLO

KINSMAN

BOBERG

110TH

MONTGOMERY

HEMLOCK

TOOZE

KAME

MALLOY

WESTFALL

GRAHAM

CEDAR BROOK

BUTTEVILLE

FRENCH PRAIRIE

FAIRWAY

LAWNVIEW

AIRPORT

PRAIRIE VIEW

EILERS

GLASS

BRUCK

KRUSE

53RD

60TH

65TH

76TH

82ND

84TH

NORWOOD

GAGE

NODAWAY

ADVANCE

BRIAR PATCH

KAHLE

CANYON CREEK

I5

- W WWTP
- PS Public Pump Station
- PS Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Forcemain Public
- Forcemain Private
- Urban Growth Boundary
- City Boundary
- Study Area
- Metro Open Space

Development (2014)

- Developed UGB
- Undeveloped UGB
- Urban Reserve

Other Improvement (0-5 Years)

- D Flow Diversion
- S Flow Splitter
- U Undercrossing

Pump Station Improvement

- PS 0-5 Years
- PS 6-10 Years
- PS 11-20 Years

- Pipe Replacement (Concrete)
- Charbonneau Pipe Replacement

0 2,500 5,000 Feet

N

FIGURE ES-6

City of WILSONVILLE in OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS NEW INFRASTRUCTURE

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

SW Tualatin
Coffee Creek Correctional Facility
West Railroad
Basalt Creek
Coffee Creek
Coffee Creek Interceptor
Parkway Interceptor
Canyon Creek
Frog Pond
Advance Rd URA
Advance Road School
Boeckman Interceptor
Brenchley Estates
Villebois
Town Center
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau

Future Development Area: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

WWTP
Public Pump Station
Private Pump Station
Manhole
Pipe Public
Pipe Private
Force Main Public
Force Main Private
Urban Growth Boundary
City Boundary
Study Area
Metro Open Space

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

New Infrastructure (No Concept Plan)
UGB, Gravity
UGB, Pump
URA, Gravity
URA, Pump

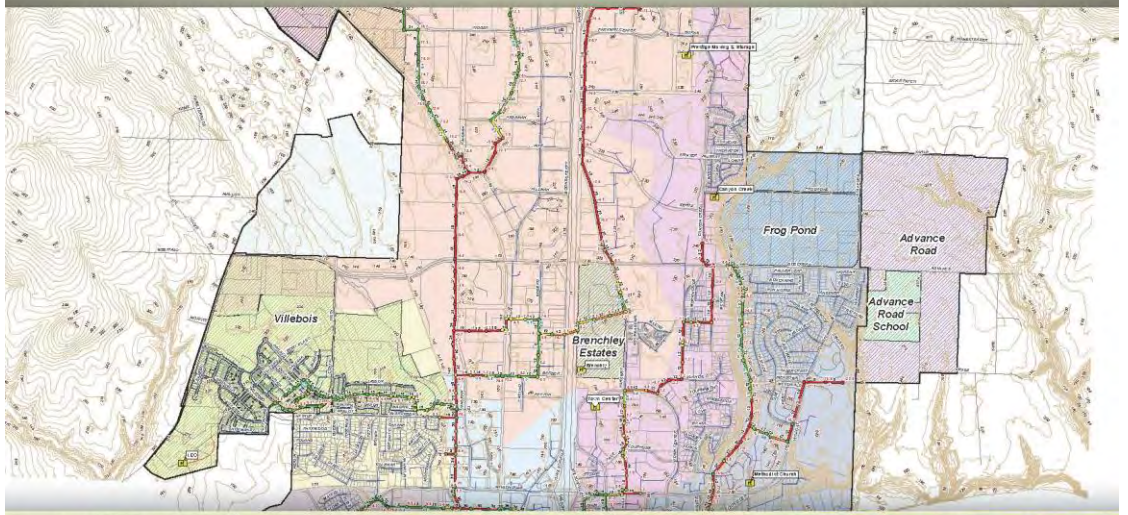
Planned Piping
UGB
Advance Road URA

Pump Station Improvement
Advance Road URA

0 2,500 5,000 Feet

N

MSA MURRAY, SMITH & ASSOCIATES, INC. ENGINEERS | PLANNERS



CITY OF WILSONVILLE

WASTEWATER COLLECTION SYSTEM MASTER PLAN

November 2014

CITY OF WILSONVILLE IN OREGON

Wastewater Collection System Master Plan

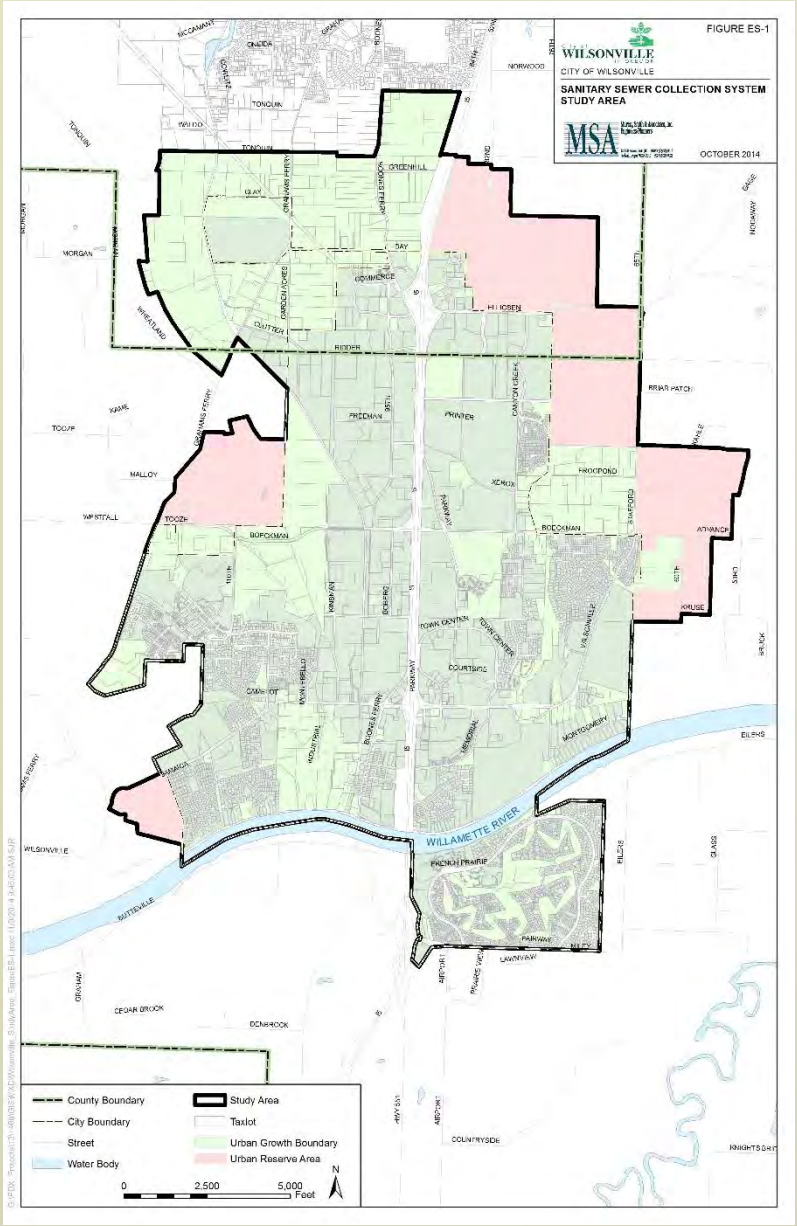
- Describes the existing wastewater collection system
- Present criteria for evaluating the system
- Identifies current and future system deficiencies & improvements
- Develops a prioritized Capital Improvement Program
- Contains planning level cost information for budgeting
- Provides a tool for informing City leaders, staff, customers, and others
- Facilitates logical planning decisions and utility coordination
- Incorporates community values and priorities through public process

MSA

City of Wilsonville in Oregon

Study Area

- Existing Development
- Future Development
  - Urban Growth Boundary
  - Urban Reserve



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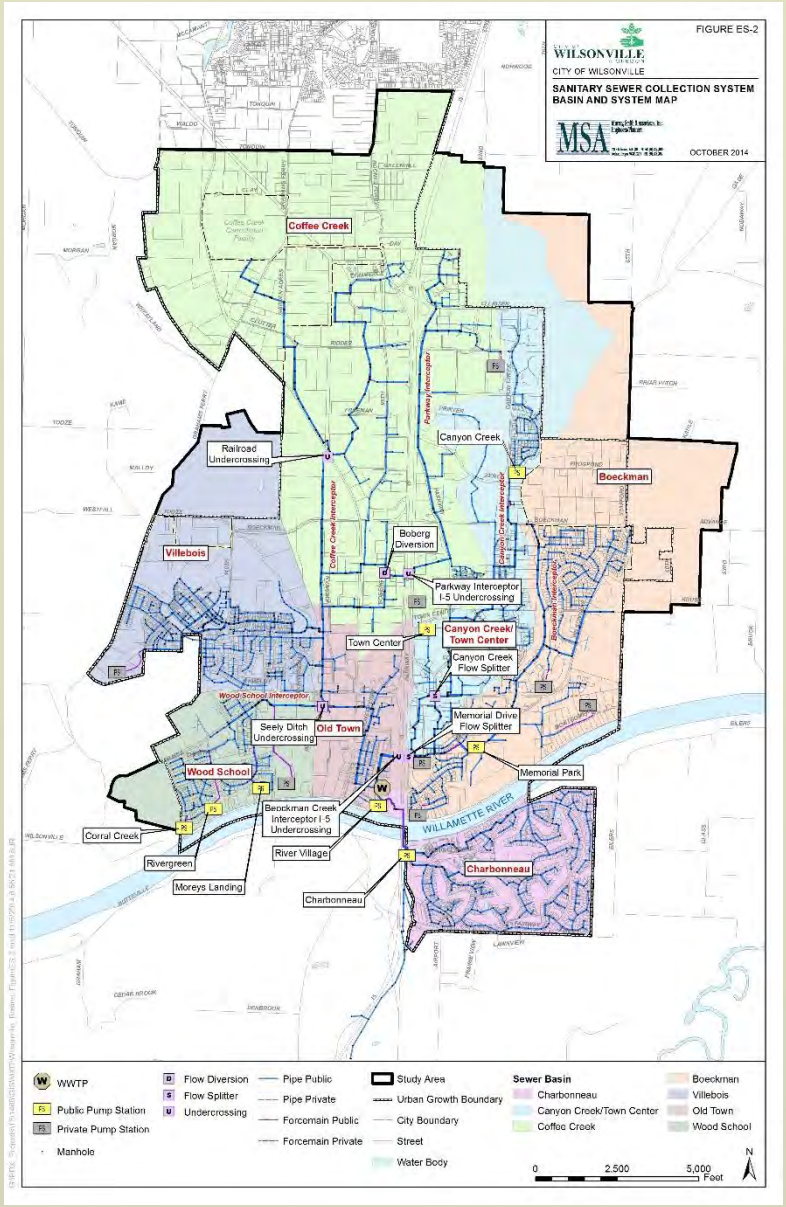
City of Wilsonville in Oregon

Existing System Description

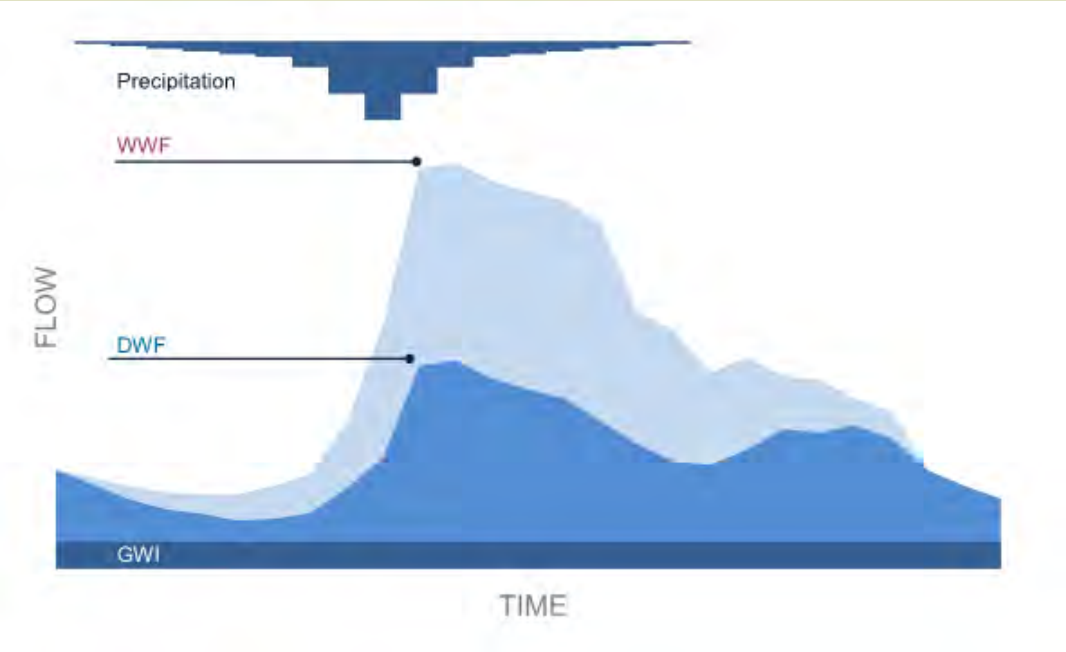
- Basins
- Interceptors
- Piping
- Pump Stations



MSA

City of Wilsonville in Oregon

Flow Definition



- Dry Weather Flow (DWF) – base flow contributed by residents and businesses
- Groundwater Infiltration (GWI) – groundwater enters system through pipe joints and walls
- Wet Weather Flow (WWF) – stormwater enters the system through leaky manholes or defective pipes

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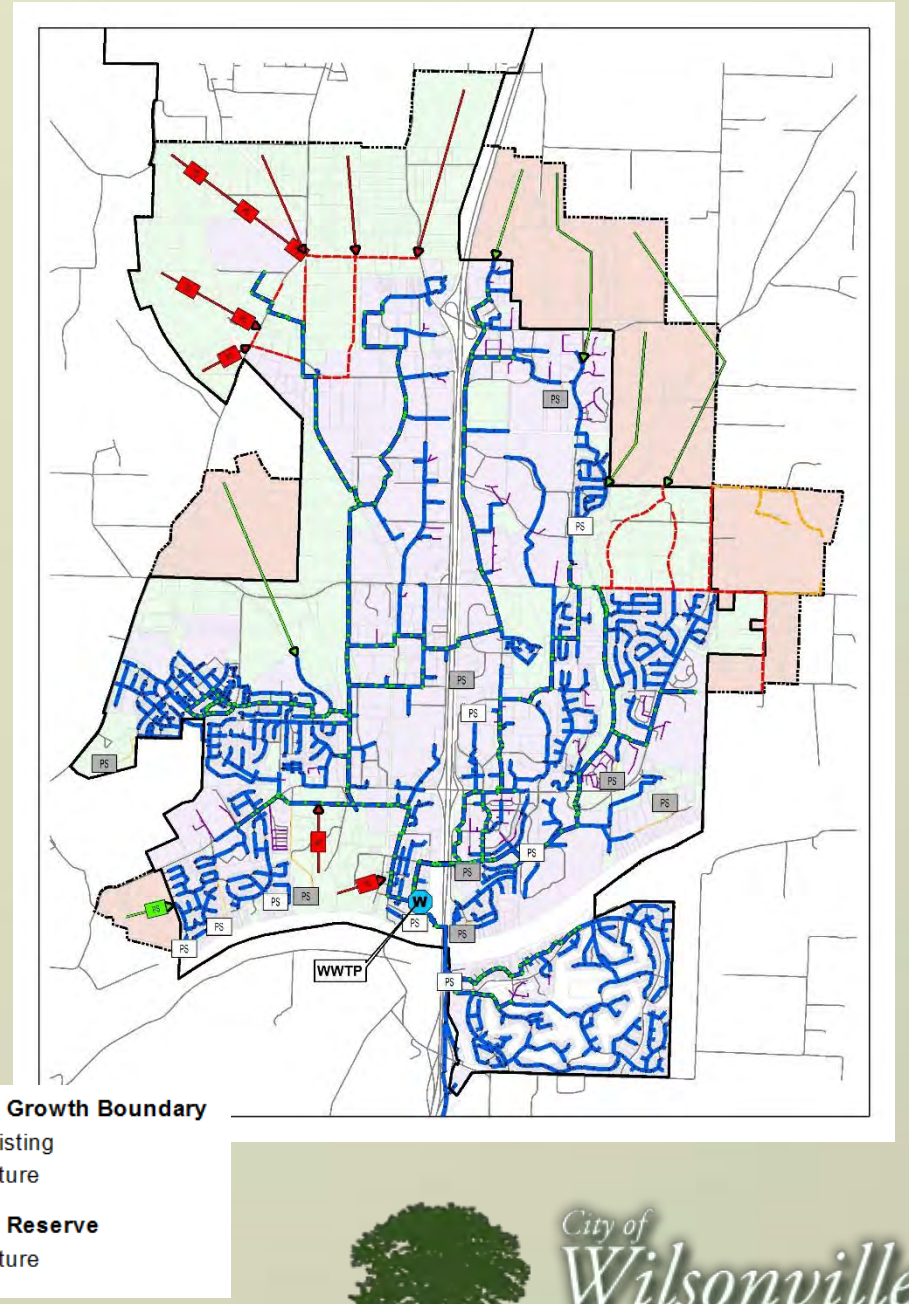
City of Wilsonville in Oregon

Existing and Future Flows

- Flow Monitoring
- Future Unit Flow Factors
- Sensitivity Analysis
- Design Storm

Land Use	Land Use Description	High Density		Medium Density		Low Density	
		Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)
Commercial							
CN	Neighborhood Commercial		1,000		750		500
PF	Public Facilities		1,000		750		500
Industrial							
IC	Campus/Industrial/Business Park		1,000		500		350
IH	Heavy Industrial		1,000		500		350
IL	Light Industrial		1,000		500		350
RI	Rural Industrial		1,000		500		350
Residential and Mixed-Use							
SFR1	Single Family 1 acre lot	1	166	1	166	1	166
SFR3	Single Family 10,000 sqft lot	3	498	3	498	3	498
SFR5	Single Family 7,000 sqft lot	5	831	5	831	5	831
SFR7	Single Family 5,000 sqft lot	7	1,163	7	1,163	7	1,163
SFR10	Single Family 3,500 sqft lot	10	1,662	10	1,662	10	1,662
MFR1	Multi-family Very Low Density	12.3	2,044	12.3	2,044	12.3	2,044
MFR2	Multi-family Low Density	17.8	2,958	17.8	2,958	17.8	2,958
MUR1	Mixed Use	11.2	1,861	11.2	1,861	11.2	1,861
Variable Density (Re-Zoning)							
EFU	Exclusive Farm or Forest Use	15	2,492	10	1,662	6	997
FUD	Future Urban Development	15	2,492	10	1,662	6	997
RRFU	Rural Residential	15	2,492	10	1,662	6	997

Note: Unit loads for land use classifications with equivalent dwellings units are calculated assuming 67 gpcd and 2.48 people per unit.

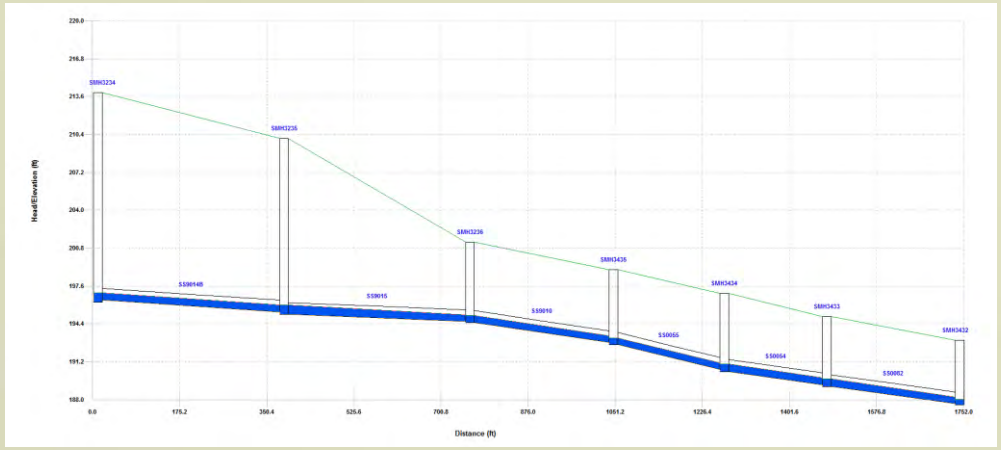


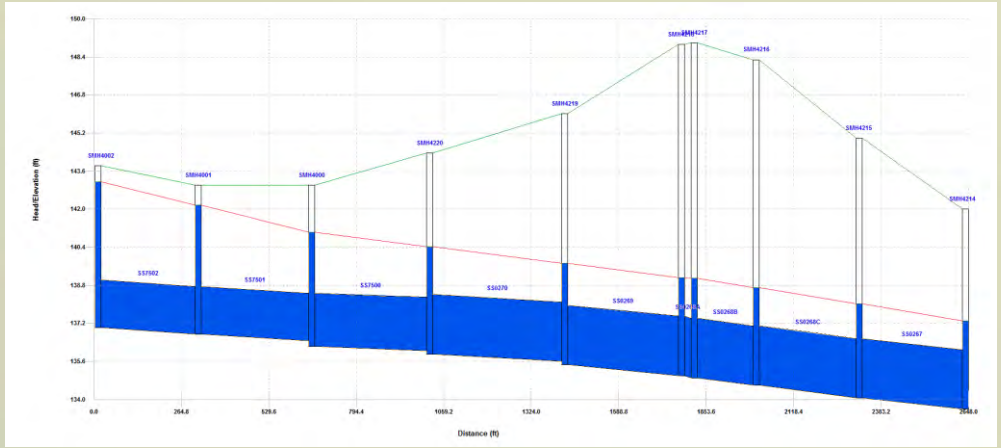
MSA

City of Wilsonville in Oregon

Evaluation Criteria

Capacity





Condition

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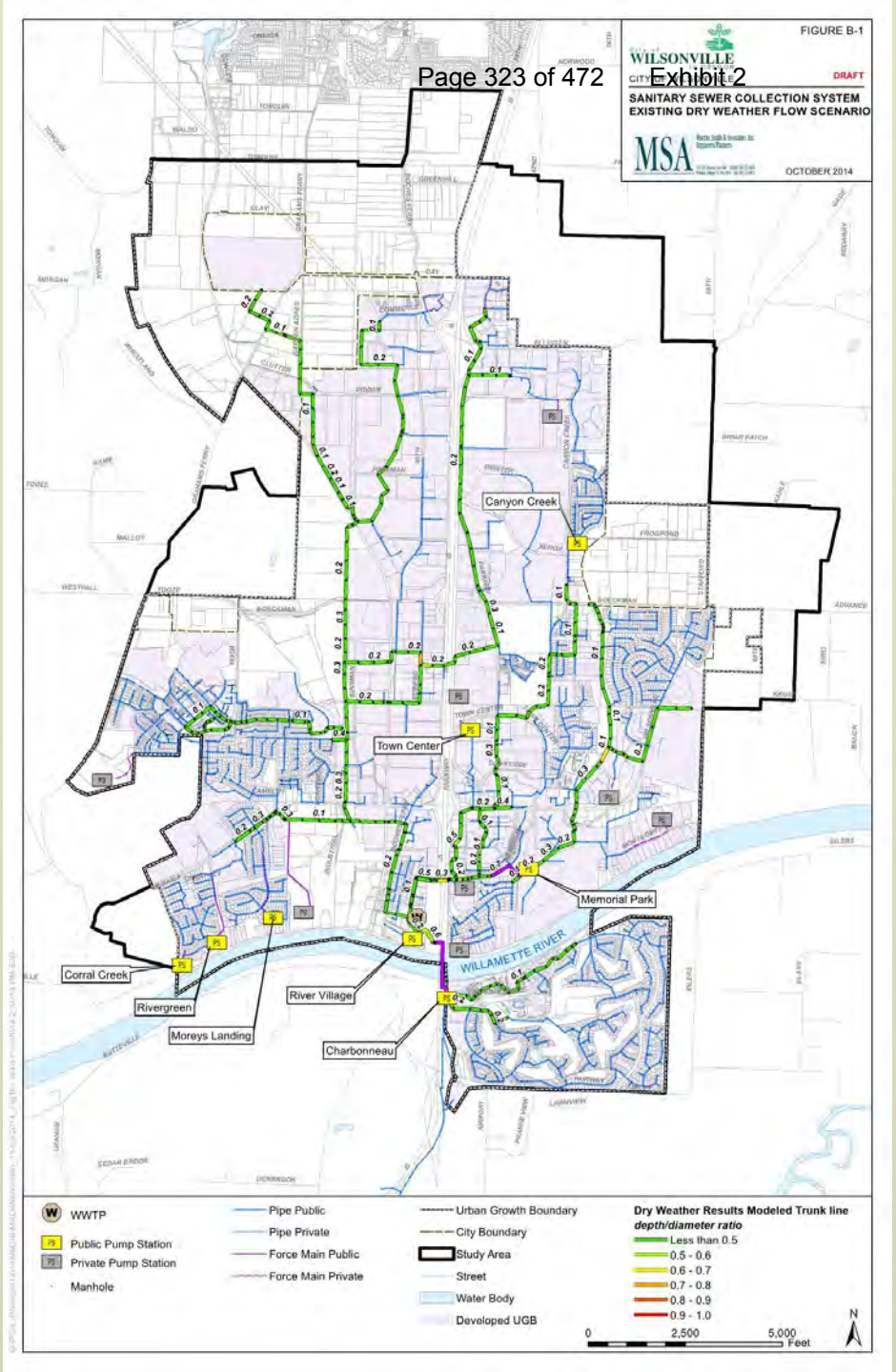
City of Wilsonville in Oregon

Existing System Capacity



DEPTH RATIO

- < 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

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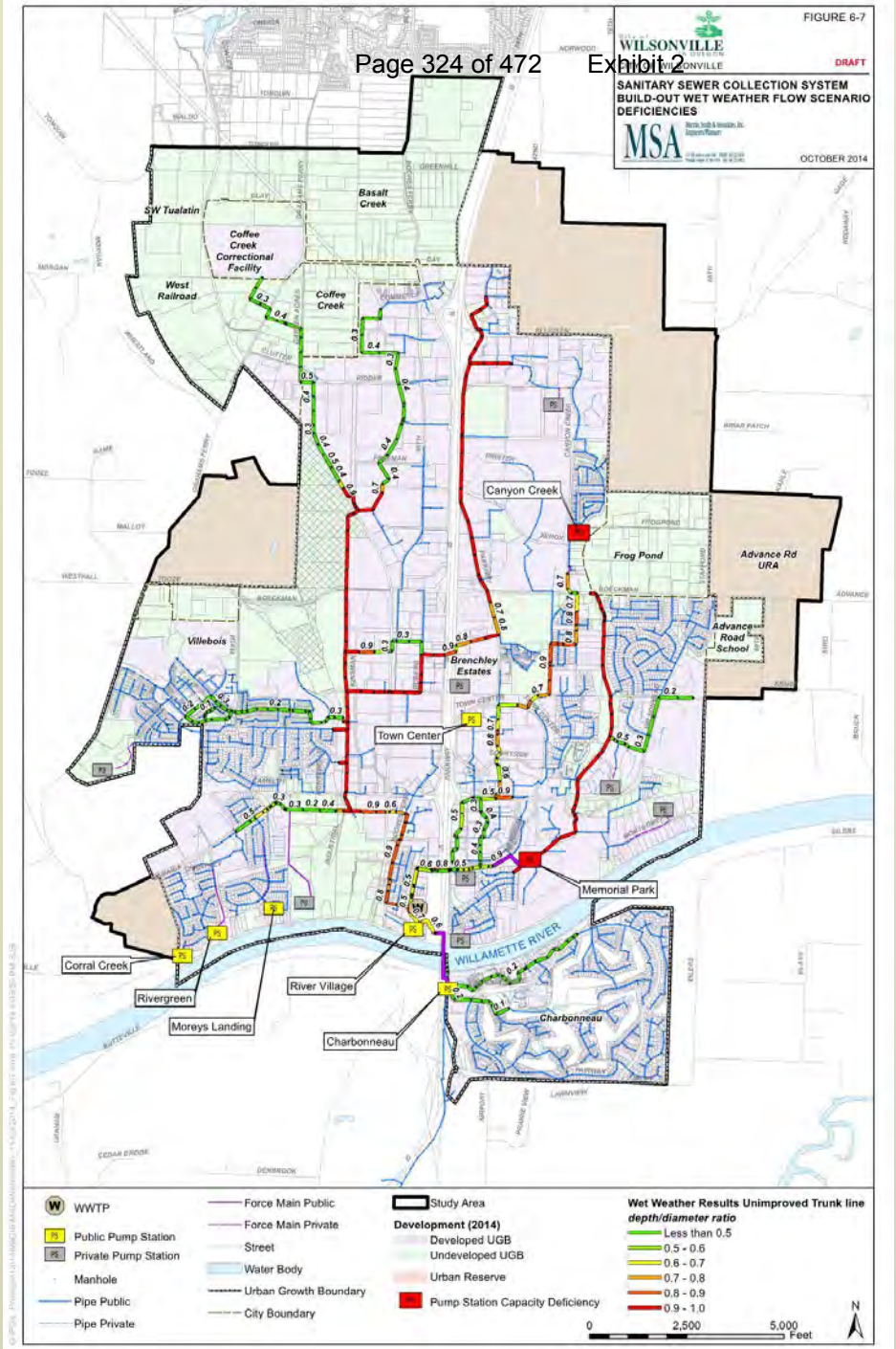
City of Wilsonville in Oregon

Future System Capacity



DEPTH RATIO

- < 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

MSA

City of Wilsonville in Oregon

Improvement Types

- Existing System Capacity Upgrades
- Condition Based
- New Infrastructure for Future Development

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City of Wilsonville in Oregon

Prioritization Category

DEVELOPMENT AREA

- UGB
- Advanced Road URA
- URA

TIMING

- 0-5 Years
- 5-10 Years
- 10-20 Years

OTHER INFORMATION

- Project Drivers
- Growth Percentage

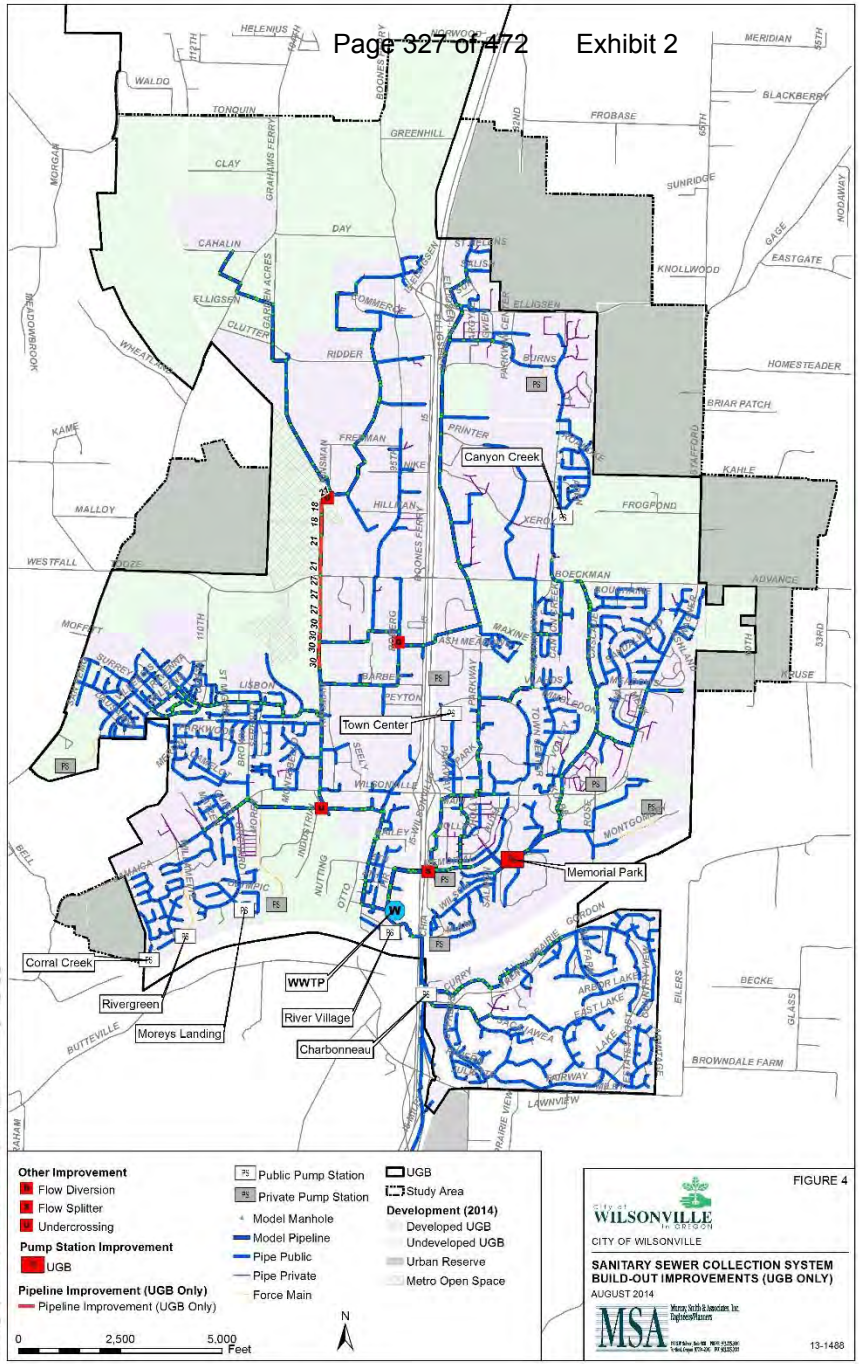
MSA

City of Wilsonville in Oregon

CIP Existing System Upgrades UGB Only

$9.9 Million over 10 years

SDC and Rate Funded



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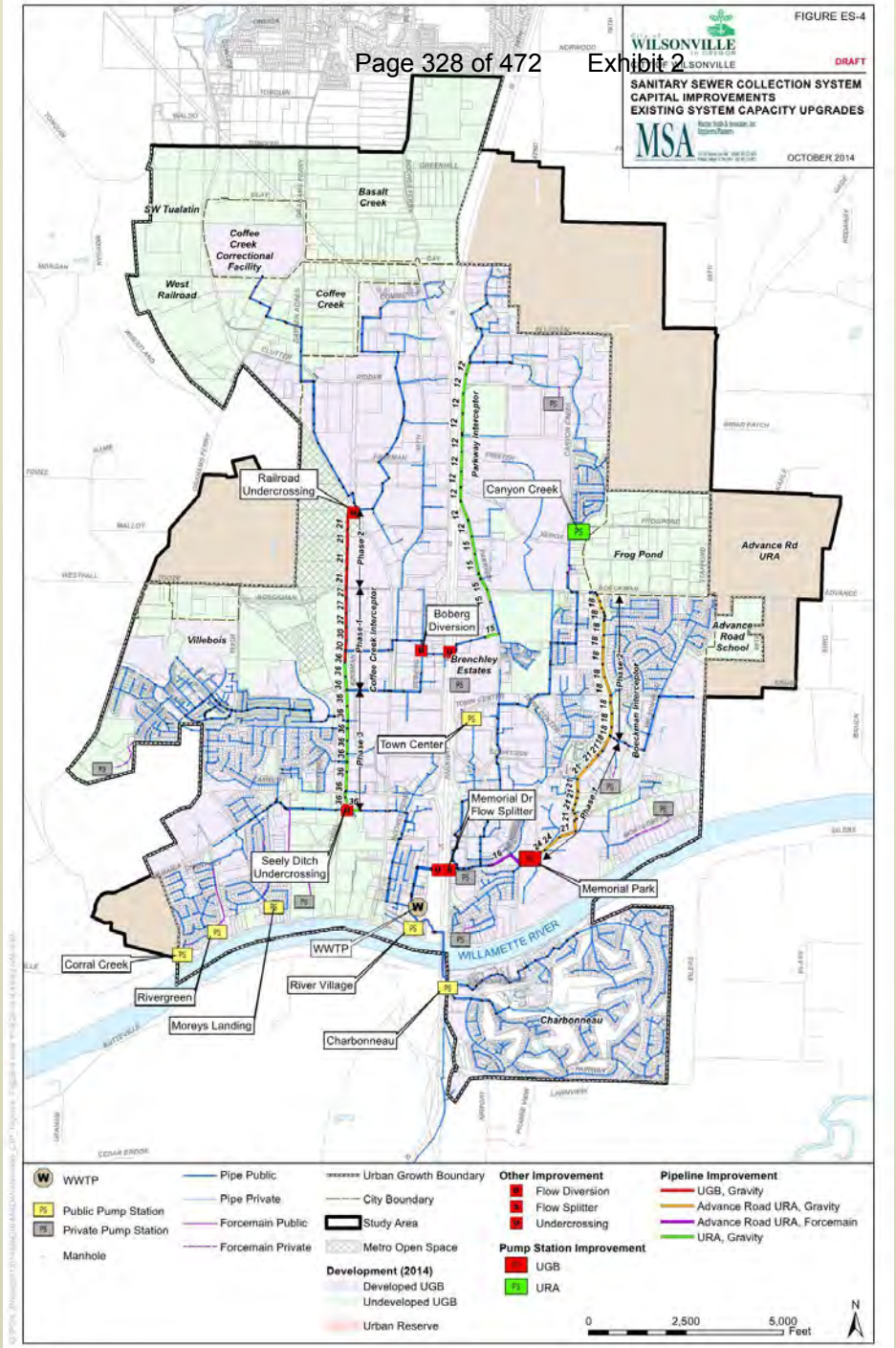
City of Wilsonville in Oregon

CIP – Existing System Upgrades

$9.9 Million over 10 years within UGB

$19.1 Million over 20 years outside UGB (URA)

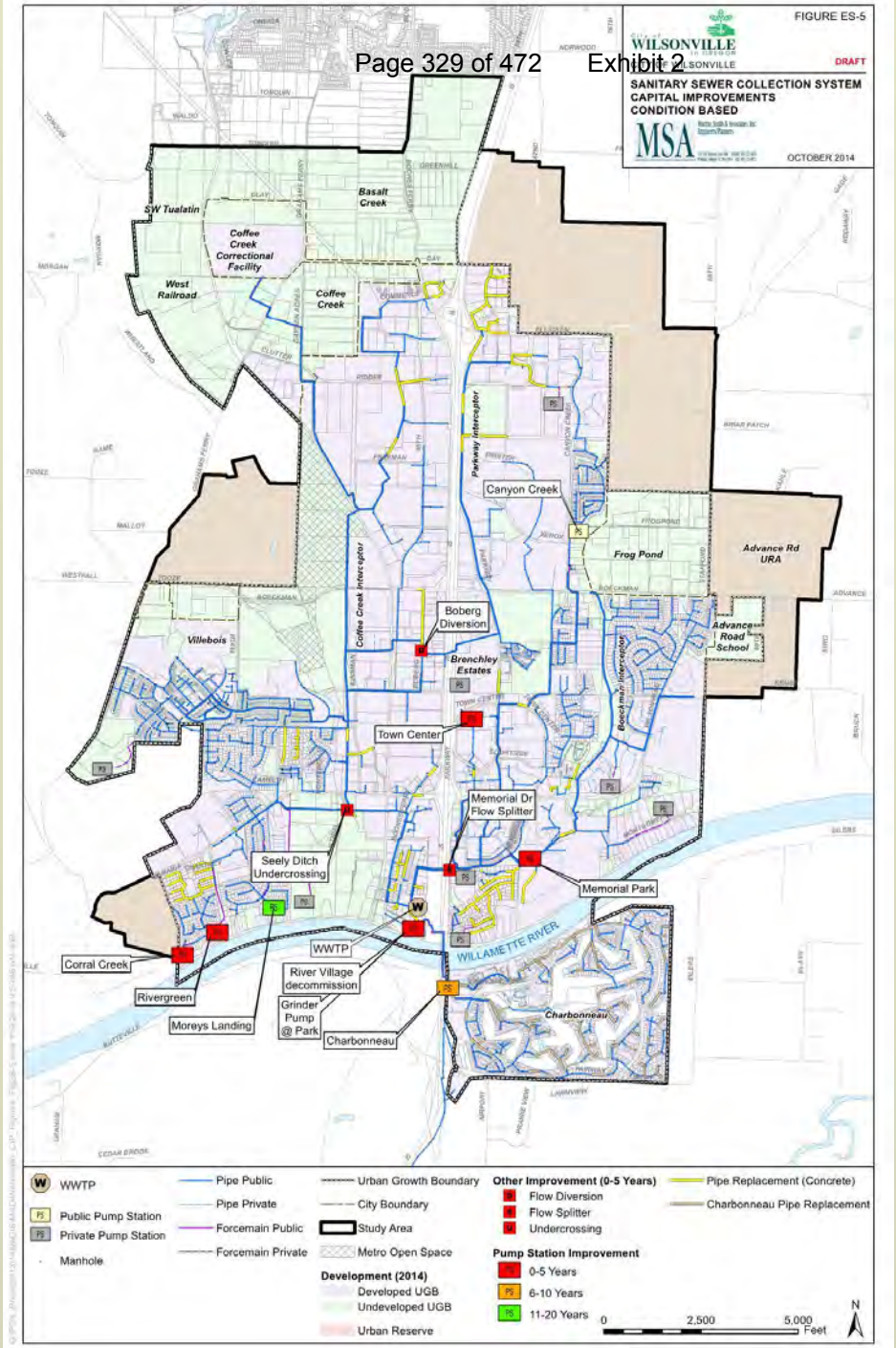
SDC and Rate Funded



CIP – Condition Based

$15.0 Million over 20 years

Rate Funded



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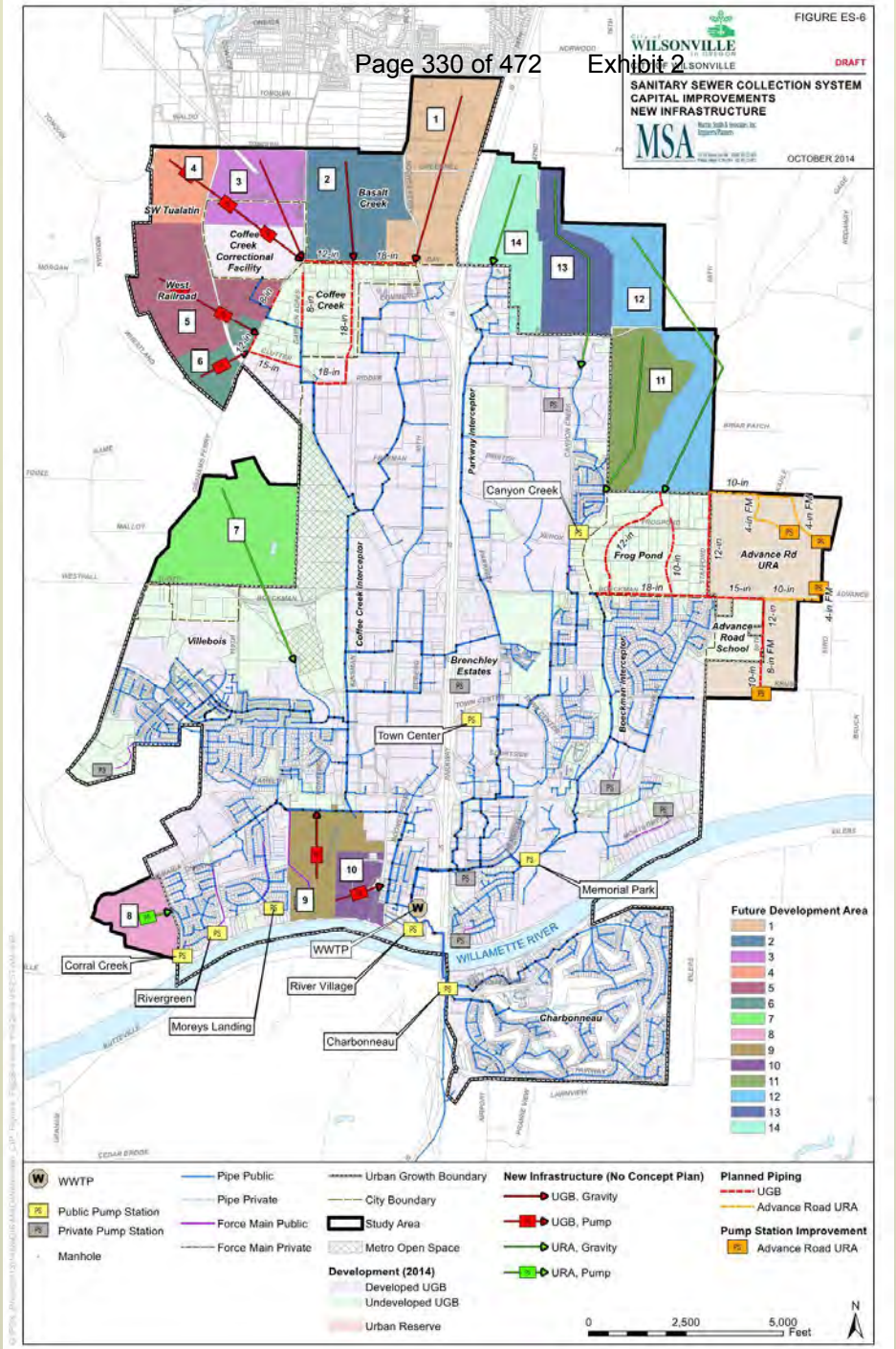
City of Wilsonville in Oregon

CIP – New Infrastructure for Future Development

Development Funded



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City of Wilsonville in Oregon

Cost Summary

Capital Improvement Program Summary (Estimated Costs)			
Improvement Category	**Prioritization Category**	**Total Cost**	**Comment**
Existing System Upgrades	UGB	$9.93 million	SDC and Rate Funded
	Advance Road URA	$7.51 million	
	URA	$11.73 million	
	Total	$29.17 million	
Condition Based	UGB	$15.0 million	Rate Funded
New Infrastructure for Future Development	Development Funded		SDC

MSA

City of Wilsonville in Oregon

Planning Commission
Wastewater Collection System Master Plan Update
Record Index

Planning Commission Work Session Documents:

October 8, 2014 Planning Commission Work Session:

- Meeting Minutes Excerpt
- Handout of draft tables and their related notes from the Capital Improvement Program (CIP), which included:
  - Table 7-1 Existing System Capacity Upgrades for Future Development
  - Table 7-2 Condition Based Improvements
  - Table 7-3 New Infrastructure for Future Development
  - Table 7-4 Capital Improvement Program (CIP) Summary
- Set of maps titled Figures 7-1, 7-2, and 7-3 reflecting the improvements identified in Tables 7-1 through 7-3.
- A memorandum for the October 8, 2014 Planning Commission meeting, from Mike Ward, regarding Wastewater Master Plan with attached:
  - PowerPoint to be shown at the August 13, 2014 PC Work Session

PLANNING COMMISSION
WEDNESDAY, OCTOBER 8, 2014
6:00 P.M.

Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon

Approved
December 10, 2014

Minutes Excerpt

I. CALL TO ORDER - ROLL CALL

Chair Altman called the meeting to order at 6:02 p.m. Those present:

Planning Commission: Ben Altman, Marta McGuire, Eric Postma, Al Levit, Jerry Greenfield, and City Councilor Susie Stevens. Peter Hurley and Phyllis Millan were absent.

City Staff: Chris Neamtzu, Barbara Jacobson, Nancy Kraushaar, and Mike Ward

****

VI. WORK SESSIONS

A. Sanitary Sewer Master Plan (Kraushaar/Ward)

The following items were distributed to the Planning Commission:

- Handout of draft tables and their related notes from the Capital Improvement Program (CIP), which included:
  - Table 7-1 – Existing System Capacity Upgrades for Future Development
  - Table 7-2 – Condition Based Improvements
  - Table 7-3 – New Infrastructure for Future Development
  - Table 7-4 – Capital Improvement Program (CIP) Summary
- Set of maps titled Figures 7-1, 7-2, and 7-3 reflecting the improvements identified in Tables 7-1 through 7-3.

Chris Neamtzu, Planning Director, stated that Community Development Director Nancy Kraushaar, City Civil Engineer Mike Ward, and the consultant team from Murray Smith and Associates have been working diligently to study the City's wastewater collection system. Public engagement and review of the Sanitary Sewer Master Plan document would occur next month in preparation for the Master Plan's adoption.

Chad Roundy, Murray, Smith & Associates, Inc., presented the Wastewater Collection System Master Plan via PowerPoint, which was included in the packet. He noted that since the Commission's presentation in August, the Capital Improvement Program had been developed, which included the prioritization of those improvements and their associated costs.

Key comments from Staff and the consultants, including responses to clarifying questions from the Commission, were as follows:

- In the Design Criteria, the maximum water depth to diameter ratio during dry conditions was the level within the pipe that only included sanitary flows from homes and commercial, not rainfall. A pipe would be considered deficient if it was above 80 percent full.
- The distributed maps did not assume the future city limits would extend deeper into the Basalt Creek Concept Area, but the study boundaries were selected to have good information about the possible gravity flows from Basalt Creek. Information about the flows from the Basalt Creek Concept Area was uncertain, so the study tried to capture as many of the gravity flows as possible to be able to understand the impact on the

City of Wilsonville's collection system and foresee any potential challenges should the cities decide to have the Wilsonville service those areas. The northern boundary of the study area followed the contours to allow everything to flow south by gravity so no substantial pumping was required. The study area did not include existing neighborhoods north of the Basalt Creek Concept Area.

- Although the area north of Elligsen Rd and Frog Pond would be developed far into the future, including these areas in the study was important to avoid redundant improvements.

- Numbers shown along the sewer lines in the Low, Medium and High Load Scenarios indicated the size of the pipes required to meet the City's criteria.
- Because projects like the Memorial Park Pump Station and Boberg Diversion Structure addressed both condition and capacity issues, these projects were shown both as Condition Based and Capacity Upgrade Improvements.
- The Memorial Park Pump Station project was critical. While no sewage bypasses occurred when the station flooded in 1996 and the capacity would not be needed until Frog Pond was built out, the City did not want a critical piece of infrastructure in a flood plain. In terms of funding, the team was trying to determine the best time to replace the pump station, which would be very expensive.
  - The Parks Department was starting a Memorial Park Master Plan, so a decision about where to put the pump station would be coming forward. The project was important for the Commission to be aware of as discussions continue about Memorial Park and the location of the pump station, which was a critical piece of infrastructure for the entire city. The wastewater from about 40 percent of the homes in Wilsonville ran through the Memorial Park Pump Station. The distance, elevation, and piping associated with moving the pump station would impact the cost considerable.
  - The entire Advance Road school and about 40 percent of Frog Pond could develop before the Memorial Park Pump Station had to be improved for capacity reasons.
- Pump station capacity was not a consideration when Metro considered the City's future urban growth boundary (UGB) applications. The City already identified the need when the Advance Road school site was brought in, and the area also had flood plain issues. The City would simply tell Metro that the improvement was needed just to develop all of Frog Pond, so the capacity would not impact future decisions.
  - System Development Charges (SDCs) would also contribute to pay for that needed capacity, so as more land is brought in, more SDCs would contribute sooner rather than later; although expanding the UBG created problems, it created solutions as well.
  - Project CIP-06 on Table 7-1 indicated that 86% of the Memorial Park Pump Station project was related to growth, so a significant amount of the project could be paid for with SDCs, if available.
- The Coffee Creek Interceptor Project, CIP-04 on Table 7-1, did run along one of the proposed routes Tualatin Valley Water District (TVWD) was considering for the expansion of the water treatment plant. The City put the existing water line mostly under Kinsman Rd from Barber St south on one side of the road, but there was still room to put the sewer line extension, whether a duplicate 18-in line or one, 30-in line, between Barber St and Boeckman Rd.
  - The Kinsman Road Project was in design and anticipated for construction in two years. The City would ensure space was available for the TVWD line and told TVWD that if they wanted to use that alignment, the City preferred that TVWD installed their line during the construction of Kinsman Rd between Barber Rd and Boeckman Rd. The City wanted to partner with TVWD financially, but could not put off construction of the new road for too long based on TVWD's schedule. The City was working on that partnership with TVWD. Such partnerships were not unprecedented; for example TVWD was installing water line sections as Washington County was currently constructing 124th Ave and Basalt Creek Rd between Wilsonville and Tualatin.
- Conditions driving the Condition Based pipeline improvements were the age of the pipe, leaks resulting from root intrusion in concrete pipes, and capacity issues when ground water leaks into the pipes. The sewer system was susceptible to rain events, primarily due to condition issues which result in inflow during rain events, so that additional flow must be conveyed and treated. Pipeline condition repairs would reduce capacity and treatment requirements.
- Figure 7-2 showed a large number of concrete pipes identified for replacement in the Daydream Ranch neighborhood. Substantially large trees were creating very significant root intrusions amongst the homes in

Daydream Ranch and the issue was getting worse into the street as well. To what extent did that impact the prioritization of pipe replacement projects in the city?

- Generically, an annual cost was given for repairing/replacing those pipelines, but the actual prioritization and selection of the improvements would occur through the ongoing TV review program. Public Works routinely videos the City's lines to ensure the sewer and water systems were working properly.

- Videoing the lines would indicate any breaks in the system now, but not six months from now, which created an interesting scenario because the City would start seeing significant root intrusions in the Daydream Ranch neighborhood in the next two years to an extent not yet seen, and in fact, failures were already occurring. Those areas would become more critical than the common condition problems because it was an ongoing problem that would get worse on a daily basis.
  - From the TV review program, the team's best guess at this point was that half the pipes would not need improved, but some areas would require more repairs as concrete was more susceptible to root intrusion.
  - An emergency situation due to root intrusion in the main line of a street could be fixed with a spot repair. The TV inventory of the entire system enabled the City to observe incidents that occur in the data set and then develop a rate program to address problems in a fairly planned approach, understanding that some street repairs might occur sooner given certain situations. While the team did its best to estimate, it was understood that the plan would change.
  - The mapping tried to highlight all the concrete pipes within a specific area, such as Daydream Ranch, so the City would be aware to look at the broader area should any issue occur, potentially spending that year's funding there instead of in another area.
- The legend of Figure 7-3 was incorrect; only 14 development areas existed, not 19 areas.
- Based on general knowledge, timeframes for new infrastructure projects for future development had been identified in Table 7-3. Improvements for Coffee Creek were anticipated 0 to 5 year timeframe; Basalt Creek/SW Tualatin in 6 to 10 years; and Advance Road Urban Reserve Area (URA) in 6 to 10 years, primarily to generate the funding for Boeckman Creek Rd, but that could occur sooner. It was presumptuous to estimate when development would occur in the Advance Road Urban Reserve Area since it was not in the UGB yet.
- With the UGB Report not resulting in a demonstrated need for growth of the UGB, City Staff was less than optimistic about this URA coming in; politically it did not look good.
- The next UGB expansion cycle would be six years beyond the end of 2015 and even then, no certainty existed in the process, and the 2015 UGB Report findings were unknown. Mr. Neamtzu believed the team's estimates were reasonable at this point in time given what was known.
- Other than the Advance Road URA, the timing was unknown for the URAs, so the furthest time category was assigned.
- After this Master Plan was completed, the City would need to consider its sanitary sewer rates to determine if any future adjustments were necessary. A solid sanitary sewer fund would be required to address the problems listed in the Master Plan. Currently, the fund was in good shape, but it would be interesting to see if, and to what extent, the new project list would impact the rates.
- Next steps for the Master Plan included a public open house and Committee for Citizen Involvement (CCI) meeting on November 12th to engage the community and receive public input to help shape the draft Plan in preparation for a public hearing anticipated in December for a recommendation to City Council. Associate Planner Daniel Pauly was working with the team on writing some of the planning findings.

Mr. Neamtzu suggested that the team work to boil down the Master Plan's highly technical terms and create a glossary to better describe the terminology to a layperson. The Commission also appreciated a well-written, layperson's Executive Summary as an introduction to the document.

- Using pictures of root intrusion, sagging pipes, high ground water, etc. was also suggested to make the open house visually interesting and educational. He encouraged the team to consider the types of questions that might be expected from citizens to explain what the Master Plan would mean to them in

context of citizen in their home, such as rate impacts, why these improvements were needed now, and why they should care about the Master Plan.

Further comments and discussion from the Commission regarding the Master Plan were as follows:

- Executive Summary should be plain and simple. Anyone wanting more information could review the data in the back of the Plan; most of the public would not care.
- At the open house, the team should have definitive answers about any cost impacts for homeowners to connect to any sewer pipes that are replaced, and whether a tree would be removed if their roots were intruding into the pipes.
    - Visuals were also important. The team was encouraged to think in terms of details to communicate what would interest typical homeowners. For example, an 80 percent pipe level capacity; it made sense that if a pipe was already full when the weather was dry, there would be problems in wet weather.
    - Give indication of what the improvement would look like; for example, identifying the impacts for improving capacity under Kinsman Road such as road closures, the timeframe for traffic disruption and other things that would impact citizens.
    - The team did a good job of showing what would be paid for by new development, which would be important to people living in Wilsonville today. The cost figures were daunting, but a large amount would be paid by new development, not tax dollars.
    - Explaining what was covered by rates versus new development would be important.
        - A summary table could be created that separated and discussed rate versus development costs.
    - Tying pipe capacity to the amount paid for by private development was suggested.
        - Gross numbers might not be as important as delineating pipe replacement costs between that paid for by development versus rates. For example, 80 percent of a replacement project might be paid for by development and 20 percent by rates.
        - Explaining the relationship regarding costs related to improving existing capacity versus increasing capacity would be helpful. Graphically showing a pipe that was 80 percent full would be related to existing development, and not new development. New development would contribute more capacity so a bigger pipe would be needed and upsizing would be paid for by new development.
- Whether concrete pipes were reinforced or replaced depended on conditions. Larger trunk pipelines of reinforced concrete were common, but the old concrete pipelines had root intrusion issues. Initially, the team assumed all new PC/HDPD pipes would be used for replacement, but Deputy City Engineer Eric Mende wanted larger pipelines, major interceptors 18 to 36 inches, to be concrete due to the huge cost savings in materials.
- The interiors of the pipelines were very smooth, especially on major interceptors which also have a minimal surface area. The smoothness of the interior and surface area to area diameter of pipe was more important on smaller pipes.
- Ductile iron is the best water pipeline material to use in treed areas; however, sewer lines are often deeper than tree roots, for a time. Pipe material does influence where roots intrude. Roots intrude at the joints. Concrete pipe lengths are heavier and shorter resulting in more joints and more opportunities for intrusion. PVC is lighter so longer lengths can be installed. The number of joints would influence where roots come in, so it was function of the quality of the pipe's joint. Concrete cracks unless reinforced, so reinforced concrete pipe was important to use to keep cracks from forming where the roots intrude. Concrete pipes with sagging issues were a result of poor construction techniques.
    - For pipes with cracks and roots coming in, the roots could be removed and the pipes lined with plastic liners to prevent root intrusion without digging up the street. Such sanitary sewer rehabilitation techniques were used quite a bit for root intrusion and to prevent the resulting infiltration that occurred.
    - When doing projects, Staff would consider different alternatives and choose the best method depending on the specific conditions and what was most feasible.
- For purposes of the Master Plan, the team made some gross assumptions since no real specific data was available yet.

- Much of the work in Charbonneau had to do with pipe construction methods, which affect longevity of the pipe system and future repairs. Proper pipe bedding and backfill are very important for achieving uniform points of contact with the subgrade. In some areas of Charbonneau, sand and gravel were not used for the bedding and rock was thrown on top of the pipe. TV videos showed rock intruding into the side of a pipe.
- The City has had very good Public Works Standards for many years, but in older areas like Daydream Ranch and Charbonneau, those standards were not yet in place at the time of construction.
- Videoing of the sewer lines was ongoing, but not enough had been done to incorporate the results into the CIP, which was why an Annual Pipe Replacement Budget was included. The CIP would be fine-tuned as more data and a more complete picture of the system became available.

****

Table 7-1 Capital Improvement Program, Existing System Capacity Upgrades for Future Development

Project ID No.	Project Information				Estimated Cost[1, 2]	Prioritization Category	Time Frame[3]	Driver	Percent Related to Growth[5]
	Name	Type	Description[4]	Project Limits					
CIP-01	Boberg Diversion Structure[6]	Diversion Structure - Replacement	Replace Diversion Structure	Boberg Rd	$70,000	UGB	0-5 Years	Condition and capacity (upstream development); overflow operation not fully functional	64%
CIP-02	Memorial Drive Flow Splitter Structure[6]	Flow Splitter Structure - Replacement	Replace Diversion Structure	I-5 Downstream of Memorial Park Pump Station	$100,000	UGB	0-5 Years	Condition and capacity (upstream development); maximize capacity of dual pipe system	83%
CIP-03	Coffee Creek Interceptor Railroad Undercrossing	Undercrossing	160 LF 21"Ø, Railroad Undercrossing	Under P&W Railroad	$200,000	UGB	0-5 Years	The existing undercrossing has capacity to serve Coffee Creek development and approximately 13% of Basalt Creek, West Railroad, and SW Tualatin development prior to improvement.	66%
CIP-04	Coffee Creek Interceptor Phase 1	Gravity - Pipe Upsizing	1030 LF 27"Ø; 610 LF 30"Ø; 1,020 LF 36"Ø	From Boeckman Road to Barbur Street	$2,620,000	UGB	0-5 Years	Kinsman Road Construction Project. The existing interceptor has capacity to serve Coffee Creek development. Improvements are required for development of Basalt Creek, West Railroad, and SW Tualatin.	61%
CIP-05	Seely Ditch Undercrossing[6]	Undercrossing	200 LF 15"Ø, modify slope and connection to downstream interceptor to minimize backwater	Ditch crossing near Industrial Way and Orepac Avenue	$140,000	UGB	0-5 Years	Backwater from downstream interceptor, stagnant conditions	60%
CIP-06	Memorial Park Pump Station[6]	Pump Station + Force Main - Upsizing & Relocation	1,220 LF 16"Ø FM; Pump station relocation/expansion to 3,800 gpm	Pump Station relocation within Memorial Park, Force main from pump station to Rogue Ln	$5,150,000	UGB	6-10 Years	Flood plain impacts, Frog Pond & Advance Rd School development. Existing pump station can serve Advanced Road School and approximately 40% of Frog Pond development prior to improvement. Existing force main has capacity to serve Advanced Road School, Frog Pond, and Advanced Road URA prior to improvement.	86%
CIP-07	Coffee Creek Interceptor Phase 2	Gravity - Pipe Upsizing	2,000 LF 21"Ø	From P&W Railroad to Boeckman Road	$1,710,000	UGB	6-10 Years	The existing interceptor has capacity to serve Coffee Creek development and approximately 25% of Basalt Creek, West Railroad, and SW Tualatin development prior to improvement.	66%
CIP-08	Boeckman Interceptor Phase 1	Gravity - Pipe Upsizing	2,320 LF 18"Ø; 920 LF 21"Ø; 970 LF 24"Ø	From Hathaway Park to Memorial Park Pump Station	$4,310,000	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond). The existing interceptor has capacity to serve Advance Road School and Frog Pond.	81%
CIP-09	Boeckman Interceptor Phase 2	Gravity - Pipe Upsizing	3,760 LF 18"Ø;	From Boeckman Road to Hathaway Park	$3,260,000	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond). The existing interceptor has capacity to serve Advance Road School and Frog Pond.	97%
CIP-10	Master Plan Update	Other	Update the Collection System Master Plan	N/A	$500,000	URA	6-10 Years	5-10-years or significant URA development	70%
CIP-11	Canyon Creek Pump Station	Pump Station - Upsizing	Pump station expansion to 1,100 gpm	Existing pump station	$865,000	URA	11-20 Years	URA development	78%
CIP-12	Parkway Interceptor	Gravity - Pipe Upsizing	4,540 LF 12"Ø; 2,150 LF 15"Ø	From Elligsen Road to Boeckman Road	$4,420,000	URA	11-20 Years	URA development (east of Basalt Creek)	60%
CIP-13	Coffee Creek Interceptor Phase 3	Gravity - Pipe Upsizing	4,090 LF 36"Ø	From Barbur Street to Orepac Avenue	$6,060,000	URA	11-20 Years	URA development (east of Basalt Creek)	65%
				Total	$29,405,000				

Table 7-2 Capital Improvement Program, Condition Based Improvements

Project ID No.	Project Information				Estimated Cost[1, 2]	Time Frame	Driver
	Name	Type	Description[4]	Project Limits			
CIP-14	Charbonneau District Spot Repair[7]	Gravity - Pipe Repair	925 LF 8"Ø; 505 LF 10"Ø	Various	$442,000	0-5 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-15	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	2,465 LF 8"Ø; 530 LF 10"Ø; 2,050 LF 12"Ø; 195 LF 15"Ø	Various	$1,809,000	0-5 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-16	Pipe Replacement - (0 To 5 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$1,800,000	0-5 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-17	Town Center Loop Pump Station	Pump Station - Replacement	Replace Pump Station	Existing pump station	$440,000	0-5 Years	Priming and debris issues, limited back pressure, excessive maintenance
CIP-18	River Village Pump Station	Pump Station - Decommission	Decommission Pump Station	Existing pump station	$30,000	0-5 Years	End of pump station service life, electrical equipment failure
CIP-19	Boones Ferry Park Grinder Pump	Pump Station - Restroom Grinder Pump	New grinder pump for park restrooms	Boones Ferry Park	$30,000	0-5 Years	Service to park restrooms with decommissioning of River Village pump station
CIP-20	Pump Station Rehabilitation - (0 To 5 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Corral Creek and Rivergreen pump stations	$375,000	0-5 Years	End of pump station service life
CIP-21	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	3,500 LF 8"Ø; 790 LF 10"Ø; 680 LF 12"Ø	Various	$1,275,000	6-10 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-22	Pipe Replacement - (6 To 10 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$1,800,000	6-10 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-23	Pump Station Rehabilitation - (6 To 10 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Charbonneau pump station	$100,000	6-10 Years	End of pump station service life
CIP-24	Charbonneau District Complete Repair[7]	Gravity - Pipe Repair	9,835 LF 8"Ø; 1,240 LF 15"Ø	Various	$3,293,000	11-20 Years	Pipe Age, Condition (collapse, separation), Root Intrusion, Grade Issues
CIP-25	Pipe Replacement - (11 To 20 Years)[8]	Gravity - Pipe Replacement	Approximately 930 LF Annually, Varied Ø	Various, Approximately $360,000 Annually	$3,600,000	11-20 Years	Pipe Age, Root Intrusion, Grade Issues (concrete pipe)
CIP-26	Pump Station Rehabilitation - (11 To 20 Years)	Pump Station - Rehabilitation	Rehabilitate aging Pumps/Electrical	Morey's Landing pump station	$200,000	11-20 Years	End of pump station service life
				Total	$15,194,000		

Table 7-3 Capital Improvement Program, New Infrastructure for Future Development

Project ID No.	Project Information				Estimated Cost[1, 2]	Oversize Cost[10]	Prioritization Category	Time Frame[3]	Driver
	Name	Type	Description[4]	Project Limits					
CIP-27	Coffee Creek - Clutter Road	Gravity - New Pipe	1,410 LF 15"Ø	From Grahams Ferry Road to Garden Acres Road	$2,010,000	$300,000	UGB	0-5 Years	Coffee Creek development
CIP-28	Coffee Creek - Ridder Road	Gravity - New Pipe	910 LF 18"Ø	From Peters Road to BPA Substation	$1,910,000	$360,000	UGB	0-5 Years	Coffee Creek development
CIP-29	Coffee Creek - Grahams Ferry Road	Gravity - New Pipe	600 LF 8"Ø; 580 LF 12"Ø	From Clutter Road to Cahalin Road	$1,110,000	$60,000	UGB	0-5 Years	Coffee Creek development
CIP-30	Coffee Creek - Garden Acres	Gravity - New Pipe	1,480 LF 8"Ø	From 25450 SW Garden Acres Road to Cahalin Road	$1,010,000	$0	UGB	0-5 Years	Coffee Creek development
CIP-31	Coffee Creek - Day Road	Gravity - New Pipe	2,060 LF 18"Ø; 900 LF 12"Ø	From Grahams Ferry Road to Boones Ferry Road	$2,810,000	$560,000	UGB	0-5 Years	Coffee Creek development
CIP-32	Coffee Creek - Kinsman Road	Gravity - New Pipe	3,100 LF 18"Ø	From Day Road to Ridder Road	$5,460,000	$1,120,000	UGB	0-5 Years	Coffee Creek development
CIP-33	Frog Pond/Advance Rd URA - SW Boeckman Road	Gravity - New Pipe	2,800 LF 18"Ø	From Stafford Road to Boeckman Creek	$4,210,000	$890,000	UGB	0-5 Years	Frog Pond development
CIP-34	Frog Pond/Advance Rd URA – SW Stafford Road	Gravity - New Pipe	2,700 LF 12"Ø	From Briar Patch Lane to Boeckman Road	$2,570,000	$310,000	UGB	0-5 Years	Frog Pond development
CIP-35	Frog Pond/Advance Rd URA - Boeckman Interceptor Extension	Gravity - New Pipe	3,350 LF 12"Ø	From UGB to Boeckman Road	$4,040,000	$490,000	UGB	0-5 Years	Frog Pond development
CIP-36	Frog Pond/Advance Rd URA - South Of Frog Pond Lane	Gravity - New Pipe	1,800 LF 10"Ø	From Frog Pond Lane to Boeckman Road	$830,000	$80,000	UGB	0-5 Years	Frog Pond development
CIP-37	Frog Pond/Advance Rd URA - SW 60th Avenue	Gravity - New Pipe	1,850 LF 10"Ø; 1,250 LF 12"Ø	From 28424 SW 60th Avenue to Advance Road	$2,220,000	$220,000	UGB	0-5 Years	Advance Rd School development
CIP-38	Frog Pond/Advance Rd URA - SW 60th Avenue Pump Station	Pump Station + Force Main - New	1,350 LF 8"Ø FM, ~600 gpm pump station	From pump station to 60th Avenue sewer	$1,380,000	Note 11	UGB	0-5 Years	Advance Rd School development
CIP-39	Area 1 (Basalt Creek - East)[9]	Gravity - New Pipe	13,100 LF 10-12"Ø	Basalt Creek East - Concept Plan Required	$10,680,000	$1,500,000	UGB	6-10 Years	Basalt Creek development
CIP-40	Area 2 (Basalt Creek - Central)[9]	Gravity - New Pipe	9,900 LF 10-12"Ø	Basalt Creek Central - Concept Plan Required	$8,060,000	$1,130,000	UGB	6-10 Years	Basalt Creek development
CIP-41	Area 3 (Basalt Creek - West)[9]	Gravity - New Pipe	6,600 LF 10"Ø	Basalt Creek West - Concept Plan Required	$5,020,000	$390,000	UGB	6-10 Years	Basalt Creek development
CIP-42	Area 4 (SW Tualatin)[9]	Pump Station + Force Main - New	4,200 LF 8"Ø FM, ~300 gpm pump station	SW Tualatin - Concept Plan Required	$2,300,000	Note 11	UGB	6-10 Years	SW Tualatin development
CIP-43	Area 5 (West Railroad - North)[9]	Pump Station + Force Main - New	3,300 LF 12"Ø FM; ~800 gpm pump station	West Railroad North - Concept Plan Required	$3,110,000	Note 11	UGB	6-10 Years	West Railroad development
CIP-44	Area 6 (West Railroad - South)[9]	Pump Station + Force Main - New	1,400 LF 6"Ø FM; ~200 gpm pump station	West Railroad South - Concept Plan Required	$1,190,000	Note 11	UGB	6-10 Years	West Railroad development
CIP-45	Area 9 (South UGB - West)[9]	Pump Station + Force Main - New	2,600 LF 8"Ø FM; ~400 gpm pump station	South UGB West - Concept Plan Required	$1,690,000	Note 11	UGB	6-10 Years	South UGB development
CIP-46	Area 10 (South UGB - East)[9]	Pump Station + Force Main - New	1,300 LF 6"Ø FM; ~200 gpm pump station	South UGB East - Concept Plan Required	$1,150,000	Note 11	UGB	6-10 Years	South UGB development

Table 7-3 Capital Improvement Program, New Infrastructure for Future Development

Project ID No.	Project Information				Estimated Cost[1, 2]	Oversize Cost[10]	Prioritization Category	Time Frame[3]	Driver
	Name	Type	Description[4]	Project Limits					
CIP-47	Frog Pond/Advance Rd URA - Advance Road	Gravity - New Pipe	1,150 LF 10"ø; 1,450 LF 15"ø	From 5696 SW Advance Road to Stafford Road	$2,130,000	$290,000	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-48	Frog Pond/Advance Rd URA - SW Briar Patch Lane	Gravity - New Pipe	1,200 LF 10"ø	From Newland Creek to Stafford Road	$1,490,000	$90,000	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-49	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 1	Pump Station + Force Main - New	2,400 LF 4"ø FM, ~200 gpm pump station	From pump station to Briar Patch Lane sewer	$1,710,000	Note 11	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-50	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 2	Pump Station + Force Main - New	1,100 LF 4"ø FM, ~200 gpm pump station	From pump station to Briar Patch Lane sewer	$1,160,000	Note 11	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-51	Frog Pond/Advance Rd URA - North Neighborhood Pump Station 3	Pump Station + Force Main - New	860 LF 4"ø FM, ~200 gpm pump station	From pump station to Advance Road sewer	$1,070,000	Note 11	Advanced Road URA	6-10 Years	URA development (adjacent to Advance Road and Frog Pond)
CIP-52	Area 7 (URA Near Westfall Rd & Grahams Ferry Rd)[9]	Gravity - New Pipe	13,100 LF 10"ø	URA West Falls and Grahams Ferry North - Concept Plan Required	$11,370,000	$2,140,000	URA	11-20 Years	URA development
CIP-53	Area 8 (URA Near Willamette Way & Wilsonville Rd)[9]	Pump Station + Force Main - New	1,800 LF 8"ø FM; ~300 gpm pump station	URA Willamette and Wilsonville - Concept Plan Required	$1,360,000	Note 11	URA	11-20 Years	URA development
CIP-54	Area 11 (URA Northeast - To Canyon Creek Interceptor - South)[9]	Gravity - New Pipe	8,200 LF 10-12"ø	URA Northeast, Canyon Creek Trunk South - Concept Plan Required	$6,720,000	$940,000	URA	11-20 Years	URA development
CIP-55	Area 12 (URA Northeast - To Boeckman Interceptor)[9]	Gravity - New Pipe	14,200 LF 10-15"ø	URA Northeast, Boeckman Trunk - Concept Plan Required	$12,330,000	$2,320,000	URA	11-20 Years	URA development
CIP-56	Area 13 (URA Northeast - To Canyon Creek Interceptor - North)[9]	Gravity - New Pipe	8,300 LF 10-12"ø	URA Northeast, Canyon Creek Trunk North - Concept Plan Required	$6,820,000	$960,000	URA	11-20 Years	URA development
CIP-57	Area 14 (URA Northeast - To Parkway Interceptor)[9]	Gravity - New Pipe	8,300 LF 10-12"ø	URA Northeast, Parkway Trunk - Concept Plan Required	$6,800,000	$960,000	URA	11-20 Years	URA development
				Total	$115,720,000	$15,110,000			

Table 7-4 Capital Improvement Program Summary					
Improvement Category	Prioritization Category	Time Frame (Cost)[1, 2, 3]			Total Cost
		0-5 Years	5-10 Years	10-20 Years	
Existing System Upgrades for Future Development	UGB	$3,130,000	$6,860,000	--	$9,990,000
	Advanced Road URA	--	$7,570,000	--	$7,570,000
	URA	--	$500,000	$11,345,000	$11,845,000
	Total	$3,130,000	$14,930,000	$11,345,000	$29,405,000
New Infrastructure for Future Development	UGB	$29,560,000	$33,200,000	--	$62,760,000
	Advanced Road URA	--	$7,560,000	--	$7,560,000
	URA	--	--	$45,400,000	$45,400,000
	Total	$29,560,000	$40,760,000	$45,400,000	$115,720,000
Condition Based	UGB	$4,926,000	$3,175,000	$7,093,000	$15,194,000

Notes for Tables 7-1, 7-2, 7-3, and 7-4

Note 1. Cost estimates represent a Class 5 budget estimate, as established by the *American Association of Cost Engineers*. This preliminary estimate class is used for conceptual screening and assumes project definition maturity level below two percent. The expected accuracy range is -20 to -30 percent on the low end, and +30 to +50 percent on the high end, meaning the actual cost should fall in the range of 30 percent below the estimate to 50 percent above the estimate. The cost estimates are consistent with the definition of OAR 660-011-0005(2) and OAR 660-011-035. They are intended to be used as guidance in establishing funding requirements based on information available at the time of the estimate.

Note 2. Cost estimates for existing system upgrades and new infrastructure improvements assume unit costs for new materials and construction. Cost estimates for condition based improvements assume unit costs for replacement materials and construction. All cost estimates include markups for construction contingency, owner administrative costs, and contract costs.

Note 3. The timing for improvement implementation is dependent on development timing. The information presented in the "time frame" column assume the following:

a. Coffee Creek – 100% developed by 5-years
b. Advanced Road School – 100% developed by 5-years
c. Frog Pond - 40% developed by 5-years, fully built-out by 10-years. If development is more aggressive in Frog Pond, Memorial Park Pump Station (CIP-06) improvements should be accelerated into the 0-5 year time frame.
d. Basalt Creek, SW Tualatin, West Railroad – 25% developed by 5-years, fully built-out by 10-years. If development is more aggressive, Coffee Creek Interceptor Phase 2 (CIP-07) improvements should be accelerated into the 0-5 year time frame.
e. Advanced Road URA – 0% developed by 5-years, fully developed by 10-years. If development is more aggressive, Boeckman Interceptor Phases 1 and 2 (CIP-08 and CIP-09) should be accelerated into the 0-5 year time frame.
f. URA – development beyond 10 years.

Note 4. All improvements are sized for build-out of the upstream service area at a planning level of accuracy based on population, density and land use assumptions described in Section 5 of this document. Prior to implementation, each project should undergo standard engineering design phases to finalize improvement sizing and location.

Note 5. The growth percentage is an estimate of the percentage of the build-out flow associated with future development as of 2014. *Percent related to growth = 1 – (Peak Existing Flow / Peak 20-year Flow)*

Note 6. The Boberg diversion (CIP-01), Memorial Drive Flow Splitter (CIP-02), Seely Ditch Undercrossing (CIP-05), and Memorial Park Pump Station (CIP-06) are required for both capacity and condition; however, improvements are only listed in Table 7-1.

Note 7. Charbonneau condition improvements (CIP-14, CIP-15, CIP-21, and CIP-24) assume a 20-year improvement schedule.

Note 8. Pipeline replacement cost estimates assume 50% of all concrete piping will be replaced over 20-years. Pipe replacement projects including location and scope will be refined through video inspection and pipe condition inventories.

Note 9. The future development areas without concept plans have been subdivided into 14 sub-basins. Place-holder trunk line or pump station improvements have been identified for each area (CIP-39 through CIP-46 and CIP-52 though CIP-57). Cost estimates and improvement sizing for these areas should be refined once additional concept planning has been completed.

Note 10. The City's current policy requires developers to fully fund sewer line extensions of 8-inches in diameter or smaller. Sewer lines in excess of 8-inches in diameter are considered "oversized" by the City and may be eligible to receive SDC credits. The "oversize" cost estimate equals the total project cost minus the cost of the project if sized at 8-inches.

Note 11. Pump station improvement may require formation of a reimbursement district.

FIGURE 7-1

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS EXISTING SYSTEM CAPACITY UPGRADES

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

Railroad Undercrossing
Canyon Creek
Boberg Diversion
Town Center
Memorial Dr Flow Splitter
Seely Ditch Undercrossing
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau
Advance Road School
Frog Pond
Basalt Creek
Coffee Creek Correctional Facility
West Railroad
Coffee Creek
Villebois
Brenchley Estates
Parkway Interceptor
Coffee Creek Interceptor Phase 1
Coffee Creek Interceptor Phase 2
Coffee Creek Interceptor Phase 3
Boeckman Interceptor Phase 1
Boeckman Interceptor Phase 2

- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- UGB
- Study Area
- Metro Open Space

Development (2014)
- Developed UGB
- Undeveloped UGB
- Urban Reserve

Other Improvement
- D Flow Diversion
- S Flow Splitter
- U Undercrossing

Pump Station Improvement
- PS UGB
- PS URA

Pipeline Improvement
- UGB, Gravity
- Advanced Road URA, Gravity
- Advanced Road URA, Forcemain
- URA, Gravity

0 2,500 5,000 Feet

N

FIGURE 7-2

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS CONDITION BASED

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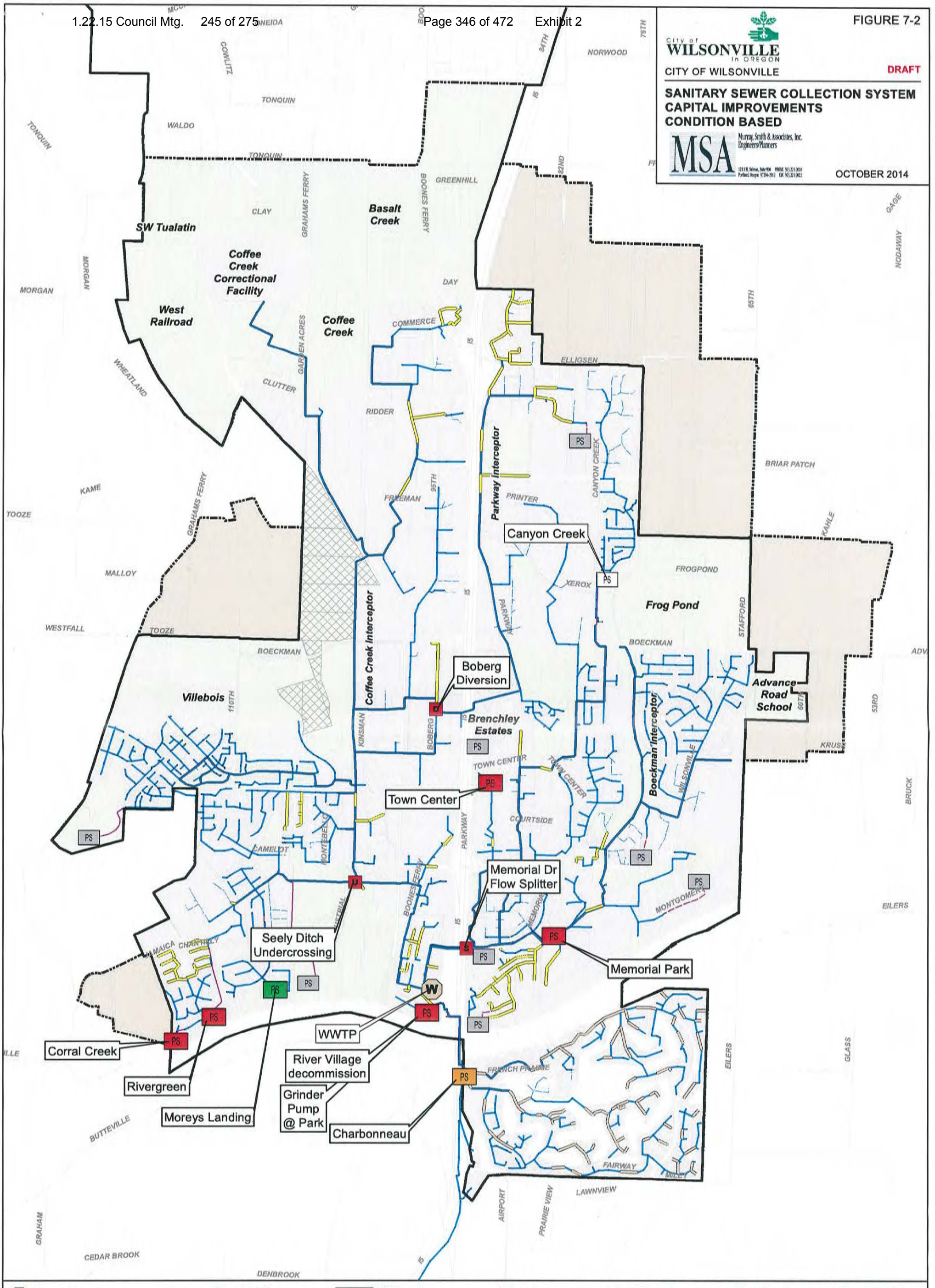
121 S.W. Salmon, Suite 900 PHONE 503.225.9010 Portland, Oregon 97204-3019 FAX 503.225.9022

OCTOBER 2014



- WWTP
- Public Pump Station
- Private Pump Station
- Manhole
- Pipe Public
- Pipe Private
- Force Main Public
- Force Main Private
- UGB
- Study Area
- Metro Open Space

Development (2014)
- Developed UGB
- Undeveloped UGB
- Urban Reserve

Other Improvement (0-5 Years)
- D Flow Diversion
- S Flow Splitter
- U Undercrossing

Pump Station Improvement
- PS 0-5 Years
- PS 6-10 Years
- PS 11-20 Years

- Pipe Replacement (Concrete)
- Charbonneau Pipe Replacement

0 2,500 5,000 Feet

N

FIGURE 7-3

City of WILSONVILLE In OREGON

CITY OF WILSONVILLE

DRAFT

SANITARY SEWER COLLECTION SYSTEM CAPITAL IMPROVEMENTS NEW INFRASTRUCTURE

MSA Murray, Smith & Associates, Inc. Engineers/Planners

OCTOBER 2014

SW Tualatin
Coffee Creek Correctional Facility
Basalt Creek
West Railroad
Coffee Creek
Canyon Creek
Frog Pond
Advance Road School
Villebois
Brenchley Estates
Town Center
Memorial Park
WWTP
Corral Creek
Rivergreen
Moreys Landing
River Village
Charbonneau
Coffee Creek Interceptor
Parkway Interceptor
Boeckman Interceptor

Future Development Area
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

WWTP
Public Pump Station
Private Pump Station
Manhole

Pipe Public
Pipe Private
Force Main Public
Force Main Private

UGB
Study Area
Metro Open Space

Development (2014)
Developed UGB
Undeveloped UGB
Urban Reserve

New Infrastructure (No Concept Plan)
UGB, Gravity
UGB, Pump
URA, Gravity
URA, Pump

Planned Piping
UGB
Advanced Road URA

Pump Station Improvement
Advanced Road URA

0 2,500 5,000 Feet

N

City of Wilsonville

PLANNING COMMISSION
WEDNESDAY, OCTOBER 8, 2014
6:00 PM

VI. WORK SESSIONS

A. Sanitary Sewer Collection System Master Plan (Kraushaar/Ward)

City of WILSONVILLE in OREGON

PLANNING COMMISSION MEETING
STAFF REPORT

Meeting Date: October 8, 2014	**Subject:** Wastewater Master Plan **Staff Member:** Mike Ward, P.E., Civil Engineer **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☒ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:**

Staff Recommendation: N/A
Recommended Language for Motion: N/A

PROJECT / ISSUE RELATES TO: *[Identify which goal(s), master plans(s) issue relates to.]*		
☒Council Goals/Priorities #6 – Well Maintained Infrastructure	☒Wastewater Master Plan	☐Not Applicable

ISSUE BEFORE COMMISSION:
Staff has been working on an update to the Wastewater Master Plan with the assistance of Murray Smith & Associates (MSA). Staff desires to engage the Planning Commission to review the results received to date and to provide feedback.

EXECUTIVE SUMMARY:
MSA has modeled wet weather flows throughout the city based on the storm that occurred in January of 2012 and the data associated to impacts on the City's sewer system as read by flow meters. They have compared this information to the flows experienced in dry weather to

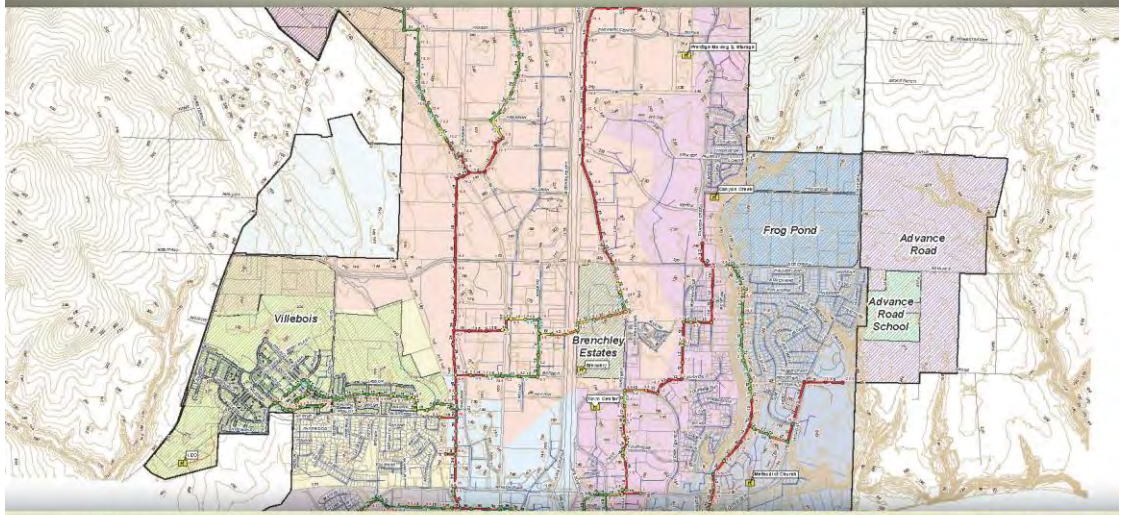
determine the amount of infiltration that is experienced by the City. Using this model the capacity of the wastewater collection pipe system was modeled in future growth conditions to determine deficiencies. Staff and consultants will review this process in greater detail, along with the results, in the attached slides.

EXPECTED RESULTS:
The Master Plan will establish priority of work to the sanitary system, both with new construction, increases to existing capacity and repair of existing pipe. It will also help us estimate the financial impact to the City.

TIMELINE:
Staff anticipates returning to the Planning Commission for their November 12th meeting, to present the report in a Public Hearing.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups):
The Master Plan will help the City to perform work to prepare areas for development as well as continue to provide safe and reliable sanitary sewer service to the community.

MSA MURRAY, SMITH & ASSOCIATES, INC.
ENGINEERS | PLANNERS



CITY OF WILSONVILLE

WASTEWATER COLLECTION SYSTEM MASTER PLAN

October 2014

city of WILSONVILLE in OREGON

Presentation Outline

PREVIOUS

- System Loading
- Design Criteria
- Existing System Capacity
- Improvement Analysis

CURRENT

- Improvement Selection
- Costs
- Prioritization

MSA

City of Wilsonville in Oregon

System Loading

Land Use	Land Use Description	High Density		Medium Density		Low Density	
		Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)	Equivalent Dwelling Units per Acre	Unit Load (gpad)
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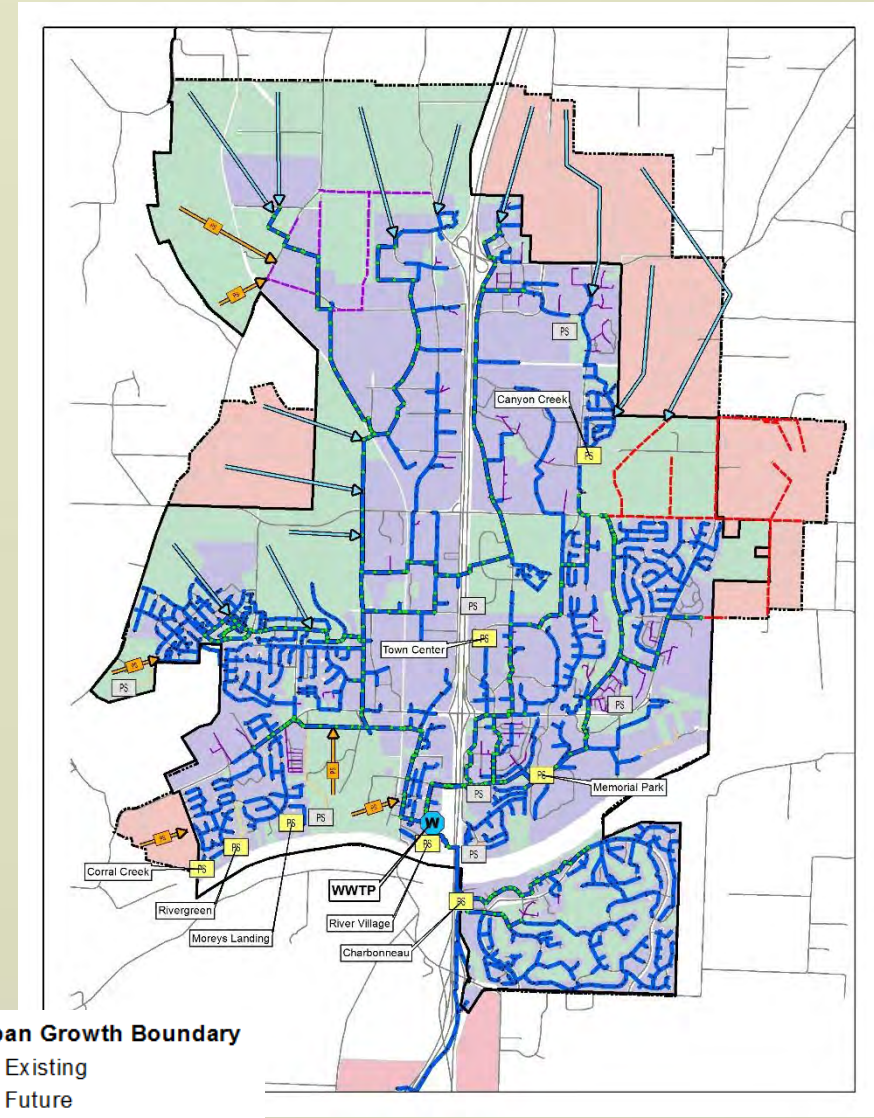
Note: Unit loads for land use classifications with equivalent dwellings units are calculated assuming 67 gpcd and 2.48 people per unit.



MSA

City of Wilsonville in Oregon

Design Criteria

Standard	Category	Criteria	Explanation
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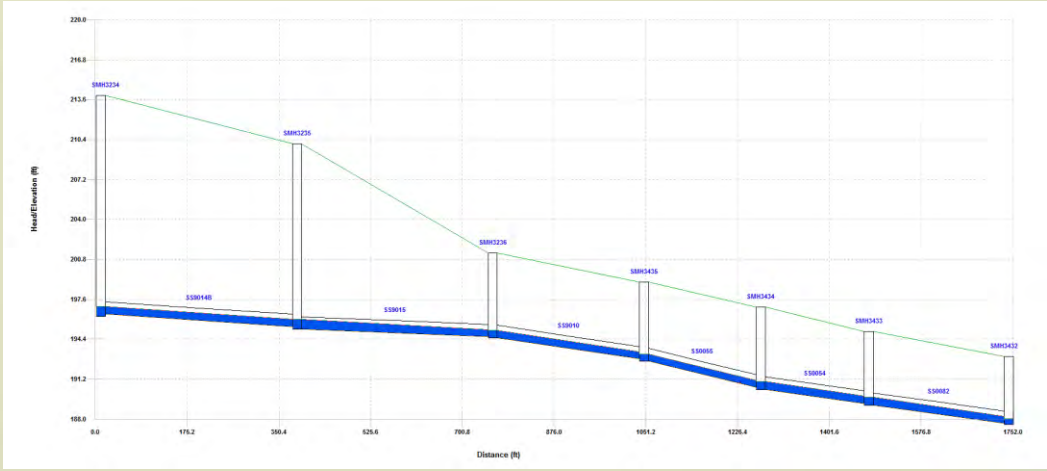
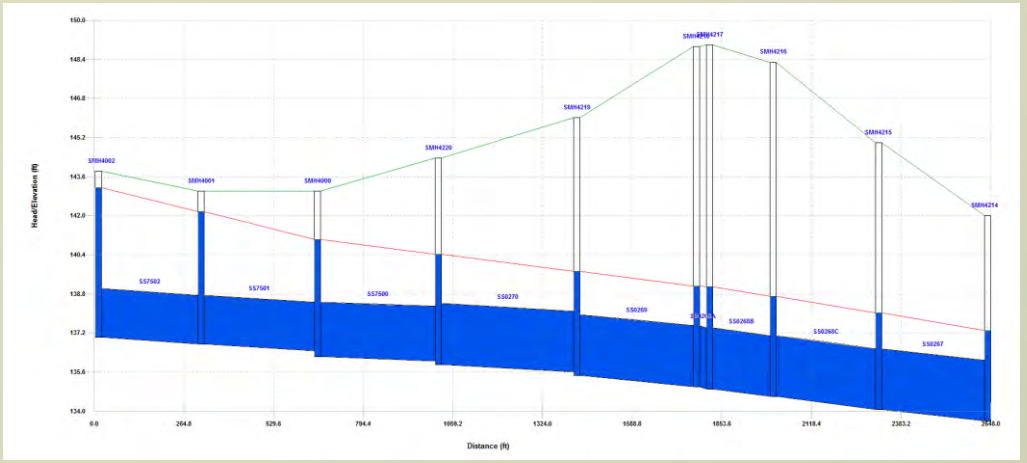
	Minimum cleansing/scouring velocity of force mains	3.5 ft/sec	Pipe diameters should be selected to prevent solids deposition.





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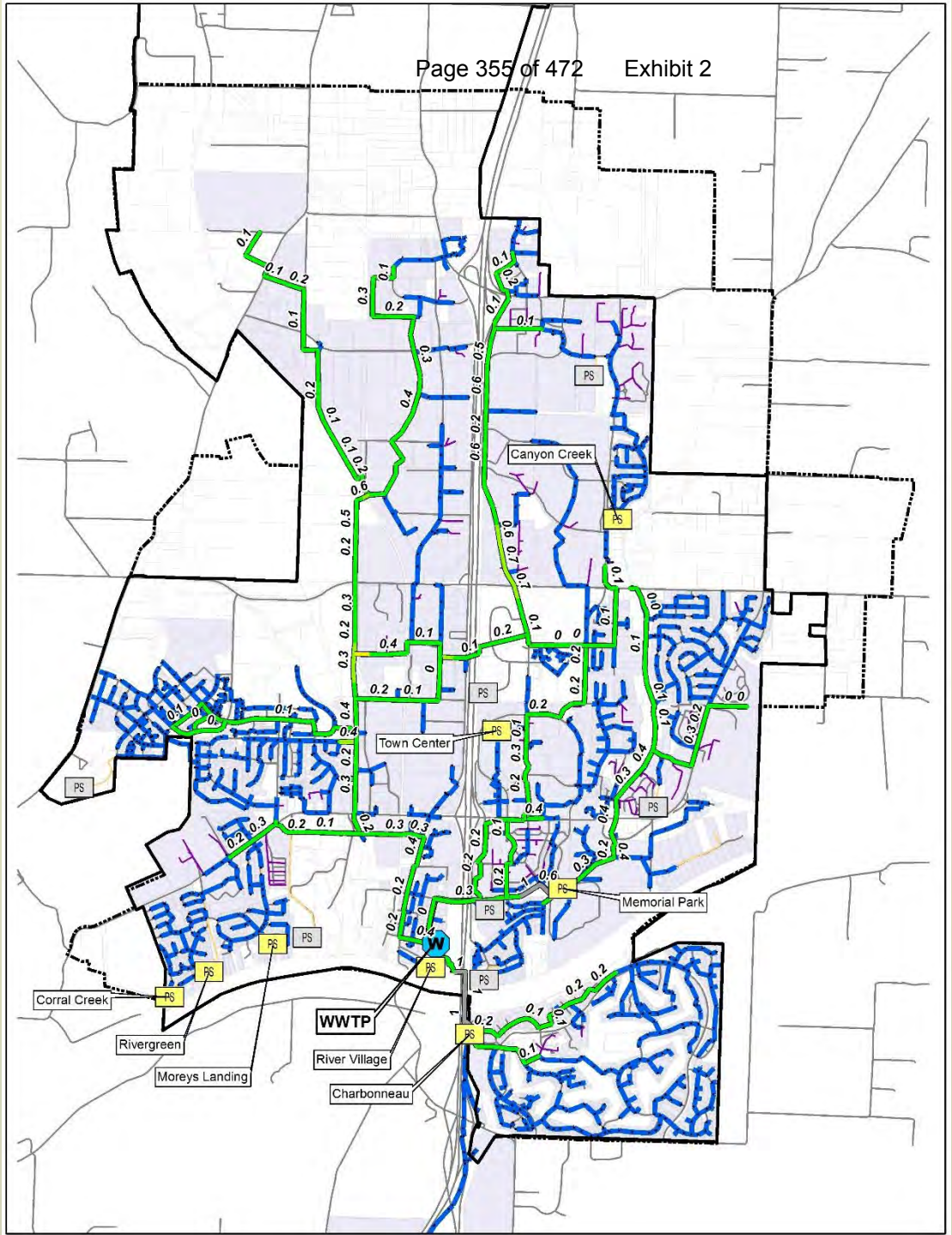
City of Wilsonville in Oregon

Existing System Capacity



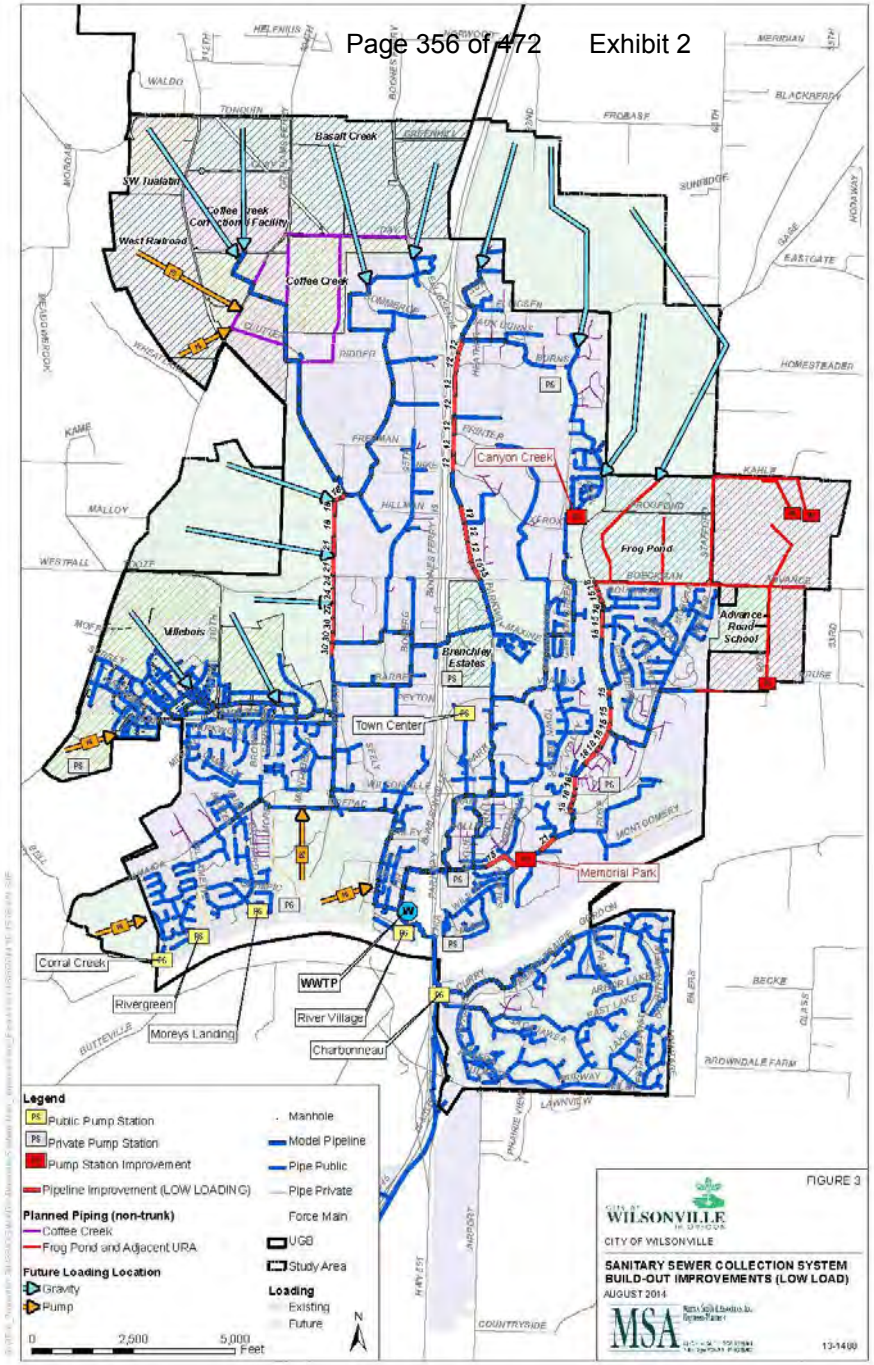
DEPTH RATIO

- < 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

MSA

City of Wilsonville in Oregon

Low Load Scenario



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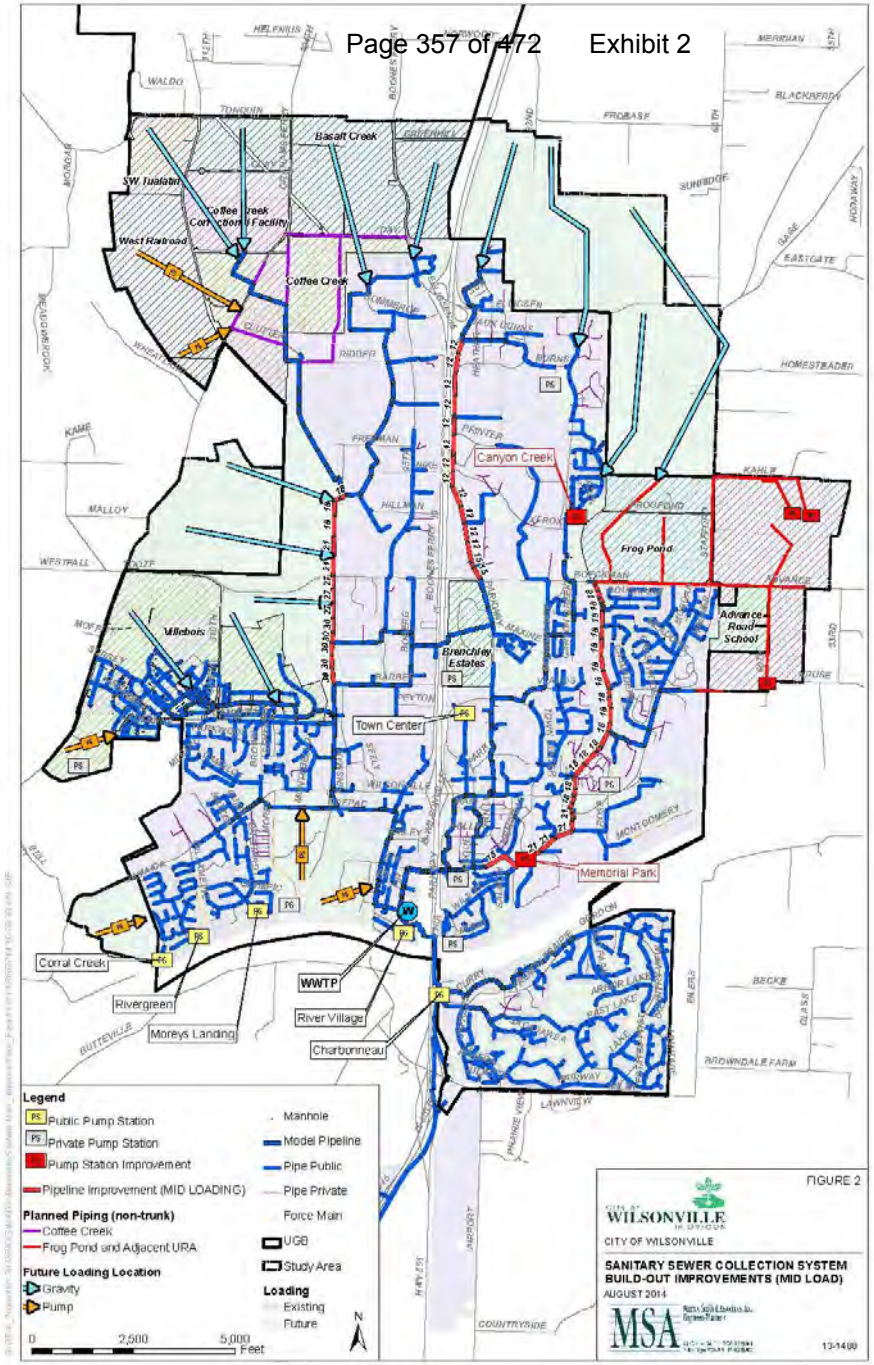
City of Wilsonville in Oregon

Medium Load Scenario



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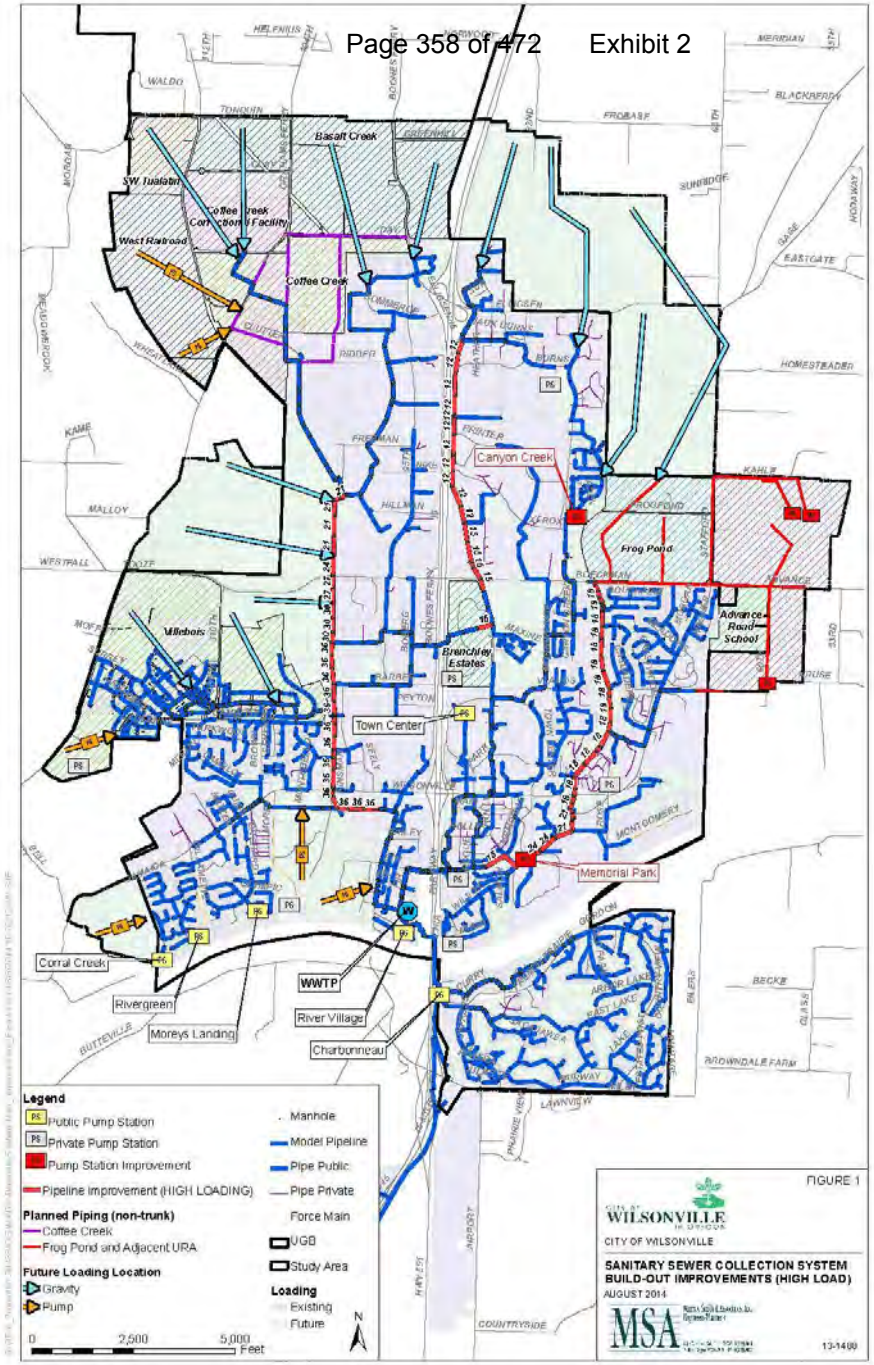
City of Wilsonville in Oregon

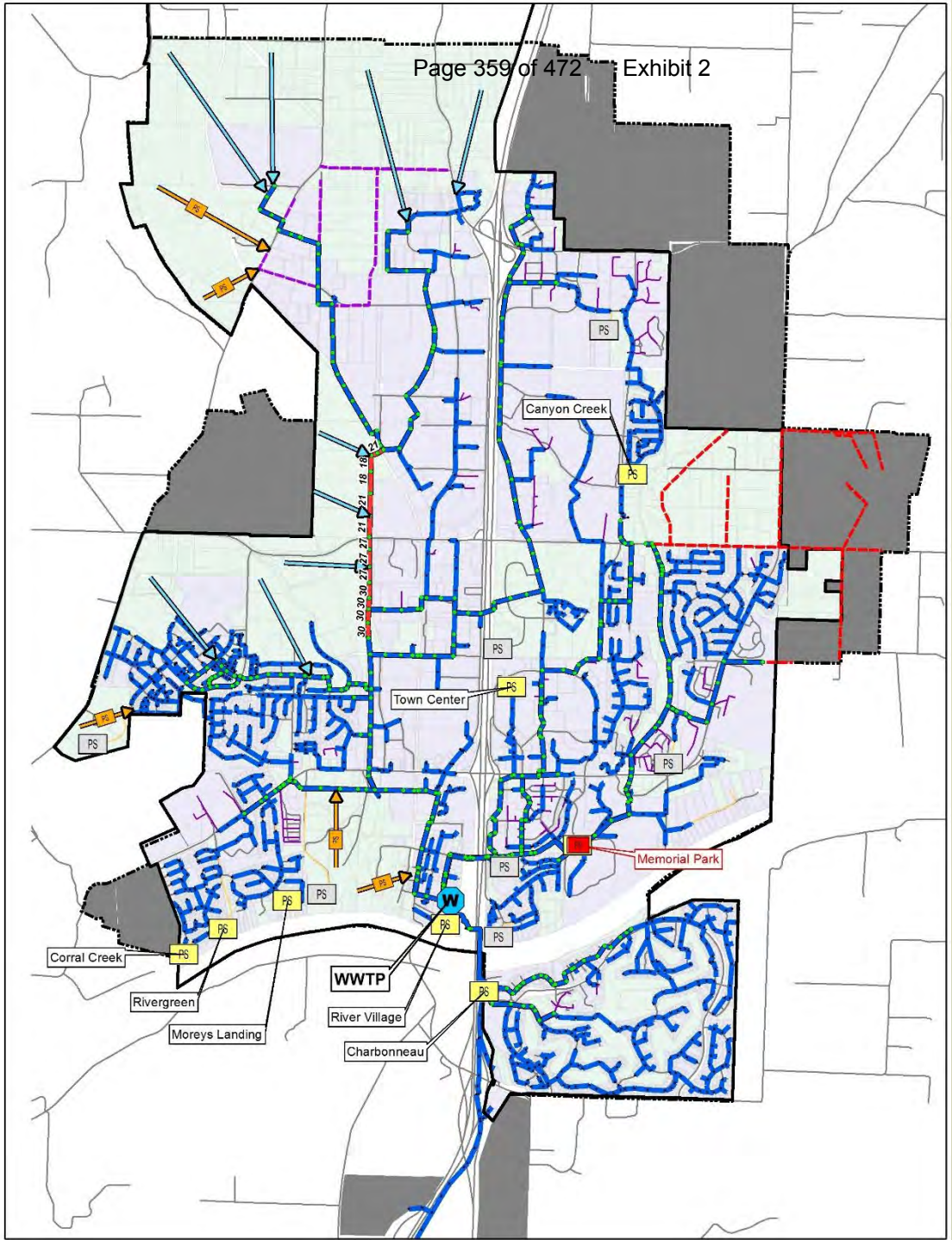
High Load Scenario



MSA

City of Wilsonville in Oregon

UGB & Planned Improvements (Build-out)



MSA

City of Wilsonville in Oregon

Project Type

- Existing System Capacity Upgrades
- Condition Based
- New Infrastructure for Future Development

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City of Wilsonville in Oregon

Prioritization Category

DEVELOPMENT BASED

- UGB
- Advanced Road URA
- URA

CONDITION BASED

- 0-5 Years
- 5-10 Years
- 10-20 Years

OTHER INFORMATION

- Project Drivers
- Growth Percentage

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City of Wilsonville in Oregon

Existing System Capacity Upgrades

- Coffee Creek Interceptor Phases 1, 2, & 3
- Parkway Interceptor
- Boeckman Interceptor Phases 1 & 2
- Memorial Park Pump Station and Force Main
- Canyon Creek Pump Station
- Boberg Diversion Structure
- Memorial Drive Flow Splitter Structure

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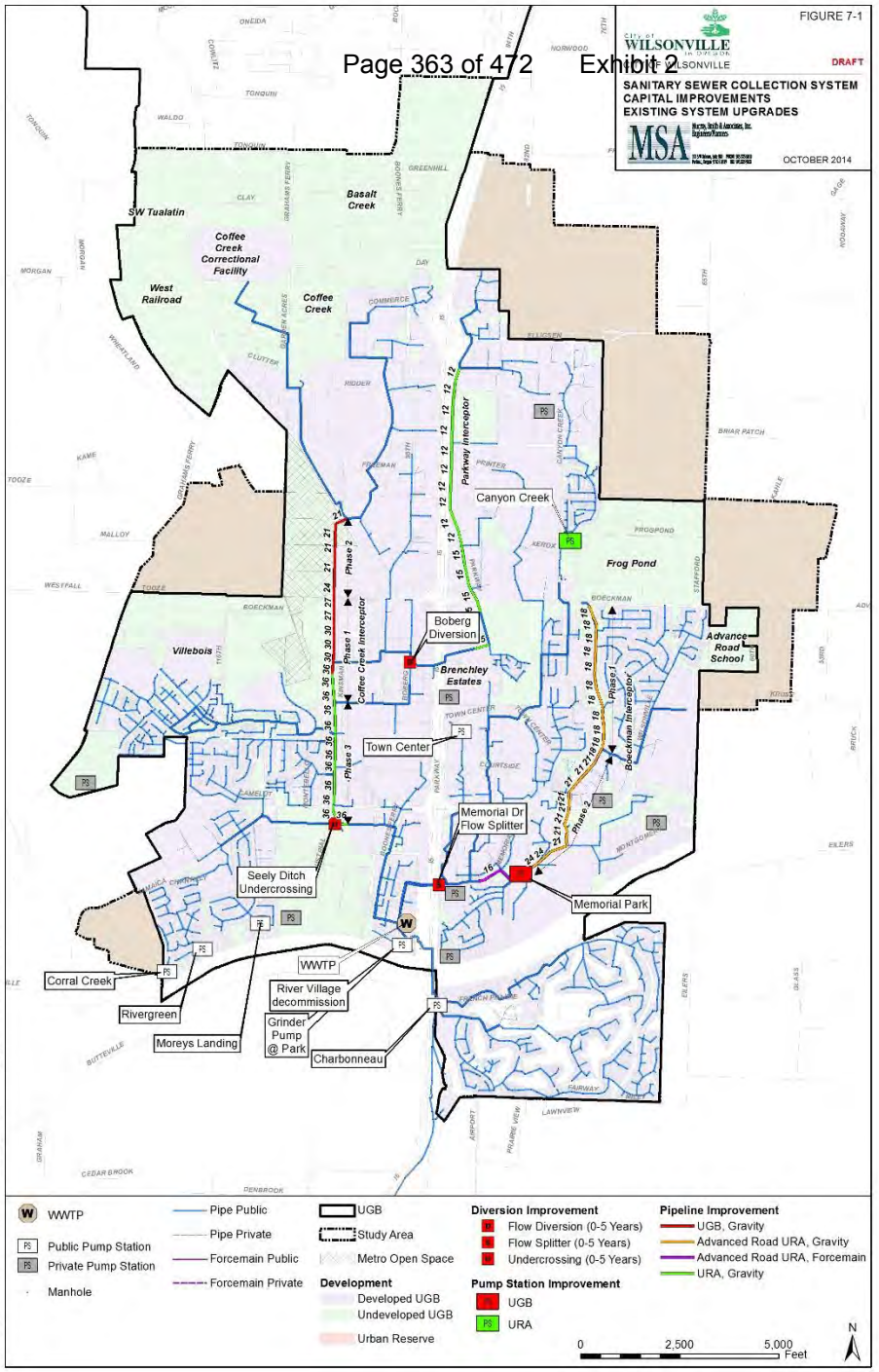
City of Wilsonville in Oregon

CIP – Existing Upsizing for Future Development



Condition Based Improvements

- Annual pipeline replacement program (concrete piping)
- Charbonneau District pipeline program
- Boberg Diversion structure
- Memorial Drive Flow Splitter structure
- Seely Ditch Undercrossing
- Memorial Park Pump Station
- Town Center Loop Pump Station
- River Village Pump Station - Decommission
- Corral Creek Pump Station
- River Green Pump Station
- Charbonneau Pump Station
- Morey's Landing Pump Station

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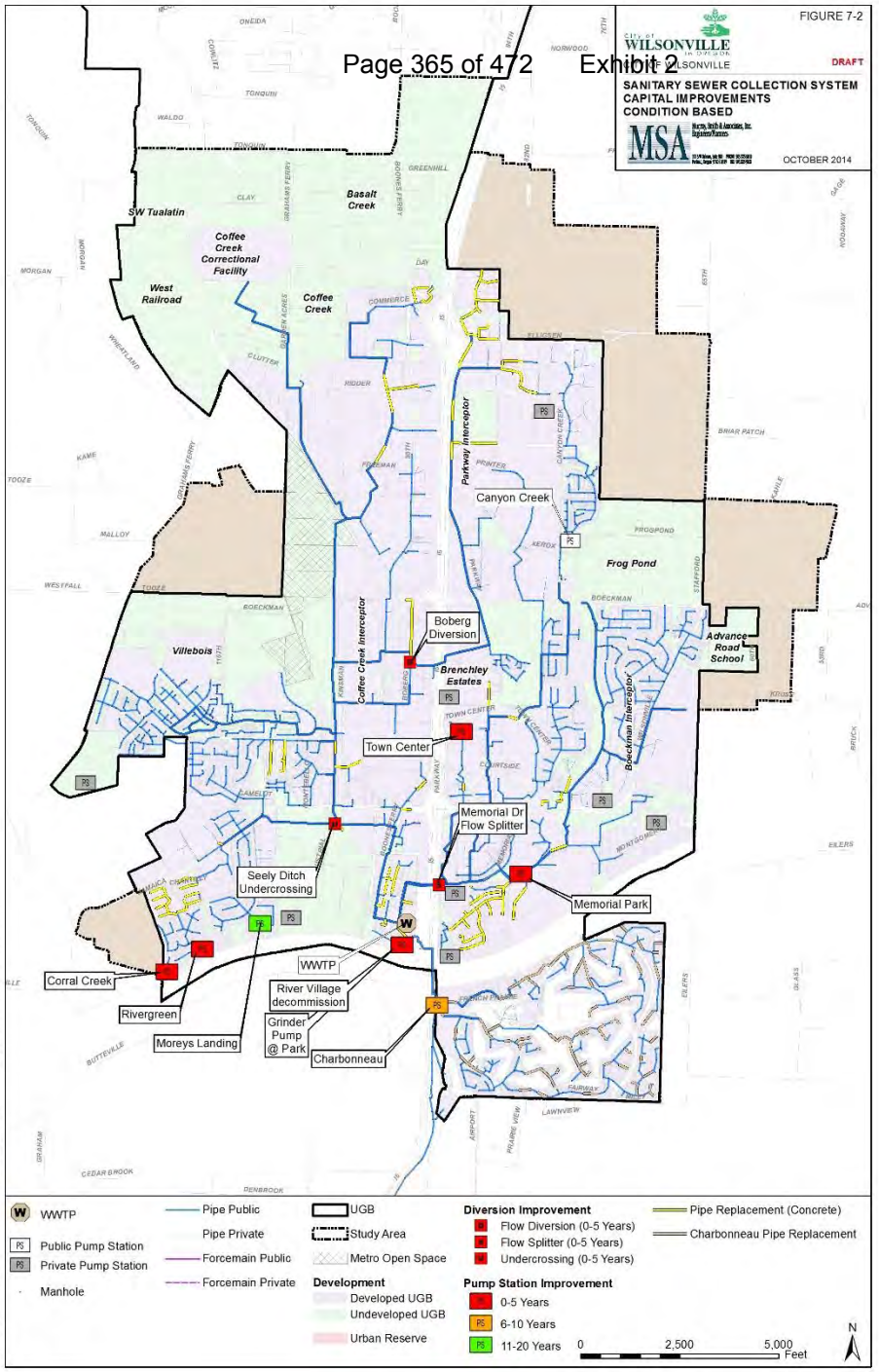
City of Wilsonville in Oregon

CIP – Condition Based



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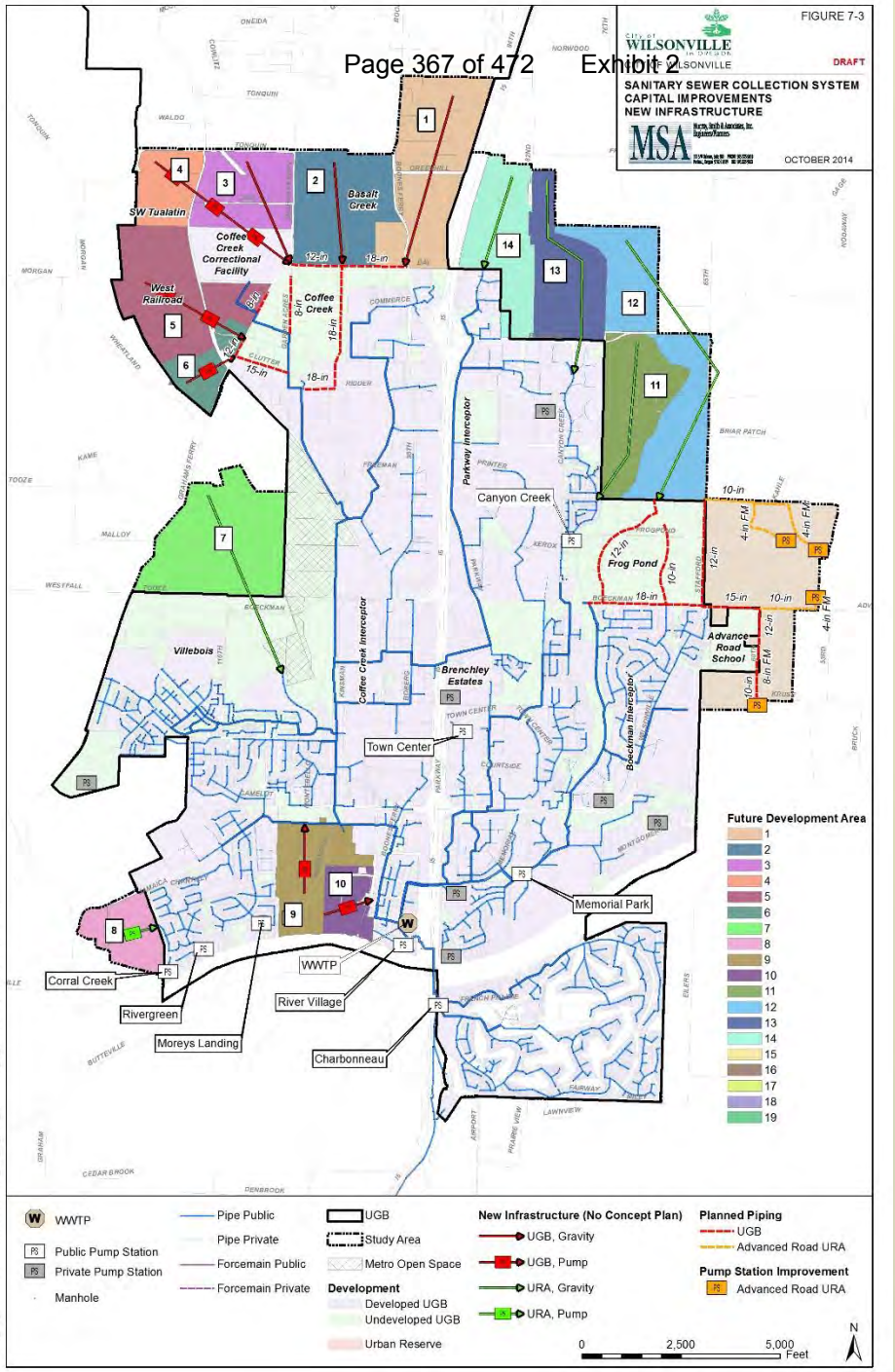
City of Wilsonville in Oregon

New Infrastructure for Future Development

- Infrastructure identified in concept plans for Frog Pond, Advance Road School, and Coffee Creek within the existing UGB.
- Future development areas that do not currently have concept plans within the UGB.
- Infrastructure identified in concept plans for Advanced Road URA.
- Future development areas that do not currently have concept plans within the URA.

CIP – New Infrastructure for Future Development



MSA

City of Wilsonville in Oregon

Planning Commission
Wastewater Collection System Master Plan Update
Record Index

August 13, 2014 Planning Commission Work Session:

- Meeting Minutes Excerpt
- PowerPoint shown at the August 13, 2014 PC Work Session
- A memorandum dated August 6, 2014, from Nancy Kraushaar, regarding: Sanitary Sewer Collection System Master Plan Update.

PLANNING COMMISSION
WEDNESDAY, AUGUST 13, 2014
6:00 P.M.

Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon

Approved
October 8, 2014

Minutes Excerpt

I. CALL TO ORDER - ROLL CALL

Vice Chair McGuire called the meeting to order at 6:02 p.m. Those present:

Planning Commission: Marta McGuire, Eric Postma, Al Levit, Peter Hurley, Phyllis Millan, Jerry Greenfield, and City Councilor Susie Stevens. Ben Altman was absent.

City Staff: Chris Neamtzu, Barbara Jacobson, Nancy Kraushaar, Katie Mangle, and Mike Ward

****

VI. WORK SESSIONS

B. Sanitary Sewer Master Plan (Kraushaar)

Nancy Kraushaar, Community Development Director, stated Staff has been working on an update to the Sanitary Sewer Master Plan for more than a year which included preliminary study work to better understand the different components of the system before doing the modeling and other steps needed to do the Master Plan update. The Master Plan had not been updated since 2001, and was especially needed given the proposed future growth in Frog Pond and potentially, the Advance Road and Basalt Creek areas.

- The recently upgraded and improved Wastewater Treatment Plan was not part of the update, only the unseen pipes, as well as the pump stations throughout the community required to pump sewage where gravity pull is unavailable. The existing conditions and capacity were reviewed to look for existing deficiencies and potential improvements. The project team also looked to see how well the current system and pump stations were operating, and then looked at future conditions to understand the future demands on the sanitary sewer collection system.
- Future considerations included the City's uncompleted concept plans, as well as some urban reserves outside the existing UGB that are upstream from the existing pipe system. Determining the impact those areas would have on the system in the future was important when making improvements to the system now so that pipes and facilities were sized correctly to accommodate future growth and prevent doing interim improvement projects that would need redone later.
- She introduced the consultant team, noting that because preparations were beginning for the final draft plan, Staff wanted to present the material for the Commission's comment and feedback.

Chad Roundy, Murray, Smith & Associates, Inc. presented the Sanitary Sewer Master Plan via PowerPoint and responded with Staff to clarifying questions from the Commission.

- It was noted that the City's stormwater and sanitary sewer systems are separated. While Wilsonville has a higher water table than some places, the City's system was influenced less by wet weather and was in good condition compared to some adjacent utilities. The existing system had almost no existing capacity constraints, though certain condition issues do exist that would be highlighted at future meetings.

Comments and discussion regarding the Sanitary Sewer Master Plan were as follows:

- Wilsonville was fortunate that most of the proposed sanitary sewer improvements needed for expansion tied in with improvements existing roads that would have to be improved anyway as the concept areas expanded.
    - One good example was section of Parkway Ave that would be in need of repair by the time the area north of Elligsen came into the city/UGB, likely requiring the pipe to be upsized. In addition, as development occurs on vacant properties in the area, the City would have the future planning knowledge to make necessary half-street or sewer line improvements, for example.
- One sewer line improvement near Kinsman Rd was located where no road existed yet. Construction of the next section of Kinsman Rd was planned for 2017, and would include upsizing the pipe when the road work was done.
- A small, 4-inch sewer line ran south of Charbonneau and east side of the highway that was forced gravity most of the way and then fed into the pump station at Charbonneau.
- The City would not consider the areas of Basalt Creek that are part of Tualatin. Horizon Christian School was in the City of Tualatin but the area between Horizon Christian School and the freeway was not.
- Staff was cautiously looking at areas in Basalt Creek because no public discussions have occurred regarding how the infrastructure needs in the area would be served. Sanitary sewer decisions would be based on the system being gravity fed, which might make sense for Wilsonville to do, but the decision could be to use pump stations.
    - Having the information about densities in Basalt Creek would back up how the area might impact the City's sewer system improvements. As information becomes available, the background for the Master Plan could be referenced to help make decisions in the future.

Ms. Kraushaar reviewed next steps, noting the project team planned to return to the Planning Commission in October to present a more comprehensive view of the Master Plan. The Committee for Citizen Involvement would be asked to hold a public meeting in November so the City could ensure public involvement, and then the public hearing would hopefully be held in December.

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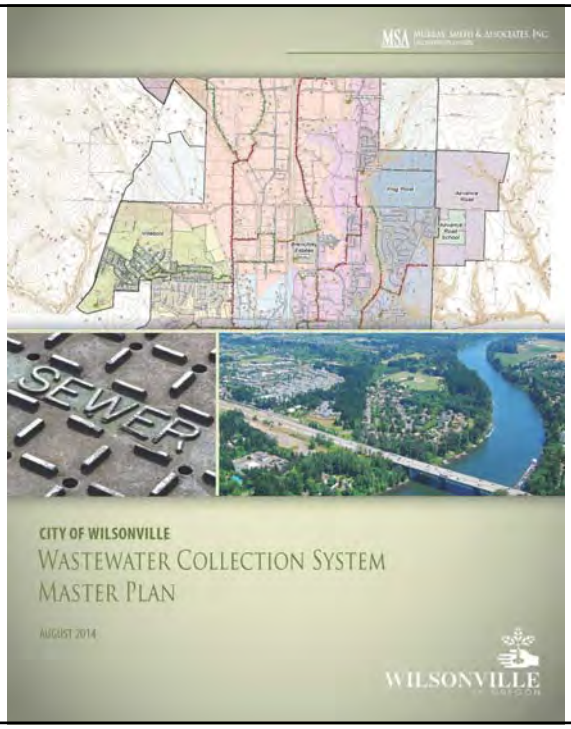

Collection System Master Plan

- Compiles basic information describing the collection system
- Presents planning and analysis criteria for assessing system capacity
- Identifies existing and future system deficiencies
- Describes improvement recommendations
- Provides planning level cost information for budgeting of a Capital Improvement Program
- Informs City leaders, staff, developers, and public about the proposed improvements
- Facilitates logical planning decisions and utility coordination

MSA

City of Wilsonville in Oregon

System Loading

Land Use	Land Use Description	High Density		Medium Density		Low Density	
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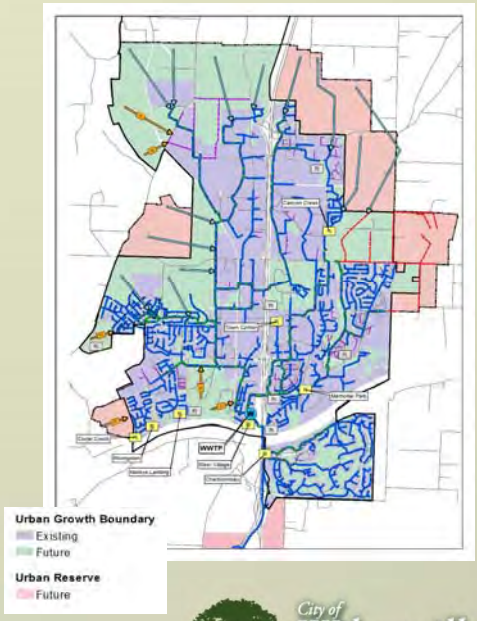

MSA

City of Wilsonville in Oregon

Design Criteria

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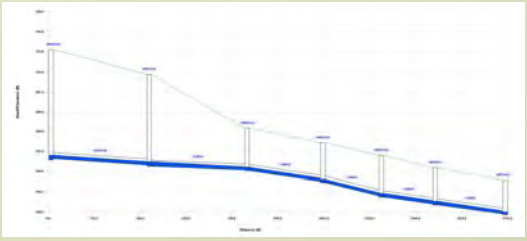
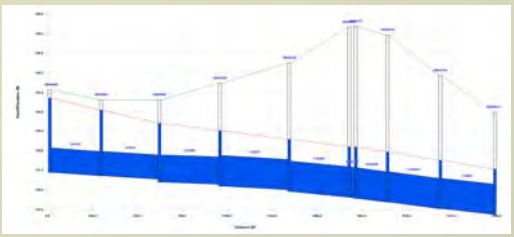
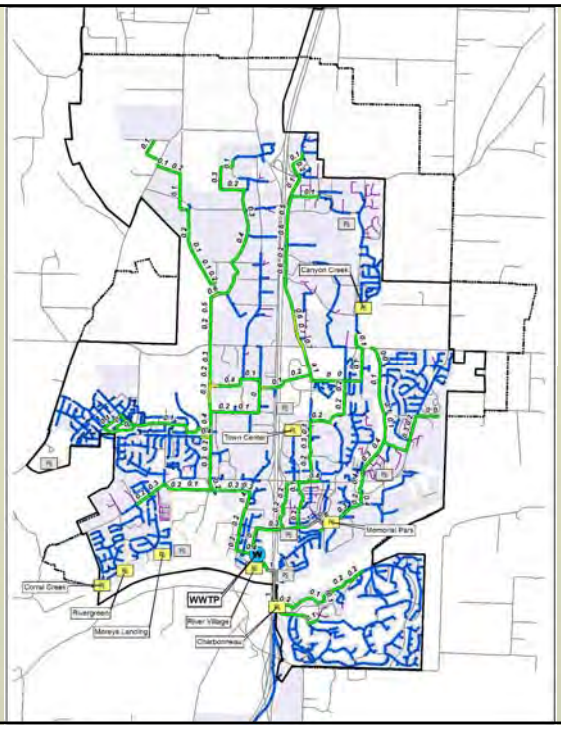




MSA

City of Wilsonville in Oregon

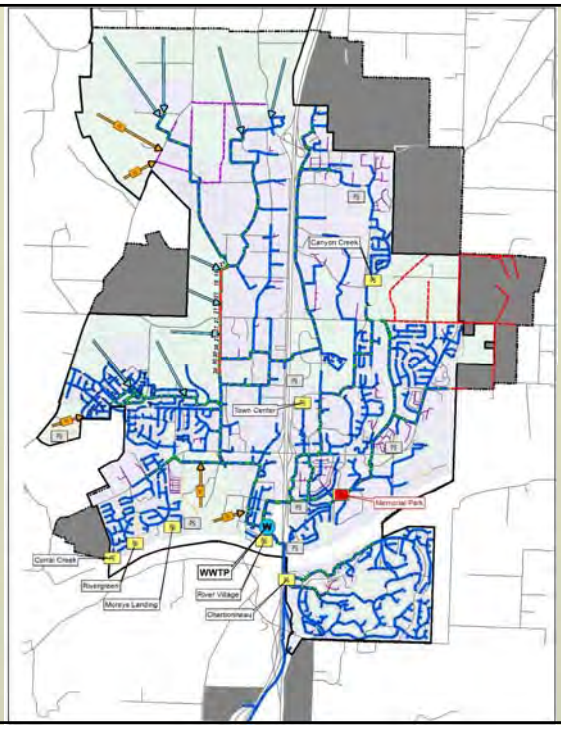
Existing System Capacity



MSA

City of Wilsonville in Oregon

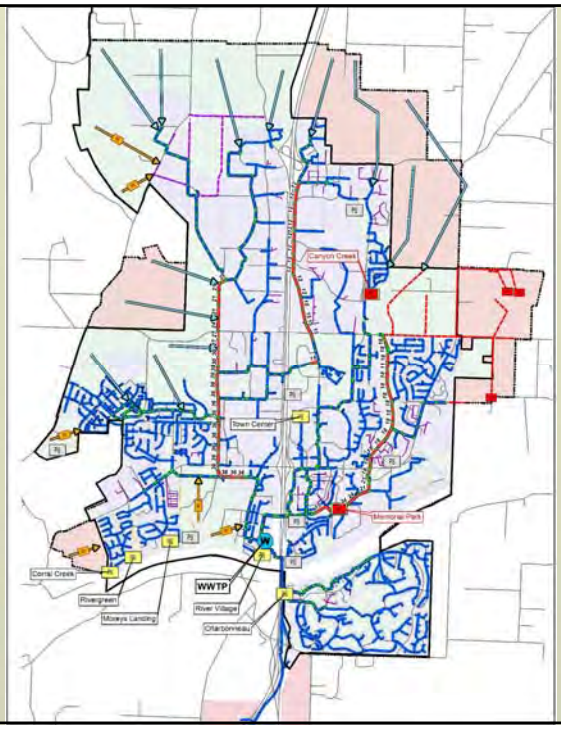
UGB & Planned Improvements (Build-out)



MSA

City of Wilsonville in Oregon

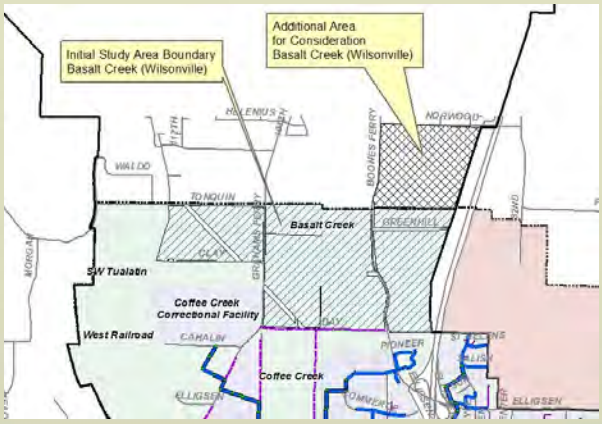
UGB Expansion into Adjoining URA & Planned Improvements



MSA

City of Wilsonville in Oregon

Basalt Creek



MSA

City of Wilsonville in Oregon

City of
WILSONVILLE
OREGON

Community Development
29799 SW Town Center Loop East
Wilsonville, OR 97070
Phone 503-682-4960
Fax 503-682-7025
TDD 503-682-0843
Web www.ci.wilsonville.or.us

To: Planning Commission
From: Mike Ward, PE, Civil Engineer
Nancy Kraushaar, PE, Community Development Director
Date: August 6, 2014
Subject: Sanitary Sewer Collection System Master Plan Update

At the August 13, 2014 Planning Commission meeting, the project team for the Sanitary Sewer Collection System Master Plan Update will present a brief summary of work performed to date and information regarding upcoming public involvement and the proposed adoption schedule.

The following outline summarizes the work plan that has been underway for the Sanitary Sewer Master Plan Update project.

Task 1 – Project Management

Task 2 – Data Collection and Review
a. Information compilation and review
b. Current Plan evaluations and general planning criteria review

Task 3 – Planning and System Analysis Criteria
a. Population and land use
b. Planning criteria, population projections and regulatory requirements
c. Hydraulic criteria

Task 4 – Existing Sewer Collection System Description and Evaluation
a. Technical description and evaluation of facilities
b. System inventory and existing system conditions
c. Conceptual analysis of unserved areas
d. Collection system map
e. Review basin delineation

Task 5 – Wastewater Characterization and Forecasting
a. Wastewater evaluations
b. Flow forecasts
c. Flow monitoring analysis

Task 6 – Infiltration and Inflow Evaluation
a. Develop plan for additional flow monitoring
b. I&I review flow measurements
c. I&I summary
d. I&I reduction plan

Task 7 – System Analysis
a. Wastewater system model development
b. Model calibration

c. Hydraulic grade line analysis

Task 8 – Develop Wastewater Alternatives
a. Develop preliminary alternatives
b. Wastewater alternatives analysis workshop
c. Environmental review of alternatives
d. Evaluation of sewage collection and conveyance alternatives

Task 9 – Evaluate Alternatives
a. Operational alternatives
b. Infrastructure alternatives

Task 10 – Selection of Preferred Alternatives

Task 11 – Capital Improvements Plan and Implementation Program
a. Capital Improvement Plan (CIP)
b. Improvement prioritization and CIP coordination

Task 12 – Report Preparation

Task 13 – Final Plan Review and Adoption
a. Final review process
b. Planning Commission review, community meeting, Planning Commission public hearing
c. Prepare final recommended system plan and conduct City Council public hearing
d. Submit final adopted plan

Task 14 – Coordinate with Rate Consultant
a. Develop rate scenarios with rate consultant
b. Review System Development Charge relative to adopted CIP
c. City Council meetings

It is necessary to update the City of Wilsonville Wastewater Collection System Master Plan which was adopted in 2001. The update project completes a comprehensive review of the existing wastewater system conditions and identifies deficiencies and needed improvements. The City's sanitary sewer trunk pipe network and pump stations are evaluated for capacity and operating conditions. In addition, the system is evaluated for future conditions to prepare for build out within the current urban growth boundary (UGB). Further, the plan reviews potential system needs for future UGB expansion areas adjacent to the City of Wilsonville.

The resulting Sanitary Sewer Collection System Master Plan (Plan) will provide a clear understanding of system needs and a 20-year list of prioritized capital improvement projects that will be used to efficiently program for well-maintained infrastructure with long-term capacity to serve the City over time.

Exhibit 1

CONCLUSIONARY FINDINGS
February 2, 2015
In support of Adoption of Ord. No. 766
Updated Wastewater Collection System Master Plan

The updated Wastewater Collection System Master Plan has been found to be consistent with the applicable criteria as follows.

COMPREHENSIVE PLAN COMPLIANCE

Standards for Approval of Plan Amendments

In order to grant a Plan amendment, the City Council shall after considering the recommendation of the Development Review Board (quasi-judicial) or Planning Commission (legislative), find that:

a. Conformance with Other Portions of the Comprehensive Plan

CP1. **Review Criteria:** "The proposed amendment is in conformance with those portions of the Plan that are not being considered for amendment."
Finding: These criteria are satisfied.
Explanation of Finding: The proposed updated Wastewater Collection System Master Plan has been found to be in conformance with the Comprehensive Plan. See Findings CP2 through CP31 below.

b. Amendment is in the Public Interest

CP2. **Review Criterion:** "The granting of the amendment is in the public interest."
Finding: This criterion is satisfied.
Explanation of Finding: Development Code Subsection 4.198 (.01) A. implements this standard. It is in the public interest to periodically update the master plans for critical public facilities such as the wastewater collection system to ensure the system provides for adequate service for current and future residents and businesses to ensure proper sanitation and conveyance of wastewater to the treatment plant.

c. Public Interest and Timing of Amendment

CP3. **Review Criterion:** "The public interest is best served by granting the amendment at this time."
Finding: This criterion is satisfied.
Explanation of Finding: Facility master plans such as the wastewater collection system must be updated periodically to provide updated current condition information and use updated data to forecast future needs. The last update to the Wastewater Collection System Master Plan was in 2001, so the public interest is best served by updating the master plan as soon as possible making the current timing appropriate.

Exhibit 1

d. Adequately Addressing Specific Factors

CP4. **Review Criteria:** "The following factors have been adequately addressed in the proposed amendment: the suitability of the various areas for particular land uses and improvements; the land uses and improvements in the area; trends in land improvement; density of development; property values; the needs of economic enterprises in the future development of the area; transportation access; natural resources; and the public need for healthful, safe and aesthetic surroundings and conditions."
Finding: These criteria are satisfied.
Explanation of Finding:
Suitability of the Various Areas for Particular Land Uses and Improvements: The plan only considers serving areas otherwise acknowledged as future growth areas. The plan includes analysis of the current location of the largest pump station in the City in a flood zone, Memorial Park pump station, and the need to relocate the pump station to a more appropriate location. Otherwise specific location and impacts to natural areas and other resources has not been evaluated, but will be evaluated during the design phase of individual improvements.

Land Uses and Improvements in the Area: The updated Wastewater Collection System Master Plan considers the current land uses throughout the city as well as potential land uses in future growth areas.

Trends in Land Improvement: The amended Wastewater Collection System Master Plan supports the trends identified in other master plans and studies.

Density of Development: The updated Wastewater Collection System Master Plan considers planned densities throughout the City and growth areas over the planning horizon.

Property Values: Planning for an adequate wastewater collection system helps enable a functional system long term which supports sanitation. Lack of proper sanitation and ability to properly dispose of wastewater would negatively affect property values.

The Needs of Economic Enterprises in the Future Development of the Area: Planning for an adequate wastewater collection system helps support economic enterprise in area planned for business growth by planning adequate capacity and service.

Transportation Access: The Wastewater Collection System Master Plan does not consider transportation access.

Natural Resources: The updated Wastewater Collection System Master Plan doesn't specifically address how facility siting and sewer line replacement affect natural resources. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

Public Need for Healthful, Safe and Aesthetic Surroundings and Conditions: Functional and sanitary conveyance of wastewater to the treatment plan, which is the aim of the updated Wastewater Collection System Master Plan, supports healthful, safe, and aesthetic surroundings by preventing unsanitary or environmentally detrimental disposal or treatment of wastewater.

e. Conflict with Metro Requirements

CP5. **Review Criteria:** "Proposed changes or amendments to the Comprehensive Plan do not result in conflicts with applicable Metro requirements."
Finding: These criteria are satisfied.
Explanation of Finding: No conflicts with Metro requirements have been identified.

Citizen Involvement

Goal 1.1: To encourage and provide means for interested parties to be involved in land use planning processes, on individual cases and City-wide programs and policies.

Policy 1.1.1: Wide Range of Public Involvement

CP6. **Review Criterion:** "The City of Wilsonville shall provide opportunities for a wide range of public involvement in City planning programs and processes."
Finding: This criterion is satisfied.
Explanation of Finding: A number of different media and venues have been used to encourage public involvement. Wastewater collection tends to be a subject in which the community does not express a lot of interest as long as the system is functioning well. While a reasonable effort has been made to notify and solicit community involvement, limited interest has been expressed. Information was published in the Boones Ferry Messenger, a community newsletter mailed to every address within Wilsonville's 97070 zip code, the Committee for Citizen Involvement hosted a community open house, the Planning Commission held work sessions, and project staff made information about the project available on the City's website. The City mailed public hearing notices citywide for the Planning Commission and upcoming City Council public hearings.

Implementation Measure 1.1.1.a. Early Public Involvement

CP7. **Review Criterion:** "Provide for early public involvement to address neighborhood or community concerns regarding Comprehensive Plan and Development Code changes. Whenever practical to do so, City staff will provide information for public review while it is still in "draft" form, thereby allowing for community involvement before decisions have been made."
Finding: This criterion is satisfied.
Explanation of Finding: The City solicited feedback from the Planning Commission and public early in the planning process while the plan was still in draft form. Any feedback has been considered in preparation of the plan.

Goal 1.2: For Wilsonville to have an interested, informed, and involved citizenry.

Policy 1.2.1: User Friendly Information

CP8. **Review Criterion:** "The City of Wilsonville shall provide user-friendly information to assist the public in participating in the City planning programs and processes."
Finding: This criterion is satisfied.
Explanation of Finding: The City has produced user-friendly notices for the project, as well as provided other information, and opportunities, both in person and online, to examine the materials related to the updated Wastewater Collection System Master Plan.

Implementation Measures 1.2.1.a.-c. Clarification, Publicity, and Procedures for Public Involvement

CP9. **Review Criteria:** These measures address the City's responsibility to help clarify the public participation process, publicize ways to participate, and establish procedures to allow reasonable access to information.
Finding: These criteria are satisfied.
Explanation of Finding: The City has produced user-friendly notices for the project, as well as provided other information, and opportunities, both in person and online, to examine the materials related to the updated Wastewater Collection System Master Plan.

Policy 1.3.1. Implementation Measures 1.3.1.b. Clarification, Publicity, and Procedures for Public Involvement

CP10. **Review Criteria:** "The City of Wilsonville shall coordinate with other agencies and organizations involved with Wilsonville's planning programs and policies." "Where appropriate, the City shall continue to coordinate its planning activities with affected public agencies and private utilities. Draft documents will be distributed to such agencies and utilities and their comments shall be considered and kept on file by the City."
Finding: These criteria are satisfied.
Explanation of Finding: The appropriate agencies have been notified through the DLCD notice and/or the Public Hearing Notice. Any comments will be entered into the public hearing record and be considered.

Urban Growth Management

Goal 2.1: To allow for urban growth while maintaining community livability, consistent with the economics of development, City administration, and the provision of public facilities and services.

Implementation Measure 2.1.1.d. Establish and Maintain Revenue Sources for Public Services and Facilities

CP11. **Review Criterion:** "Establish and maintain revenue sources to support the City's policies for urbanization and maintain needed public services and facilities."

Finding: This criterion is satisfied.
Explanation of Finding: While the scope of the Wastewater Collection System Master Plan includes prioritizing short-term and long-term projects for the Capital Improvement Program and developing budget level cost estimates, the update does not evaluate funding tools. The City is examining and will continue to examine revenue sources to support the CIP through such projects as the Charbonneau Consolidated Improvement Plan, the Frog Pond Area Concept Plan, and the Basalt Creek Master Plan.

Implementation Measure 2.1.1.e. Concurrency of Facilities and New Development

CP12. **Review Criterion:** "Allow new development to proceed concurrently with the availability of adequate public services and facilities as specified in Public Facilities and Services Section (Section C) of the Comprehensive Plan."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current policies supporting concurrency of public services and facilities with new development are not altered by the proposed update to the Wastewater Collection System Master Plan.

Policy 2.2.1. Plan for Urbanization

CP13. **Review Criterion:** "The City of Wilsonville shall plan for the eventual urbanization of land within the local planning area, beginning with land within the Urban Growth Boundary."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the effort to plan for the eventual urbanization of these areas.

Implementation Measure 2.2.1.b. Fair Share to Increase Development Capacity

CP14. **Review Criterion:** "The City of Wilsonville, to the best of its ability based on infrastructure provided at the local, regional, and state levels, shall do its fair share to increase the development capacity of land within the Metro UGB."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service for planned densities, the City is supporting the effort to provide for its fair share of development within the UGB.

Implementation Measure 2.2.1.g. Urban Services to Not be Extended Outside City Limits

CP15. **Review Criterion:** "Urban sanitary sewer and water service shall not be extended outside the City limits, with the following exceptions:
1. Where an immediate demonstrable threat to the public health exists, as a direct result of the lack of the service in question;
2. Where a Governmental agency is providing a vital service to the City; or

3. Where it is reasonable to assume that the subject area will be annexed to the City within a reasonable period of time."

Finding: This criterion is satisfied.

Explanation of Finding: The updated Wastewater Collection System Master Plan does not plan for extension of wastewater collection services until properties are annexed into the City.

Public Facilities and Services

Goal 3.1 To assure that good quality public facilities and services are available with adequate, but not excessive, capacity to meet community needs, while also assuring that growth does not exceed the community's commitment to provide adequate facilities and services.

Policy 3.1.1. The City to Provide Public Facilities

CP16. **Review Criterion:** "The City of Wilsonville shall provide public facilities to enhance the health, safety, educational, and recreational aspects of urban living."

Finding: This criterion is satisfied.

Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the effort to continue to provide for all aspects of urban living affected by wastewater collection.

Implementation Measure 3.1.1.a. City to Prepare and Implement Facility/Services Master Plans

CP17. **Review Criterion:** "The City will continue to prepare and implement master plans for facilities/services, as sub-elements of the City's Comprehensive Plan. Facilities/services will be designed and constructed to help implement the City's Comprehensive Plan."

Finding: This criterion is satisfied.

Explanation of Finding: The City is continuing the practice to prepare and implement facility/services master plans as sub-elements of the Comprehensive Plan by updating the 13-year-old Wastewater Collection System Master Plan.

Implementation Measure 3.1.1.d. City to Review Development Densities and Facilities/Services Capacity

CP18. **Review Criterion:** "The City shall periodically review and, where necessary, update its development densities indicated in the land use element of the Plan, based on the capacity of existing or planned services and/or facilities."

Finding: This criterion is satisfied.

Explanation of Finding: The updated Wastewater Collection System Master Plan incorporates the most up to date growth forecast information to plan enough capacity for the expected growth; it has not identified any areas where planned development densities need to be adjusted based on the capacity to serve with the waste water collection system.

Policy 3.1.2. Concurrency

CP19. **Review Criterion:** "The City of Wilsonville shall provide, or coordinate the provision of, facilities and services concurrent with need (created by new development, redevelopment, or upgrades of aging infrastructure)."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the Wastewater Collection System Master Plan the City is coordinating its efforts over the planning horizon to provide wastewater collection facilities and services concurrent with need, whether it involves new development, redevelopment, or upgrading aging infrastructure.

Implementation Measure 3.1.2.a.Urban Development only in Serviceable Areas

CP20. **Review Criterion:** "Urban development will be allowed only in areas where necessary facilities and services can be provided."
Finding: This criterion is satisfied.
Explanation of Finding: In addition to analyzing the condition of existing infrastructure the updated Wastewater Collection System Master Plan identifies deficiencies and needed improvements to serve areas expected to develop. The City will continue to follow concurrency policies for public facilities and development and thus allow development only in areas were wastewater collection services can be provided.

Policy 3.1.3. Payment for and Benefits from Facilities and Services

CP21. **Review Criterion:** "The City of Wilsonville shall take steps to assure that the parties causing a need for expanded facilities and services or those benefiting from such facilities and services, pay for them."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current practices to require parties causing a need for expanded facilities pay for them are not changed by the scope of the updated Wastewater Collection System Master Plan.

Implementation Measure 3.1.3.a. Developers and SDC's

CP22. **Review Criterion:** "Developers will continue to be required to pay for demands placed on public facilities/services that are directly related to their developments. The City may establish and collect systems development charges (SDCs) for any or all public facilities/services, as allowed by law. An individual exception to this standard may be justified, or SDC credits given, when a proposed development is found to result in public benefits that warrant public investment to support the development."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current SDC practices are not affected by the updated Wastewater Collection System Master Plan.

Implementation Measure 3.1.3.b. Capital Improvement Program

CP23. **Review Criterion:** "The City will continue to prepare and implement a rolling five- year Capital Improvement Program, with annual funding decisions made as part of the municipal budget process."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan is part of the City's continuing effort to prepare and implement a rolling five-year Capital Improvement Program by prioritizing short-term and long-term wastewater collection system projects for the CIP.

Implementation Measure 3.1.3.c. Pay-back Agreements

CP24. **Review Criterion:** "The City shall continue to employ pay-back agreements, development agreements, and other creative solutions for facilities that are over-sized or extended from off-site at the expense of only some of the benefited properties."
Finding: This criterion is satisfied.
Explanation of Finding: The City's policies towards and use of pay-back agreements, development agreements, and other creative infrastructure financing solutions are not affected by the updated Wastewater Collection System Master Plan.

Policy 3.1.4. City Operations of Sanitary System to Standards

CP25. **Review Criterion:** "The City of Wilsonville shall continue to operate and maintain the wastewater treatment plant and system in conformance with federal, state, and regional water quality standards."
Finding: This criterion is satisfied.
Explanation of Finding: As discussed in Section 4 of the plan, the update Wastewater Collection System Master Plan will continue to allow the wastewater system to operate to applicable standards.

Implementation Measure 3.1.4.a. City to Maintain Sewer Service Monitoring and Expansion Program

CP26. **Review Criterion:** "The City shall continue to maintain a sewer service capacity monitoring and expansion program to assure that adequate treatment and trunk main capacity are is available to serve continued development, consistent with the City's urban growth policies and the concurrency standards noted above."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting this implementation measure.

Implementation Measures 3.1.4.b. Sanitary Sewer Capacity

CP27. **Review Criteria:** "The City shall continue to manage growth consistent with the capacity of sanitary sewer facilities."
Finding: These criteria are satisfied.
Explanation of Finding: An updated Wastewater Collection System Master Plan will enable to the City to better continue to manage growth consistent with the capacity of the wastewater collection system by identifying needed upgrades to current infrastructure as well as infrastructure needed for growth in different planned growth areas.

Implementation Measure 3.1.4.d. Extending Service to Individual Properties and Developments

CP28. **Review Criterion:** "While the City assumes the responsibility for maintaining the treatment plant and collection system, it does not assume the responsibility for extending lines to serve individual properties and developments."
Finding: This criterion is satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan does not affect the City's policy of not assuming responsibility for extending wastewater service to individual properties and developments.

Implementation Measure 3.1.4.e. All Urban Development Served by Sanitary Sewer

CP29. **Review Criterion:** "The City shall continue to require all urban level development to be served by the City's sanitary sewer system."
Finding: This criterion is satisfied.
Explanation of Finding: By updating the plan for wastewater collection infrastructure, including ensuring adequate capacity and service to land within the Urban Growth Boundary and Urban Reserves around the City, the City is supporting the ability to provide sanitary sewer service to all urban level development. The updated Wastewater Collection System Master Plan does not affect the City's policy of not allowing urban level development not served by the sanitary sewer system.

Implementation Measure 3.1.4.f. Cost of Individual Services and Line Extensions

CP30. **Review Criterion:** "The cost of all line extensions and individual services shall be the responsibility of the developer and/or property owners(s) seeking service. When a major line is to be extended, the City may authorize and administer formation of a Local Improvement District (LID). All line extensions shall conform to the City Sanitary Sewer Collection System Master Plan, urbanization policies, and Public Works Standards."
Finding: This criterion is satisfied.
Explanation of Finding: The City's current practices regarding LID's and costs for services are not affected by the updated Wastewater Collection System Master Plan.

Exhibit 1

Parks/Recreation/Open Space, Environmental Resources and Community Design

Policies 3.1.11., 4.1.5. and Implementation Measures 3.1.11.a. ,4.1.5.d.-g.,aa. . Conservation of Natural, Scenic, and Historic Areas

CP31. **Review Criteria:** These policies and implementation measures require and encourage conservation of natural resources, as well as scenic and historic areas.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan doesn't specifically address how facility siting and sewer line replacement affect natural, scenic, and historic resources. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

COMPLIANCE WITH PLANNING AND LAND DEVELOPMENT ORDINANCE

Section 4.003 Consistency with Plans and Laws

PL1. **Review Criterion:** "Actions initiated under this Code shall be consistent with the Comprehensive Plan and with applicable State and Federal laws and regulations as these plans, laws and regulations now or hereafter provide."
Finding: This criterion is satisfied.
Explanation of Finding: Consistency with the Comprehensive Plan and applicable state laws has been reviewed and summarized in this report.

Section 4.008 General Application Procedures

PL2. **Review Criterion:** "The general application procedures listed in Section 4.008 through 4.024 apply to all land use and development applications governed by Chapter 4 of the Wilsonville Code. These include applications for all of the following types of land use or development approvals:
H. Changes to the text of the Comprehensive Plan, including adoption of new Plan elements or sub-elements, pursuant to Section 4.198;"
Finding: This criterion is satisfied.
Explanation of Finding: Adoption of the updated Wastewater Collection System Master Plan is being reviewed pursuant to Section 4.198.

Subsection 4.009 (.02) Who Can Initiate Application

PL3. **Review Criterion:** "Applications involving large areas of the community or proposed amendments to the text of this Chapter or the Comprehensive Plan may be initiated by any property owner, business proprietor, or resident of the City, as well as the City Council, Planning Commission, or Development Review Board acting by motion."
Finding: This criterion is satisfied.
Explanation of Finding: The application has been initiated by the City as part of its responsibility to periodically update facility master plans.

Subsection 4.032 (.01) B. Authority of Planning Commission

PL4. **Review Criterion:** This Section states that the Planning Commission has authority to make recommendations to the City Council on "legislative changes to, or adoption of new elements or sub-elements of the Comprehensive Plan."
Finding: This criterion is satisfied.
Explanation of Finding: The proposed legislative change is being considered by the Planning Commission as a recommendation to the City Council. The issue before the Planning Commission is a legislative review of an amended sub-element of the Comprehensive Plan.

Subsection 4.033 (.01) B. Authority of City Council

PL5. **Review Criterion:** This Section states that the City Council has final decision-making authority on "applications for amendments to, or adoption of new elements or sub-elements to the maps or text of the Comprehensive Plan, as authorized in Section 4.198."
Finding: This criterion is satisfied.
Explanation of Finding: Final action will be taken by the City Council following a recommendation from the Planning Commission.

Subsection 4.198 (.01) A. Comprehensive Plan Changes: Public Need

PL6. **Review Criterion:** "That the proposed amendment meets a public need that has been identified;"
Finding: This criterion is satisfied.
Explanation of Finding: It is in the public interest to periodically update the master plans for critical public facilities such as the wastewater collection system to ensure the system provides for adequate service for current and future residents and businesses to ensure proper sanitation and conveyance of wastewater to the treatment plant.

Subsection 4.198 (.01) B. Comprehensive Plan Changes: Meets Public Needs As Well As Other Options

PL7. **Review Criterion:** "That the proposed amendment meets the identified public need at least as well as any other amendment or change that could reasonably be made;"
Finding: This criterion is satisfied.
Explanation of Finding: As a sub-element of the Comprehensive Plan the Wastewater Collection System Master Plan aims to provide for the public need of adequate wastewater collection service. An updated Wastewater Collection System Master Plan better meets the public need than the current plan by using updated information about the condition of existing infrastructure and growth projections.

Subsection 4.198 (.01) C. Comprehensive Plan Changes: Statewide Planning Goals

PL8. **Review Criterion:** "That the proposed amendment supports applicable Statewide Planning Goals or a Goal exception has been found to be appropriate; and;"

Finding: This criterion is satisfied.
Explanation of Finding: Please see compliance with Statewide Planning Goals section below.

Subsection 4.198 (.01) D. Comprehensive Plan Changes: Conflict with Other Portions of the Comprehensive Plan

PL9. **Review Criterion:** "That the proposed change will not result in conflicts with any portion of the Comprehensive Plan that is not being amended."
Finding: This criterion is satisfied.
Explanation of Finding: No conflicts between the updated Wastewater Collection System Master Plan and other portions of the Comprehensive Plan have been identified.

COMPLIANCE WITH OREGON STATEWIDE PLANNING GOALS

Statewide Planning Goals

Goal 1 Citizen Involvement

OR1. **Review Criterion:** "To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process."
Finding: This criterion is satisfied.
Explanation of Finding: The citizen involvement process defined in Wilsonville's Comprehensive Plan has been acknowledged to be in conformance with Goal 1. Findings CP6 through CP10 demonstrate compliance with the citizen involvement component of the Comprehensive Plan and thus Goal 1.

Goal 2 Land Use Planning

OR2. **Review Criterion:** "To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions."
Finding: This criterion is satisfied.
Explanation of Finding: The City is currently in compliance with Goal 2 because it has an acknowledged Comprehensive Plan and regulations implementing the plan. The Wastewater Collection System Master Plan is a sub-element supporting this plan. A Wastewater Collection System Master Plan will continue to be a sub-element of the Comprehensive Plan and the scope of the update will not change conformance with this goal, but rather provide updated information to better support land use planning in Wilsonville.

Goal 5 Natural Resources, Scenic and Historic Areas, and Open Spaces

OR3. **Review Criterion:** "To protect natural resources and conserve scenic and historic areas and open spaces."
Finding: This criterion is satisfied.

Explanation of Finding: The updated Wastewater Collection System Master Plan does not specifically address how facility siting and sewer line replacement impacts natural, scenic, and historic resources and open space. However, the City has regulations in place to look at conservation of resources during the design and final siting of future improvements.

Goal 6 Air, Water and Land Resource Quality

OR4. **Review Criteria:** "To maintain and improve the quality of the air, water and land resources of the state."
Finding: These criteria are satisfied.
Explanation of Finding: The proposed updated Wastewater Collection System Master Plan provides for sanitary disposal of wastewater to prevent the wastewater from polluting and degrading water and land resources. It supports the planning guideline of this rule to only designate residential use where approvable sewage disposal alternatives have been clearly identified.

Goal 7 Areas Prone to Natural Disasters and Hazards

OR5. **Review Criteria:** "To protect life and property from natural disasters and hazards."
Finding: These criteria are satisfied.
Explanation of Finding: The wastewater collection system has been evaluated for risks associated with natural disasters and hazards, see page 2-9 of Section 2. One identified risk is the highest volume pump station, Memorial Park, which is in an area prone to flooding. The updated Wastewater Collection System Master Plan includes a project to relocate the pump station outside the area prone to flooding; thus, improving the system's performance related to this criteria.

Goal 11 Public Facilities and Services

OR6. **Review Criteria:** "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan is among the utility plans that are sub-elements of the City's Comprehensive Plan. Using updated information on the condition of existing infrastructure as well as updated growth forecasts will better enable the timely, orderly and efficient arrangement of wastewater collection facilities and services.

Oregon Administrative Rules

Division 660 Public Facilities Planning

OAR 660-11-0010 The Public Facility Plan

OR7. **Review Criteria:** This OAR identifies what a Public Facility Plan, such as the updated Wastewater Collection System Master Plan, must contain.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan inventories and assesses Wilsonville's wastewater collection system in support of current and planned land uses; and it includes a list of projects and prioritized projects for short-term and long-term improvements, budget-level cost estimates of projects, and maps of the systems and projects. The master plan also identifies the City as the service provider in City limits and in areas expected to be annexed into the City in the future. A discussion of the City's funding mechanisms is included in the Comprehensive Plan, but is not affected by this update.

OAR 660-11-0015 Responsibility for Public Facility Plan Preparation

OR8. **Review Criteria:** This OAR identifies who is responsible for preparing public facility plans.
Finding: These criteria are satisfied.
Explanation of Finding: The City of Wilsonville has the responsibility to prepare facility plans for public facilities including the wastewater collection system. An existing facility plan, which is a sub-element of the City of Wilsonville's Comprehensive Plan, is being updated to ensure an up-to-date facility plan.

OAR 660-11-0020 Public Facility Inventory and Determination of Future Facility Projects

OR9. **Review Criteria:** This OAR identifies components of public facility inventories.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes an inventory of the City's wastewater collection system including all the required components listed in this OAR: maps, information on capacity and size, assessment of conditions, identification of projects supportive of the City's Comprehensive Plan land use designations, and acknowledgment of future flexibility based on impact studies, facility design, and further master planning efforts.

OAR 660-11-0025 Timing of Required Public Facilities

OR10. **Review Criteria:** This OAR requires public facility plans include a general estimate of the timing for planned public facility projects.
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes information on short-term and long-term projects. See Section 7.

OAR 660-11-0030 Location of Public Facility Projects

OR11. **Review Criteria:** This OAR requires public facility plans include a general location of projects
Finding: These criteria are satisfied.
Explanation of Finding: The updated Wastewater Collection System Master Plan includes information, such as maps, on project locations.

OAR 660-11-0035 Determination of Rough Cost Estimates

OR12. **Review Criteria:** This OAR requires public facility plans include rough cost estimates for projects.
Finding: These criteria are satisfied.
Explanation of Finding: The scope of the updated Wastewater Collection System Master Plan includes budget level cost estimates for identified projects.

OAR 660-11-0045 Adoption and Amendment Procedures for Public Facility Plans

OR13. **Review Criteria:** This OAR identifies public facility plans as supporting documents to the comprehensive plan and identifies related items to be in the comprehensive plan.
Finding: These criteria are satisfied.
Explanation of Finding: The Wastewater Collection System Master Plan is a sub-element of the City of Wilsonville's Comprehensive Plan and includes a list of projects, a map of projects, and policies on urban growth and the provision public facilities. The updated Master Plan is being considered a land use decision with the appropriate noticing and hearing processes being followed.

ORDINANCE NO. 767

AN ORDINANCE OF THE CITY OF WILSONVILLE AMENDING SECTION 3.410 OF THE WILSONVILLE CITY CODE

WHEREAS, the City of Wilsonville seeks to clarify its authority to regulate the use of City owned rights of way; and

WHEREAS, the City retains authority to administer the rights of way in the manner allowed by state and federal law; and

WHEREAS, the City recognizes that users affect rights of way to varying degrees and do not uniformly impact City infrastructure;

NOW, THEREFORE, THE CITY OF WILSONVILLE ORDAINS AS FOLLOWS:

1. Section 3.410 Franchise Required is amended and replaced to read as follow:

"Section 3.410 Franchise Required

"(1) Unless exempted by state or federal law, User shall enter into a non-exclusive Franchise agreement with the City for cable services and other services as specifically set forth in City Code. To the extent allowed by law, the requirements of this chapter may be varied or waived by the provisions of a franchise agreement to account for the different impact of various user's facilities on the City's rights of way; provided, however, that no such franchise or similar authorization shall contain material terms which are substantially more favorable or less burdensome than the material terms and conditions of other franchise agreement users with the same impacts.

"(2) To the extent that this Ordinance is not in conflict with, and can be implemented with, User's existing Franchise agreements, this Ordinance shall apply to all such Franchise agreements for use of the public rights of way or public easements.

"(3) Severability. In the event any provisions of this Ordinance shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof."

2. The City Recorder is directed to amend Wilsonville Code Chapter 3, as approved above, and to make such format, style, and conforming changes to match the format and style of the Right-of-Way and Public Easement Management section of the Wilsonville Code.
3. Except as set forth above, Chapter 3 of the Wilsonville City Code remains in full force and effect, as written.

SUBMITTED to the Wilsonville City Council and read for the first time at a meeting thereof on the 2nd day of February, 2015, and scheduled for second reading on February 19, 2015, commencing at the hour of 7 p.m. at the Wilsonville City Hall, 29799 SW Town Center Loop East, Wilsonville, Oregon.

_____
Sandra C. King, MMC, City Recorder

ENACTED by the City Council on the 19th day of February, 2015, by the following votes: Yes: _____ No: _____

_____
Sandra C. King, MMC, City Recorder

DATED and signed by the Mayor this _____ day of _____, 2015.

_____
TIM KNAPP, MAYOR

SUMMARY OF VOTES:

Mayor Knapp
Council President Starr
Councilor Fitzgerald
Councilor Stevens
Councilor Lehan

City of
WILSONVILLE
in OREGON

CITY COUNCIL MEETING
STAFF REPORT

Meeting Date:	**Subject**: **Resolution No. 2511**
February 19, 2015	Declaration of Surplus Property – Canyon Creek Road Extension Project **Staff Member**: Kristin Retherford **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☒ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☒ Resolution ☐ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments**:
Staff Recommendation: Staff recommends Council adopt Resolution No. 2511.	
Recommended Language for Motion: I move to approve Resolution No. 2511.	
PROJECT / ISSUE RELATES TO: *[Identify which goal(s), master plans(s) issue relates to.]*	

☒Council Goals/Priorities Council Goal B "Ensure efficient, cost-effective and sustainable development and infrastructure.	☐Adopted Master Plan(s)	☐Not Applicable

ISSUE BEFORE COUNCIL:
Should the City Council declare a remnant piece of property on the east side of Canyon Creek as surplus, and authorize staff to negotiate the disposition of the property.

EXECUTIVE SUMMARY:
Upon construction of Canyon Creek Road from Boeckman Road to Town Center Loop East, a portion of the property acquired from Mentor Graphics was left as a remnant parcel that is isolated on the east side of Canyon Creek Road with no access and heavily encumbered with

public utility easements and stormwater easements for swales and a detention pond. This remnant parcel is not developable due to these restrictions.

During negotiations for needed property for this project, Timberland-Sundial LLC expressed an interest in taking over ownership, maintenance and care of this remnant parcel. This would allow them to enhance and maintain the landscaping in this area to further beautify the gateway to their development. Given that this small piece of land has no market value in terms of future development opportunities, it is in the City's best interest to declare this property surplus and dispose of it in order to avoid on-going maintenance costs and care of the property.

The appraised value at the time of acquisition was $7.75 per square foot for unencumbered property. Subsequently, the construction of stormwater facilities and the establishment of easements on this remnant parcel have substantially reduced the value of the parcel to the point that cost savings to be achieved by eliminating maintenance and landscaping expenses greatly outweighs any residual land value, which is estimated at less than $1.00 per square foot.

EXPECTED RESULTS:
Disposition of this property will eliminate staff time and maintenance expenses anticipated for the property's ongoing care.

TIMELINE: Final disposition of the surplus remnant is anticipated to occur spring 2015.

CURRENT YEAR BUDGET IMPACTS: Not applicable.

FINANCIAL REVIEW / COMMENTS:
Reviewed by: _SCole_____ Date: __2/4/15_____

LEGAL REVIEW / COMMENT:
Reviewed by: MEK_____ Date: Feb. 3, 2015
Resolution approved as to form.

COMMUNITY INVOLVEMENT PROCESS:
A public hearing will be held to declare the property as surplus property and no longer needed for a public purpose.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups):
The disposition of this surplus property will decrease staff demands and maintenance costs related to on-going maintenance needs.

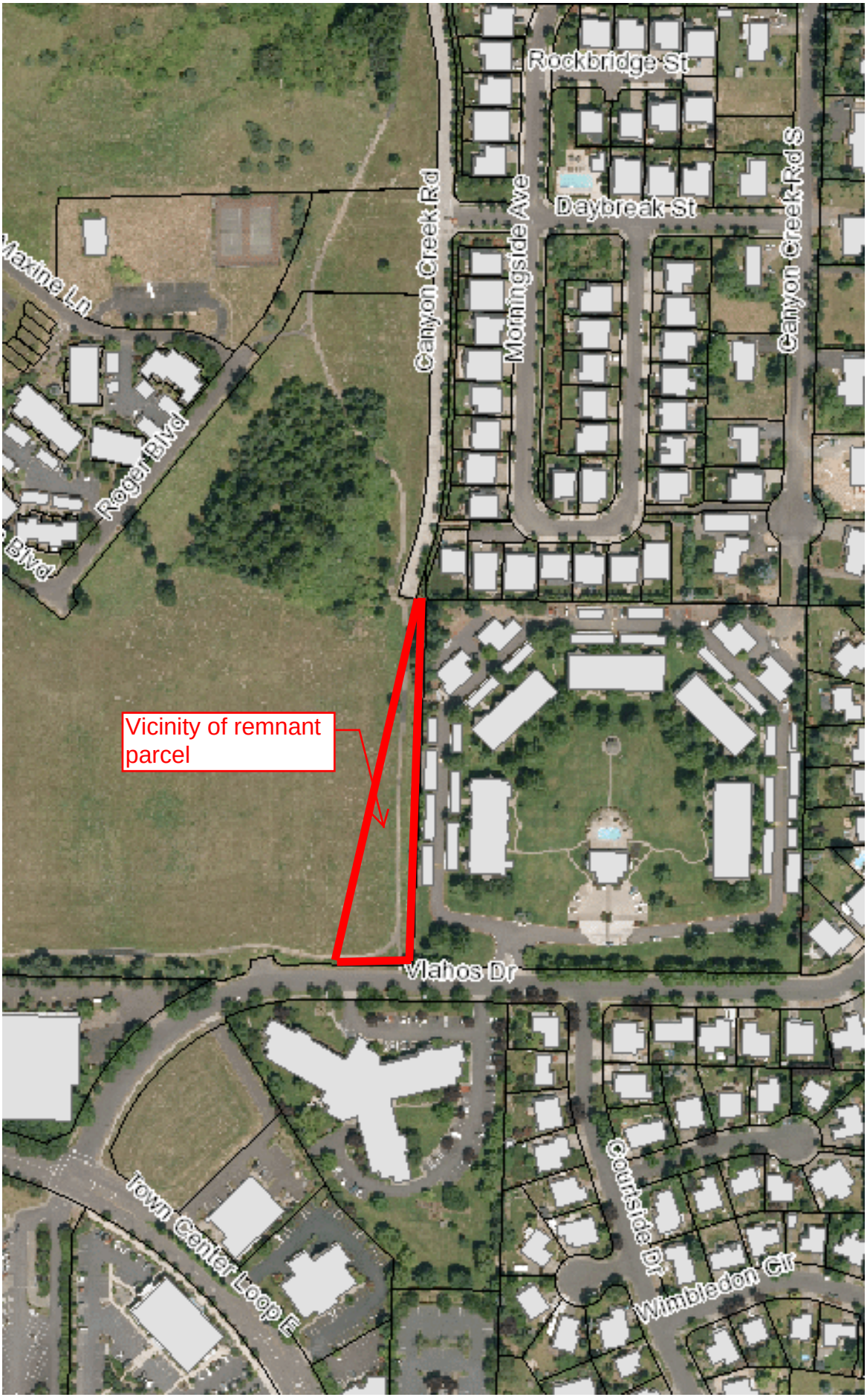
ALTERNATIVES:
Retain City ownership of the property.

CITY MANAGER COMMENT:

ATTACHMENTS:

1. Vicinity Map
2. Resolution No. 2511

Vicinity Map



RESOLUTION NO. 2511

A RESOLUTION OF THE CITY OF WILSONVILLE DECLARING CITY-OWNED REAL PROPERTY AS A REMANANT PARCEL OF THE CANYON CREEK SOUTH EXTENSION PROJECT TO BE SURPLUS PROPERTY AND AUTHORIZING STAFF TO DISPOSE OF THE PROPERTY THROUGH SALE.

WHEREAS, under and by virtue of the laws of the State of Oregon, the City of Wilsonville is duly authorized and empowered to efficiently and economically dispose of real property that is determined by the City to be surplus; and

WHEREAS, the City acquired real property from Mentor Graphics needed to construct Canyon Creek Road between Boeckman Road and Town Center Loop East; and

WHEREAS, after construction of Canyon Creek Road, there exists a remnant parcel outside of the road right-of-way; and

WHEREAS, after the establishment of needed permanent easements for public utilities and stormwater on this remnant parcel, the City has no additional public use for this property (the "Property") as described in the legal description attached hereto and fully incorporated herein as Exhibit A; and

WHEREAS, it is in the City's best interest to declare the Property surplus in order to avoid ongoing maintenance costs and responsibility; and

WHEREAS, the Property has no access and is so heavily encumbered with easements that it is not developable; and

WHEREAS, the property is located on the east side of Canyon Creek Road adjacent to property owned by Timberland-Sundial LLC, commonly known as Sundial Apartments; and

WHEREAS, the highest and best use for the Property in its encumbered condition is for landscaping and open space for the adjacent property owned by Timberland-Sundial, LLC; and

WHEREAS, Timberland-Sundial, LLC has expressed interest in taking over ownership and maintenance responsibility for the Property and incorporating it into their development as open space; and

WHEREAS, it is in the public interest to convey the Property to the Timberland-Sundial LLC in order to avoid ongoing maintenance costs and responsibility.

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. As set forth in the facts, findings, and conclusions stated in the above recitals, the property described in the attached Exhibit A is hereby declared surplus property and no longer needed by the City of Wilsonville for public use.

2. Given the Property's encumbrances, lack of access, and lack of development potential, City staff is authorized to negotiate the terms of disposition and sale of this property with the adjacent property owner.

3. The City Council authorizes the City Manager to execute all necessary agreements and deeds relating to this conveyance.

4. This resolution is effective upon adoption.

ADOPTED by the City of Wilsonville at a regular meeting thereof this ___ day of February, 2015 and filed with the Wilsonville City Recorder this date.

_____
TIM KNAPP, Mayor

ATTEST:

_____
Sandra C. King, MMC, City Recorder

SUMMARY OF VOTES:

Mayor Knapp	____
Councilor Starr	____
Councilor Fitzgerald	____
Councilor Stevens	____
Councilor Lehan	____

Attachments:
Exhibit A – Legal Description

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS

EXHIBIT "A"

LEGAL DESCRIPTION
Fee Simple Acquisition
Canyon Creek Road
City of Wilsonville, Oregon

(FEE SIMPLE ACQUISITION)

Beginning at a point 191.19 feet right of Proposed Canyon Creek Road Centerline Station 6+66.16, said point being the beginning of a 274.50 foot radius curve to the right, having a central angle of 16°30'31", the radius point of which bears N20°22'54"E, 274.50 feet;

Thence northwesterly along the arc of said curve to the right (the long chord of which bears N61°21'50"W, 78.82 feet) 79.09 feet to a point 112.75 feet right of Proposed Centerline Station 6+59.94;

Thence northwesterly, in a straight line, to a point 48.65 feet right of Proposed Centerline Station 6+62.39;

Thence northerly, in a straight line, to a point 42.00 feet right of Proposed Centerline Station 6+68.87, said point being the beginning of a 672.00 foot radius non-tangent curve to the left, having a central angle of 31°56'31", the radius point of which bears N56°16'32"W, 672.00 feet;

Thence northeasterly along of arc of said non-tangent curve to the left (the long chord of which bears N17°45'13"E, 369.80 feet) 374.63 feet to a point 42.00 feet right of Proposed Centerline Station 10+20.09;

205 SE Spokane Street • Suite 200 • Portland, OR 97202 • www.hhpr.com • 503.221.1131 ph • 503.221.1171 fax

Property Vested in:
Mentor Graphics Corporation
31W13B-2601

Thence northerly, in a straight line, to a point 42.00 feet right of Proposed Centerline Station 10+94.21, said point being the beginning of a 516.00 foot radius curve to the right, having a central angle of 18°01'40";

Thence northeasterly along the arc of said curve to the right (the long chord of which bears N10°47'47"E, 161.69 feet) 162.36 feet to a point 42.00 feet right of Proposed Centerline Station 12+69.78.

The parcel of land to which this description applies contains 23,454 square feet, more or less.

The stationing used to describe this parcel is based on the Proposed Centerline of Canyon Creek Road, being more particularly described as follows:

Beginning at Proposed Canyon Creek Road Centerline Station 0+00.00, said point bears S64°01'45"E, 823.84 feet, from a found 3-inch brass disk in a monument box at the west one-quarter corner of said Section 13 per U.S.B.T. Entry 2009-145, said point also being the intersection of the existing centerline of Town Center Loop East with the existing centerline of Vlahos Drive as shown on Survey Number 2014-024, Clackamas County Survey Records;

Thence N24°34'18"E, along the existing centerline of Vlahos Drive,114.15 feet to Proposed Centerline Station 1+14.15 and the beginning of a 400.00 foot radius curve to the right, having a central angle of 36°27'21";

Thence northeasterly along the existing centerline of Vlahos Drive and the arc of said curve to the right (the long chord bears N42°47'59"E, 250.24 feet) 254.51feet to Proposed Centerline Station 3+68.66 and the beginning of a 630.00 foot radius reverse curve to the left, having a central angle of 59°14'42";

Thence leaving the existing centerline of Vlahos Drive northeasterly along the arc of said reverse curve to the left (the long chord of which bears N31°24'18"E, 622.80 feet) 651.43 feet to Proposed Centerline Station 10+20.09;

Thence N01°46'57"E, 74.12 feet to Proposed Centerline Station 10+94.21 and the beginning of a 558.00 foot radius curve to the right, having a central angle of 11°26'11";

Thence northeasterly along the arc of said curve to the right (the long chord of which bears N07°30'03"E, 111.19 feet) 111.38 feet to a point on curve at Proposed Centerline

Property Vested in:
Mentor Graphics Corporation
31W13B-2601

Station 12+05.59, also being a point on the existing centerline of Canyon Creek Road as shown on Survey Number 2014-024, Clackamas County Survey Records;

Thence continuing northeasterly along the existing centerline of Canyon Creek Road and the arc of a 558.00 foot radius curve to the right, having a central angle of 6°35'29" (the long chord of which bears N16°30'53"E, 64.16 feet) 64.19 feet to Proposed Centerline Station 12+69.78 and the beginning of a 558.00 foot radius reverse curve to the left, having a central angle of 18°01'40";

Thence northeasterly along the existing centerline of Canyon Creek Road and the arc of said reverse curve to the left (the long chord of which bears N10°47'47"E, 174.85 feet) 175.57 feet to Proposed Centerline Station 14+45.35;

Thence N01°46'57"E, along the existing centerline of Canyon Creek Road, 601.90 feet to Proposed Centerline Station 20+47.25 and the beginning of a 558.00 foot radius curve to the left, having a central angle of 13°32'10";

Thence northwesterly along the existing centerline of Canyon Creek Road and the arc of said curve to the left (the long chord of which bears N04°59'08"W, 131.52 feet) 131.83 feet to Proposed Centerline Station 21+79.08 and the beginning of a 558.00 foot radius reverse curve to the right, having a central angle of 63°19'29";

Thence northeasterly along the existing centerline of Canyon Creek Road and the arc of said reverse curve to the right (the long chord of which bears N19°54'32"E, 585.80 feet) 616.72 feet to Proposed Centerline Station 27+95.80 and the Point of Termination, said point bears N35°47'58"E, 2662.19 feet from a found 3-inch brass disk in a monument box at the west one-quarter corner of said Section 13 per U.S.B.T. Entry 2009-145 as shown on said Survey Number 2014-024;

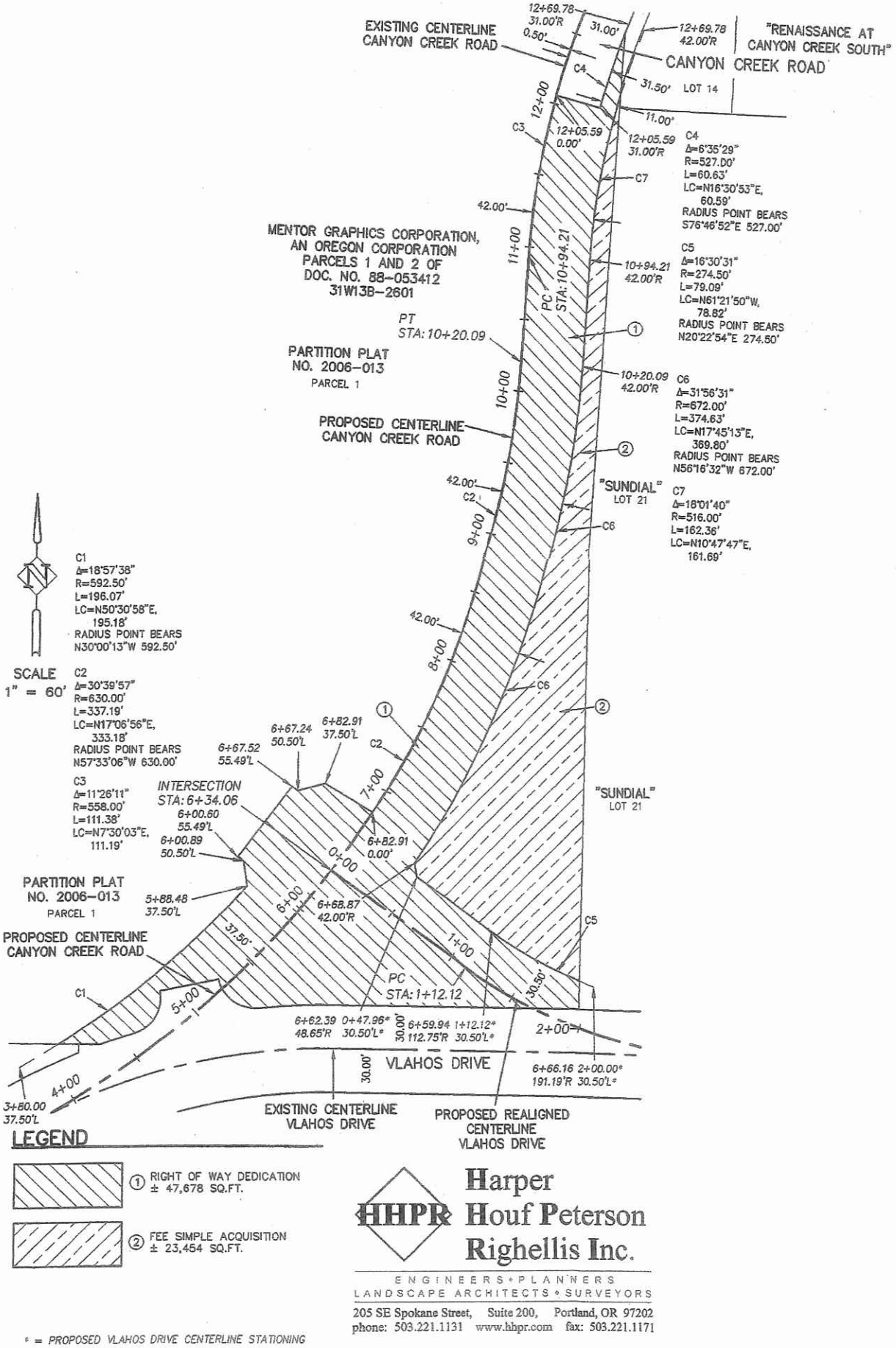
This centerline stationing and basis of bearings of this legal description is the same as that shown on Survey Number 2014-024, Clackamas County Survey Records.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 15, 2003
JOHN T. CAMPBELL
60070 LS

EXPIRES: 12-31-19

HHPR



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phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

City of
WILSONVILLE
in OREGON

CITY COUNCIL MEETING
STAFF REPORT

Meeting Date: February 19, 2015	**Subject: Resolution No. 2512** Right-of-way and easement acquisitions necessary for the Kinsman Road extension project (CIP #4004) **Staff Member:** Kristin Retherford **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☒ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☒ Resolution ☐ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:**
Staff Recommendation: Staff recommends the City Council adopt Resolution No. 2512.	
Recommended Language for Motion: I move to approve Resolution No. 2512.	
PROJECT / ISSUE RELATES TO: *[Identify which goal(s), master plans(s) issue relates to.]*	

☒Council Goals/Priorities	☐Adopted Master Plan(s)	☐Not Applicable
Council Goal B "Ensure efficient, cost-effective and sustainable development and infrastructure.	Transportation System Plan	

ISSUE BEFORE COUNCIL:
Should the City acquire approximately 122,006 square feet (SF) of right-of-way and 82,186 SF of easement area to construct the extension of Kinsman Road from Barber Street to Boeckman Road?

EXECUTIVE SUMMARY:
The City's Transportation System Plan identifies the Kinsman Road Extension project (from Barber Street to Boeckman Road) as necessary to improve north-south connectivity in the City

and freight mobility. This project is identified in the adopted 2013 Wilsonville Transportation System Plan, the West Side Urban Renewal Plan (although urban renewal funds are not being used on the project), and in development agreements and amended development agreements between the City, the Urban Renewal Agency, and Villebois land owners and developers.

In order to construct the project, the City needs to acquire right-of-way and easements as identified in the following table.

Property Owner	Tax Lot	Acquisition Type	Area
Metro	31W11C 01400	Fee - Right-of-way	3,430 SF
Metro	31W11C 01200	Fee - Right-of-way	973 SF
Oregon Property Partners, LLC	31W11C 00900	Fee - Right-of-way	1,961 SF
David, Sherilynn & Marlene Young	31W14B 00800	Fee - Right-of-way	9,466 SF
David, Sherilynn & Marlene Young	31W14B 00800	Fee - Right-of-way	26,320 SF
David, Sherilynn & Marlene Young	31W14B 00800	Easement - Slope	31,374 SF
Inland Pacific Properties, LLC	31W14B 00202	Fee - Right-of-way	3,416 SF
Inland Pacific Properties, LLC	31W14B 00202	Fee - Right-of-way	25,703 SF
Inland Pacific Properties, LLC	31W14B 00202	Easement - Slope	7,722 SF
Oldcastle Precast, Inc.	31W14B 00401/491	Fee - Right-of-way	4,082 SF
Oldcastle Precast, Inc.	31W14B 00401/491	Easement - Slope	740 SF
Charles F. Breuer.	31W14B 00500/590	Fee - Right-of-way	46,665 SF
Charles F. Breuer.	31W14B 00500/590	Easement - Slope	4,164 SF
Charles F. Breuer.	31W14B 00500/590	Easement - Slope	38,186 SF

All property interests are legally described in Exhibits A through N to Resolution No. 2512. These legal descriptions involve the least amount of property necessary for the construction of the road.

The Kinsman Road extension project was awarded $1.4 million in federal funding and $2.23 in Oregon Department of Transportation funding. The balance of project costs will be funded through Street System Development Charges (SDCs). The total project cost estimate is $7.1 million, with $2.1 million for design and acquisition and $5 million for construction.

As this is a federalized project, the City must satisfy all FHWA right-of-way practices including right-of-way certification through ODOT. Consequently, Resolution No. 2512 includes Council authorization to use condemnation to acquire the needed property interests.

EXPECTED RESULTS:
Staff expects to begin appraisals in the spring of 2015 and initiate negotiations as soon as appraisal work is complete. If settlement has not been achieved by the end of the mandatory 40-day consideration period, staff will notify the Council regarding the status of negotiations and any recommendations to proceed with condemnation proceedings. Construction is anticipated to begin in March 2016, and legal possession of needed property, either through settlement or condemnation, is required by ODOT before the project can be put out to bid.

TIMELINE:

The initiation of acquisitions at this time will allow construction to begin as planned in March 2016.

CURRENT YEAR BUDGET IMPACTS:
Project #4004 is funded through Street System Development Charges and Federal funding for the FY 2014-15 budget, which includes $1,256,850.00 for design, permitting, and property acquisition.

FINANCIAL REVIEW / COMMENTS:
Reviewed by: __SCole_ Date: _2/5/15_____

LEGAL REVIEW / COMMENT:
Reviewed by: MEK_____ Date: 2/5/2015_____
Resolution approved as to form.

COMMUNITY INVOLVEMENT PROCESS: N/A/

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY (businesses, neighborhoods, protected and other groups):
This project will improve north-south connectivity in the City and provide an important freight mobility option.

ALTERNATIVES:

N/A

CITY MANAGER COMMENT:

ATTACHMENTS
Resolution No. 2512

RESOLUTION NO. 2512

A RESOLUTION OF THE CITY OF WILSONVILLE AUTHORIZING ACQUISITION OF PROPERTY AND PROPERTY INTERESTS RELATED TO THE CONSTRUCTION OF THE KINSMAN ROAD EXTENSION PROJECT FROM BARBER STREET TO BOECKMAN ROAD

WHEREAS, under and by virtue of the laws of the State of Oregon, the City of Wilsonville is duly authorized and lawfully empowered to construct certain planned public improvement projects, and to acquire real property as may be deemed necessary and proper for such planned public improvements; and

WHEREAS, construction of the Kinsman Road from Barber Street to Boeckman Road (the "Project") will improve north-south connectivity in the City and improve freight mobility; and

WHEREAS the Project is identified in the City of Wilsonville FY 2013/14 Capital Improvement Project Budget as Project No. 4004; and

WHEREAS, the total project cost estimate for the Kinsman Road extension project is $7.1 million; and

WHEREAS, the Project was awarded $1.40 million in federal funding and $2.23 million in Oregon Department of Transportation (ODOT) funding, and the balance of the project will be funded through Street SDCs; and

WHEREAS, the Project has budgeted $2.1 million for design and acquisition and $5.0 million for construction; and

WHEREAS, construction is anticipated to begin March 2016; and

WHEREAS, in order to construct the Project, the City needs to acquire approximately 160,202 square feet (SF) of right-of-way and wetland mitigation land, and 44,000 SF of slope easement area; and

WHEREAS, the property interests to be acquired for the Project are legally described in Exhibits A through N, attached hereto and incorporated herein by reference; and

WHEREAS, the project will also require the future dedication of right of way from City-owned property previously acquired for the SMART Central and WES project, which will be handled through a separate process; and

WHEREAS, the acquisition of the properties described in Exhibits A through N is necessary and will benefit the general public and will be used for public purposes; and

WHEREAS, the City acquires real property in accordance with guidelines set forth in its Urban Renewal Agency's adopted *"Appraisal and Acquisition Policies"* and the ODOT Right of Way Manual; and

WHEREAS, the City is authorized to acquire property by any legal means, including eminent domain, to achieve the objectives of the City's Capital Improvement Program and shall conform to all statutory requirements to ensure that property owners' rights are fully respected; and

WHEREAS, ORS Chapter 35 empowers cities and agencies to acquire by condemnation real property whenever in the judgment of the City there is a public necessity for the proposed use of the property, the property is necessary for such proposed use and the proposed use planned is located in a manner which will be most compatible with the greatest public good and the least private injury; and

WHEREAS, the acquisitions presented herein reflect the least amount of property interest to ensure safe, efficient and adequate public improvements; and

WHEREAS, title to the acquired property interest shall vest in the name of the City of Wilsonville to provide for necessary care, maintenance and public safety authority; and

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. The Wilsonville City Council finds that there is a public necessity for the construction of the aforementioned street improvements, that the properties described in Exhibits A through N are necessary for the construction of said public improvements, and that the proposed street improvements are planned and located in a manner which will be most compatible with the greatest public good and the least private injury.

2. City staff and the City Attorney are authorized and directed to negotiate with the owners of the real property herein described as to the compensation to be paid for the acquisition of the property, and in the event agreement cannot be reached, to commence and prosecute to final determination such proceedings as may be necessary, including condemnation of the property, to acquire the real property and interest therein, and that upon the filing of such proceeding may seek immediate possession of any of the real properties described in Exhibits A

through N in order to meet the right-of-way certification deadline necessary to begin construction in March 2016 and complete construction of the Project in a timely and efficient manner.

ADOPTED by the Wilsonville City Council at a special meeting thereof this 19th day of February, 2014, and filed with the Wilsonville City Recorder this date.

TIM KNAPP, Mayor

ATTEST:

Sandra C. King, MMC, City Recorder

SUMMARY OF VOTES:

Mayor Knapp _____

Councilor Starr _____

Councilor Fitzgerald _____

Councilor Stephens _____

Councilor Lehan _____

Exhibits:

Exhibit A through N: Legal Descriptions

EXHIBIT "A"

OBEC CONSULTING ENGINEERS

www.obec.com

14429LD01
November 13, 2014
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W11C 01400

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that property conveyed to Metro, by Statutory Warranty Deed Document No. 2002-007186, Clackamas County Deed Records, lying in the Southwest quarter of Section 11, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the South Quarter Corner of Section 11, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the South line of said section a distance of 1360.78 feet; thence leaving said South line, North 1°32'07" East, a distance of 80.46' to the northerly right-of-way line of Boeckman Road and the **Point of Beginning**; thence leaving said right-of-way and continuing North 1°32'07" East a distance of 32.42 feet; thence along the arc of a 113.00 foot radius curve to the left (the long chord of which bears South 68°20'33" West, 78.20 feet) an arc distance of 79.85 feet, to a point of non-tangency; thence South 66°20'01" West, a distance of 67.18 feet to the northerly right-of-way line of Boeckman Road; thence continuing along said right-of-way line, on the arc of a 1056.70 foot radius curve to the right (the long chord of which bears North 88°03'09" East, 112.89 feet) an arc distance of 112.94 feet; thence continuing along said right-of-way line, North 20°41'38" East, a distance of 21.25 feet; thence continuing along said right-of-way line, South 88°41'08" East, a distance of 13.00 feet to the **Point of Beginning.**

Containing 3430 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

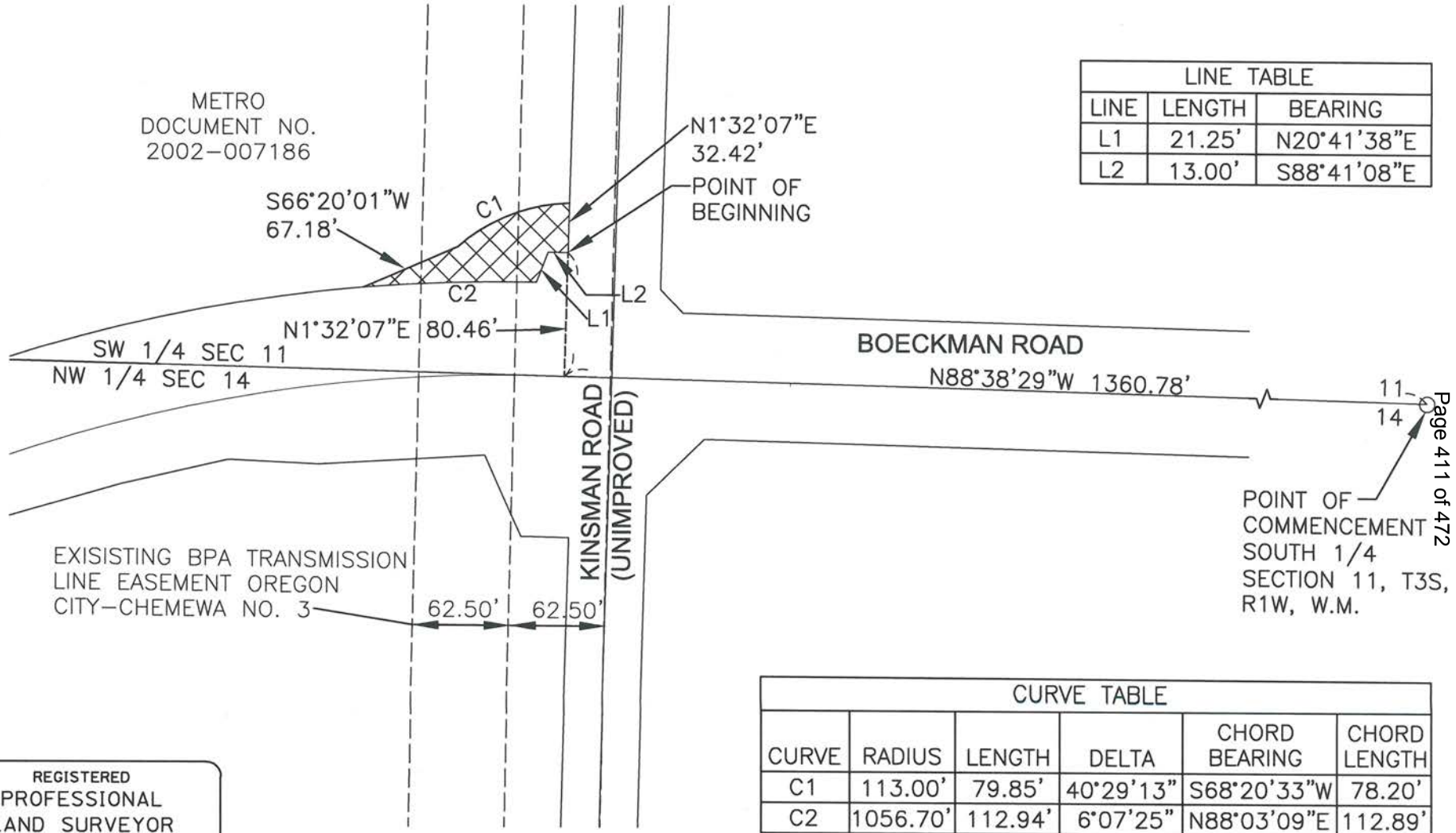
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 11/13/2014

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON



LINE TABLE		
LINE	LENGTH	BEARING
L1	21.25'	N20°41'38"E
L2	13.00'	S88°41'08"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD BEARING	CHORD LENGTH
C1	113.00'	79.85'	40°29'13"	S68°20'33"W	78.20'
C2	1056.70'	112.94'	6°07'25"	N88°03'09"E	112.89'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 11/13/2014

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE EASEMENT
AREA= 3,430 SQ. FT ±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S01	CMB	AJS	11/13/14

Exhibit A

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD02
December 10, 2014
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W11C 01200

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that property conveyed to Metro, by Warranty Deed-Statutory Form, Document No. 99-094558, Clackamas County Deed Records, lying in the Southwest quarter of Section 11, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the South Quarter Corner of said Section 11, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the South line of said Section 11 a distance of 1360.78 feet; thence leaving said South line, North 1°32'07" East, a distance of 80.46' to the northerly right-of-way line of Boeckman Road and the **Point of Beginning**; thence leaving said right-of-way and continuing North 1°32'07" East a distance of 32.42 feet; thence South 88°42'56" East, a distance of 30.00 feet; thence South 1°32'07" West, a distance of 32.45 feet to the northerly right-of-way line of Boeckman Road; thence continuing along said right-of-way line, North 88°39'02" West, a distance of 30.00 feet to the **Point of Beginning.**

Containing 973 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

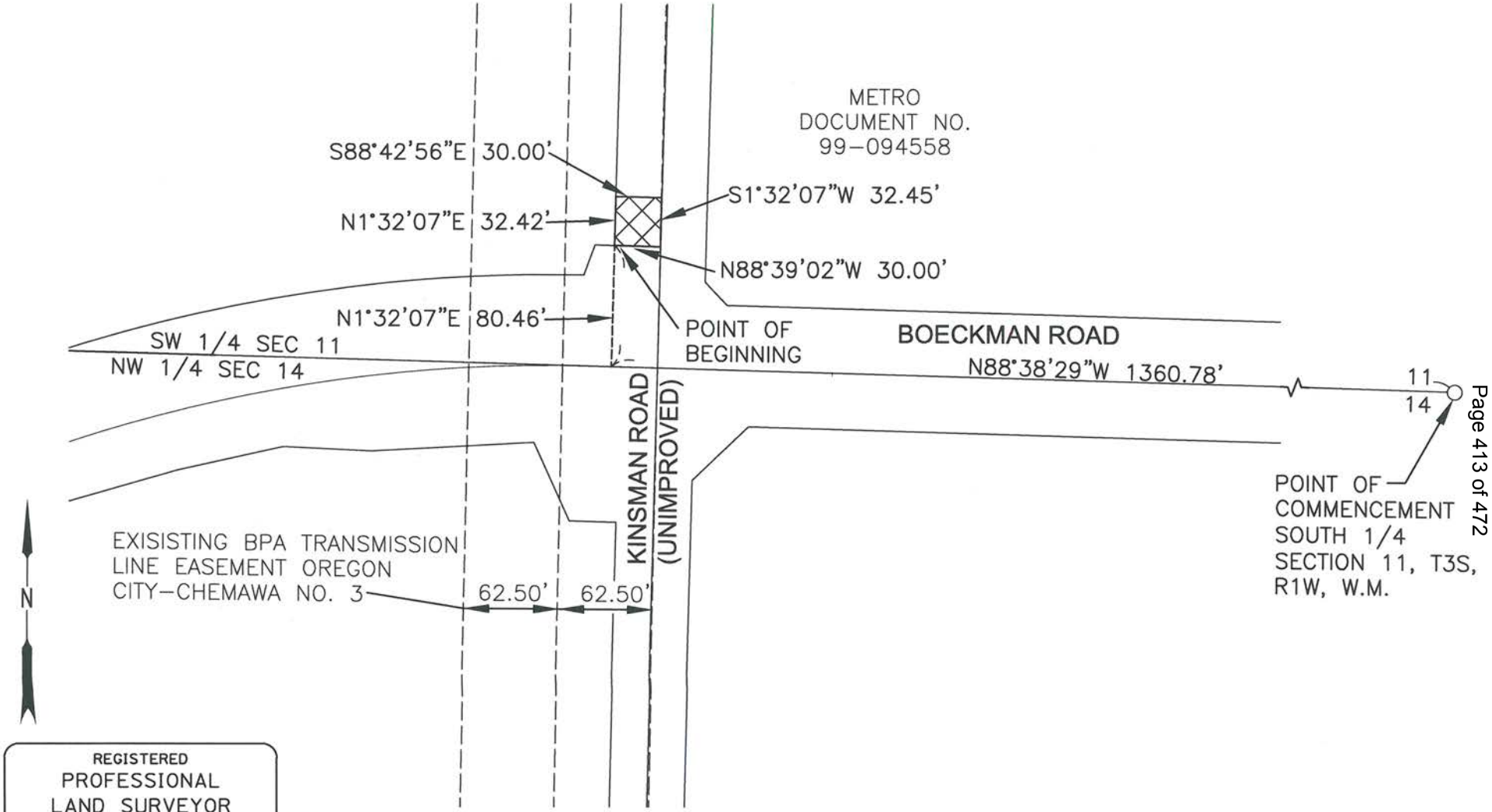
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 12/10/2014

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 12/10/2014

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE EASEMENT
AREA= 973 SQ. FT ±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S02	CMB	AJS	12/10/14

Exhibit B

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD03
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W11C 00900

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Oregon Property Partners, LLC, a Florida limited liability company, by Special Warranty Deed Document No. 2013-025256, Clackamas County Deed Records, lying in the Southwest quarter of Section 11, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the South Quarter Corner of Section 11, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the south line of said Section 11, a distance of 1299.69 feet; thence leaving said south line, North 1°32'07" East, a distance of 58.00 feet to the northerly right-of-way line of Boeckman Road and the **Point of Beginning**; thence leaving said right-of-way and continuing North 1°32'07" East a distance of 40.40 feet; thence along the arc of a 113.00 foot radius curve to the right (the long chord of which bears South 51°59'13" East, 28.30 feet) an arc distance of 28.37 feet; thence South 44°47'39" East, a distance of 20.62 feet; thence South 59°12'53" East, a distance of 49.31 feet to the northerly right-of-way line of Boeckman Road; thence along said right-of-way line, North 88°38'29" West, a distance of 65.63 feet; thence continuing along said right-of-way line, North 43°39'38" West, a distance of 21.22 feet to the **Point of Beginning.**

Containing 1,961 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

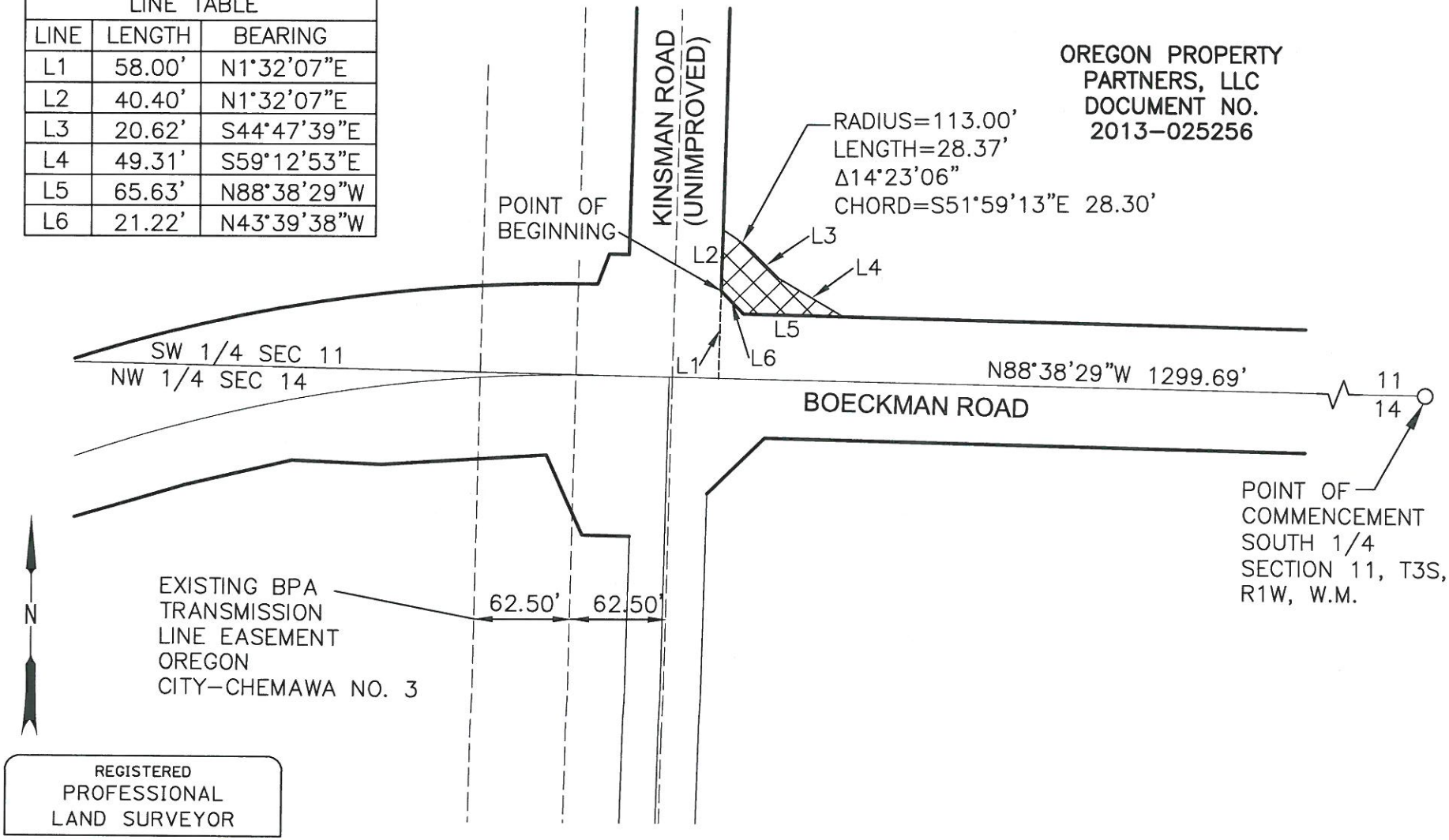
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

LINE TABLE		
LINE	LENGTH	BEARING
L1	58.00'	N1°32'07"E
L2	40.40'	N1°32'07"E
L3	20.62'	S44°47'39"E
L4	49.31'	S59°12'53"E
L5	65.63'	N88°38'29"W
L6	21.22'	N43°39'38"W



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA = 1,961 SQ. FT±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S03	CMB	AJS	1/23/15

Exhibit C

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD04
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00800

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that property conveyed to David S. Young, Sherilynn J. Young, and Marlene A. Young, by Correction Deed, Document No. 96-017347, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the north line of said Section 14, a distance of 1354.96 feet; thence leaving said north line, South 1°32'07" West, a distance of 104.52 feet to the northeasterly corner of said real property, also being on the southerly right-of-way line of Boeckman Road and the **Point of Beginning**; thence leaving said right-of-way and continuing South 1°32'07" West along the easterly line of said real property, a distance of 305.84 feet; thence leaving said easterly line, North 14°11'24" West, a distance of 68.67 feet; thence North 75°59'01" East, a distance of 16.65 feet; thence along the arc of a 860.50 foot radius curve to the right (the long chord of which bears North 9°46'09" West, 100.08 feet) an arc distance of 100.13 feet; thence North 8°23'31" West, a distance of 77.41 feet; thence North 3°30'01" West, a distance of 11.61 feet; thence North 26°59'12" West, a distance of 74.74 feet; thence North 46°01'18" West, a distance of 12.41 feet; thence North 70°22'07" West, a distance of 63.23 feet to the southerly right-of-way line of Boeckman Road; thence continuing along said right-of-way line, North 86°34'59" East, a distance of 85.71 feet; thence continuing along said right-of-way line South 24°09'45" East, a distance 57.57 feet; thence continuing along said right-of-way line South 88°40'54" East, a distance of 31.15 feet to the **Point of Beginning.**

Containing 9,466 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

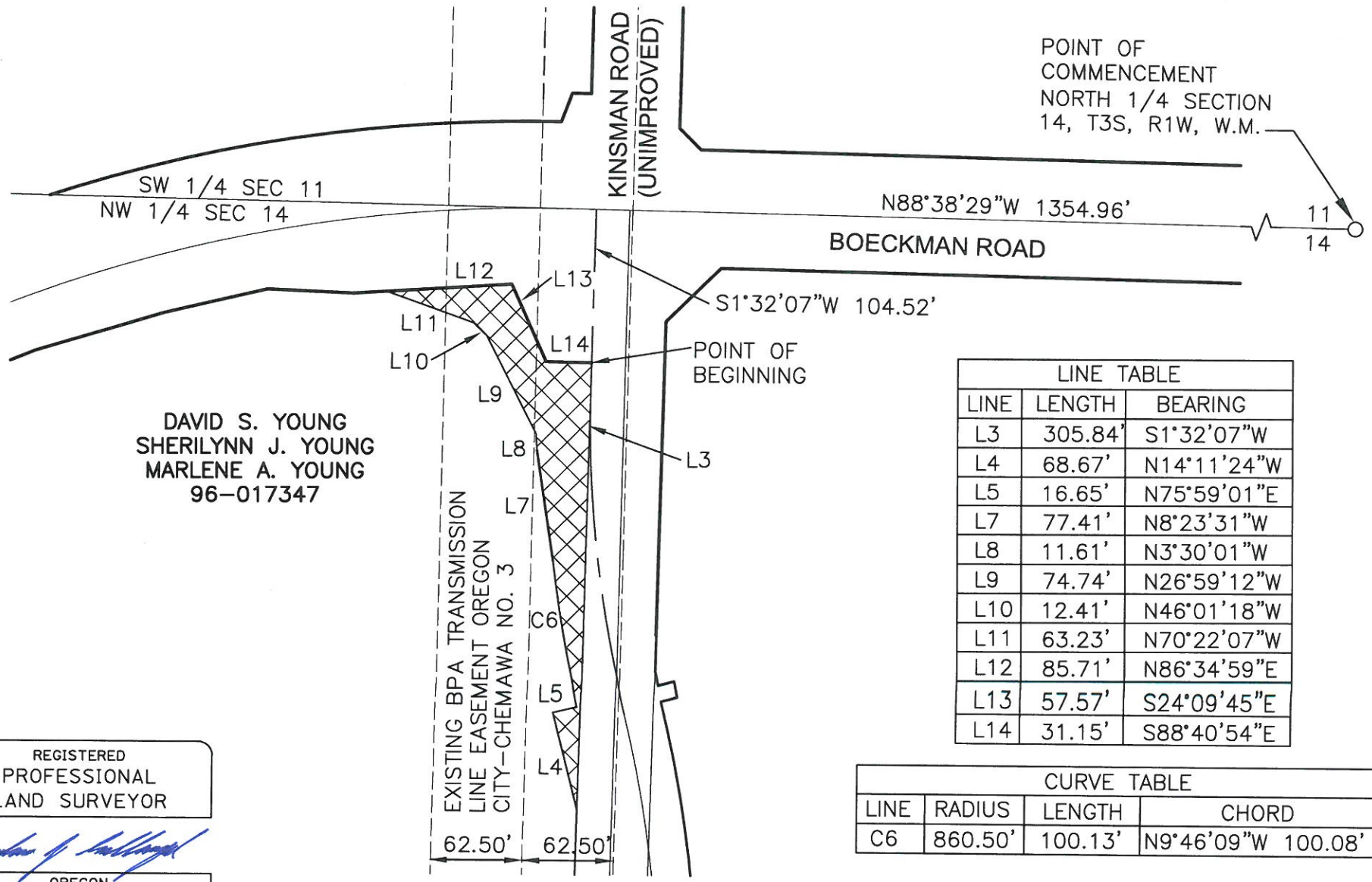
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON



LINE TABLE		
LINE	LENGTH	BEARING
L3	305.84'	S1°32'07"W
L4	68.67'	N14°11'24"W
L5	16.65'	N75°59'01"E
L7	77.41'	N8°23'31"W
L8	11.61'	N3°30'01"W
L9	74.74'	N26°59'12"W
L10	12.41'	N46°01'18"W
L11	63.23'	N70°22'07"W
L12	85.71'	N86°34'59"E
L13	57.57'	S24°09'45"E
L14	31.15'	S88°40'54"E

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C6	860.50'	100.13'	N9°46'09"W 100.08'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA =
9,466 SQ. FT ±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S04	CMB	AJS	1/23/15

Exhibit D

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD05
February 2, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00800

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that property conveyed to David S. Young, Sherilynn J. Young, and Marlene A. Young, by Correction Deed, Document No. 96-017347, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West, along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 549.70 feet to the northeasterly corner of said real property and the **Point of Beginning**; thence continuing along said sixteenth line, along the easterly line of said property, South 1°32'07" West a distance of 843.25 feet; thence leaving said easterly line, North 27°30'43" West, a distance of 10.22 feet; thence along the arc of a 104.00 foot radius curve to the right (the long chord of which bears North 15°19'45" West, 43.89 feet) an arc distance of 44.23 feet; thence North 3°08'47" West, a distance of 116.10 feet; thence North 5°51'34" East, a distance of 85.33 feet; thence along the arc of a 879.50 foot radius curve to the right (the long chord of which bears North 0°01'48" East, 412.85 feet) an arc distance of 416.74 feet; thence along the arc of a 780.50 foot radius curve to the left (the long chord of which bears North 10°30'09" East, 84.47 feet) an arc distance of 84.51 feet; thence North 6°40'09" West, a distance of 14.13 feet; thence North 5°41'15" East, a distance of 26.64 feet; thence North 12°59'38" East, a distance of 41.80 feet; thence North 0°37'39" East, a distance 13.83 feet; thence South 88°27'53" East, a distance of 10.42 feet to the **Point of Beginning.**

Containing 26,320 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

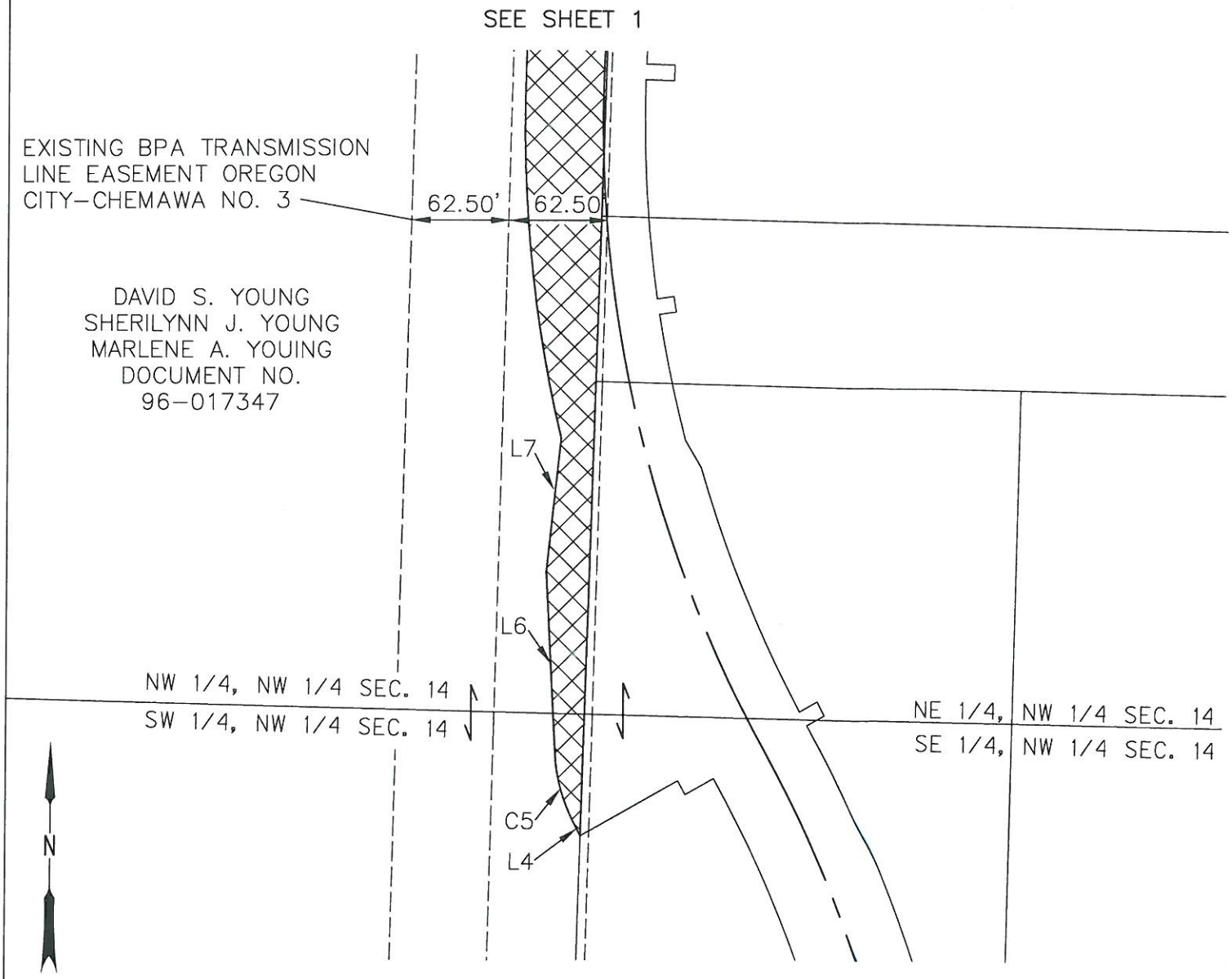
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 02/02/2015

Exhibit E

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 2 OF 2



FOR LINE & CURVE TABLES
SEE SHEET 1

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA =
26,320 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 04/04/2015

OBEC CONSULTING ENGINEERS
www.obec.com

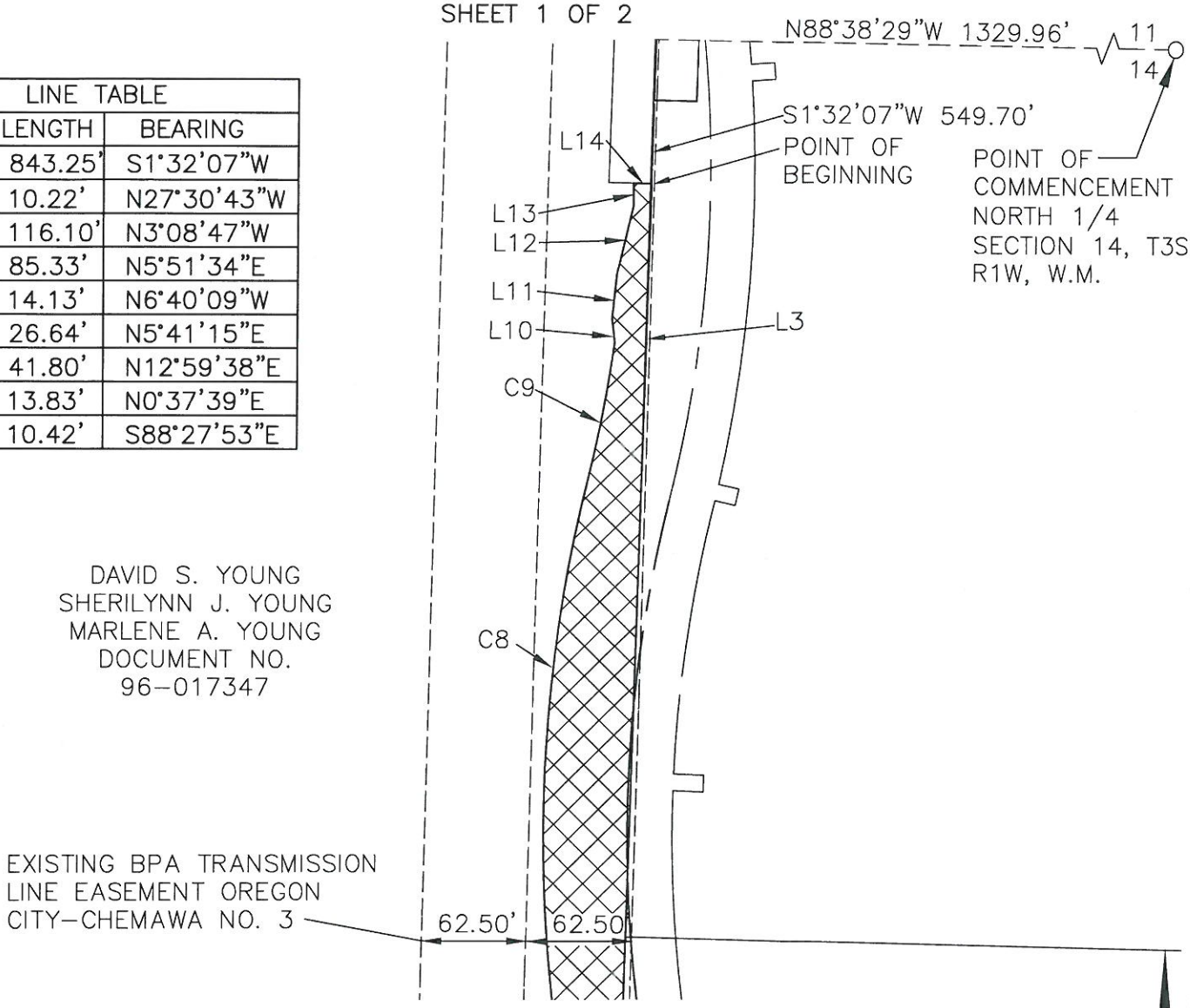
FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S05	CMB	AJS	2/2/15

Exhibit E

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 2

LINE TABLE		
LINE	LENGTH	BEARING
L3	843.25'	S1°32'07"W
L4	10.22'	N27°30'43"W
L6	116.10'	N3°08'47"W
L7	85.33'	N5°51'34"E
L10	14.13'	N6°40'09"W
L11	26.64'	N5°41'15"E
L12	41.80'	N12°59'38"E
L13	13.83'	N0°37'39"E
L14	10.42'	S88°27'53"E



CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C5	104.00'	44.23'	N15°19'45"W 43.89'
C8	879.50'	416.74'	N0°01'48"E 412.85'
C9	780.50'	84.51'	N10°30'09"E 84.47'

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA = 26,320 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 02/02/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S05	CMB	AJS	2/2/15

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD06
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00202

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Inland Pacific Properties LLC, by Statutory Warranty Deed, Document No. 2006-032934, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the North line of said Section 14, a distance of 1183.73 feet; thence leaving said North line, South 1°21'31" West, a distance of 38.00 feet to the southerly right-of-way line of Boeckman Road and the **Point of Beginning**; thence along said right-of-way, North 88°38'29" West, a distance of 84.68 feet; thence continuing along said right-of-way, South 46°00'45" West, a distance of 52.34 feet, to the Westerly line of said real property; thence continuing along said Westerly line, South 1°32'07" West, a distance of 76.11 feet; thence leaving said Westerly line, North 20°42'43" East, a distance of 36.44 feet; thence North 32°18'48" East, a distance of 51.32 feet; thence North 68°34'58" East, a distance of 90.26 feet, to the **Point of Beginning.**

Containing 3,416 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

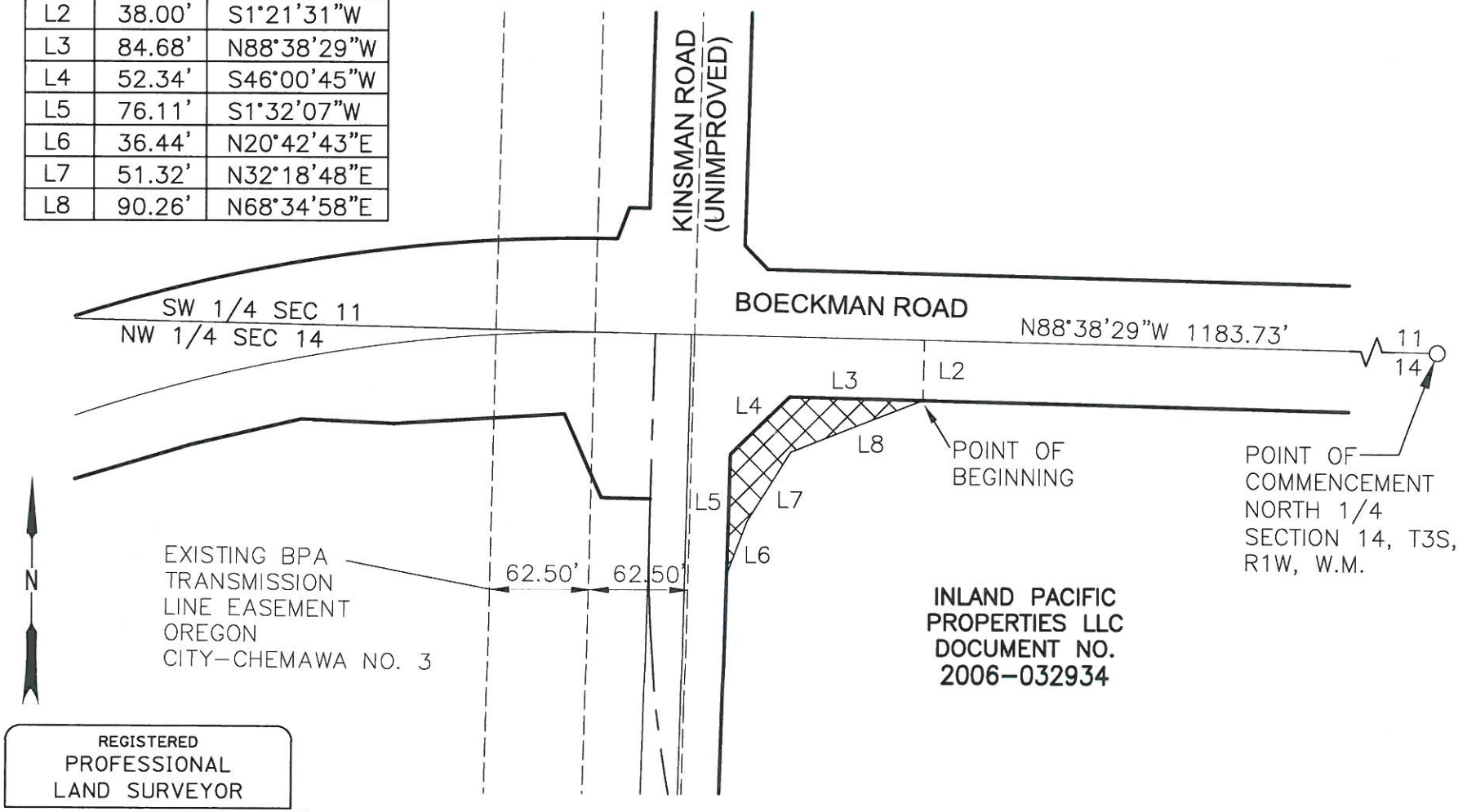
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

LINE TABLE		
LINE	LENGTH	BEARING
L2	38.00'	S1°21'31"W
L3	84.68'	N88°38'29"W
L4	52.34'	S46°00'45"W
L5	76.11'	S1°32'07"W
L6	36.44'	N20°42'43"E
L7	51.32'	N32°18'48"E
L8	90.26'	N68°34'58"E



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA = 3,416 SQ. FT±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S06	CMB	AJS	1/23/15

Exhibit F

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD07
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00202

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Inland Pacific Properties LLC, by Statutory Warranty Deed, Document No. 2006-032934, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West, along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 499.70 feet, to the westerly northwest corner of said real property and the **Point of Beginning**; thence leaving said sixteenth line, along said real property line, South 88°31'53" East, a distance of 25.00 feet; thence continuing along said real property line, North 1°32'07" East, a distance of 184.35 feet; thence leaving said real property line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 12°41'58" East, 9.63 feet) an arc distance of 9.63 feet; thence North 76°02'07" East, a distance of 11.24 feet; thence South 13°57'53" East, a distance of 10.00 feet; thence South 76°02'07" West, a distance of 11.34 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 13°50'50" East, 2.56 feet) an arc distance of 2.56 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 9°10'34" East, 142.22 feet) an arc distance of 142.39 feet; thence North 85°55'15" East, a distance of 14.01 feet; thence South 4°04'45" East, a distance of 10.00 feet; thence South 85°55'15" West, a distance of 14.01 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 4°22'38" West, 242.01 feet) an arc distance of 242.82 feet; thence South 77°10'06" East, a distance of 12.47 feet; thence South 12°49'54" West, a distance of 10.00 feet; thence North 77°10'06" West, a distance of 12.47 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 13°23'11" West, 6.53 feet) an arc distance of 6.53 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 7°57'20" West, 158.18 feet) an arc distance of 158.44 feet; thence South 88°02'59" East, a distance of 17.98 feet; thence South 1°57'01" West, a distance of 10.00 feet; thence North 88°02'59" West, a distance of 17.98 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 01°32'26" East, 87.86 feet) an arc distance of 87.90 feet, to the southerly line of said real property; thence continuing along said southerly

line North 88°31'36" West, a distance of 29.69 feet, to the westerly line of said real property, and said west sixteenth line; thence continuing along the westerly line of said real property, and said west sixteenth line, North 1°32'07" East, a distance of 499.65 feet, to the **Point of Beginning.**

Containing 25,703 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

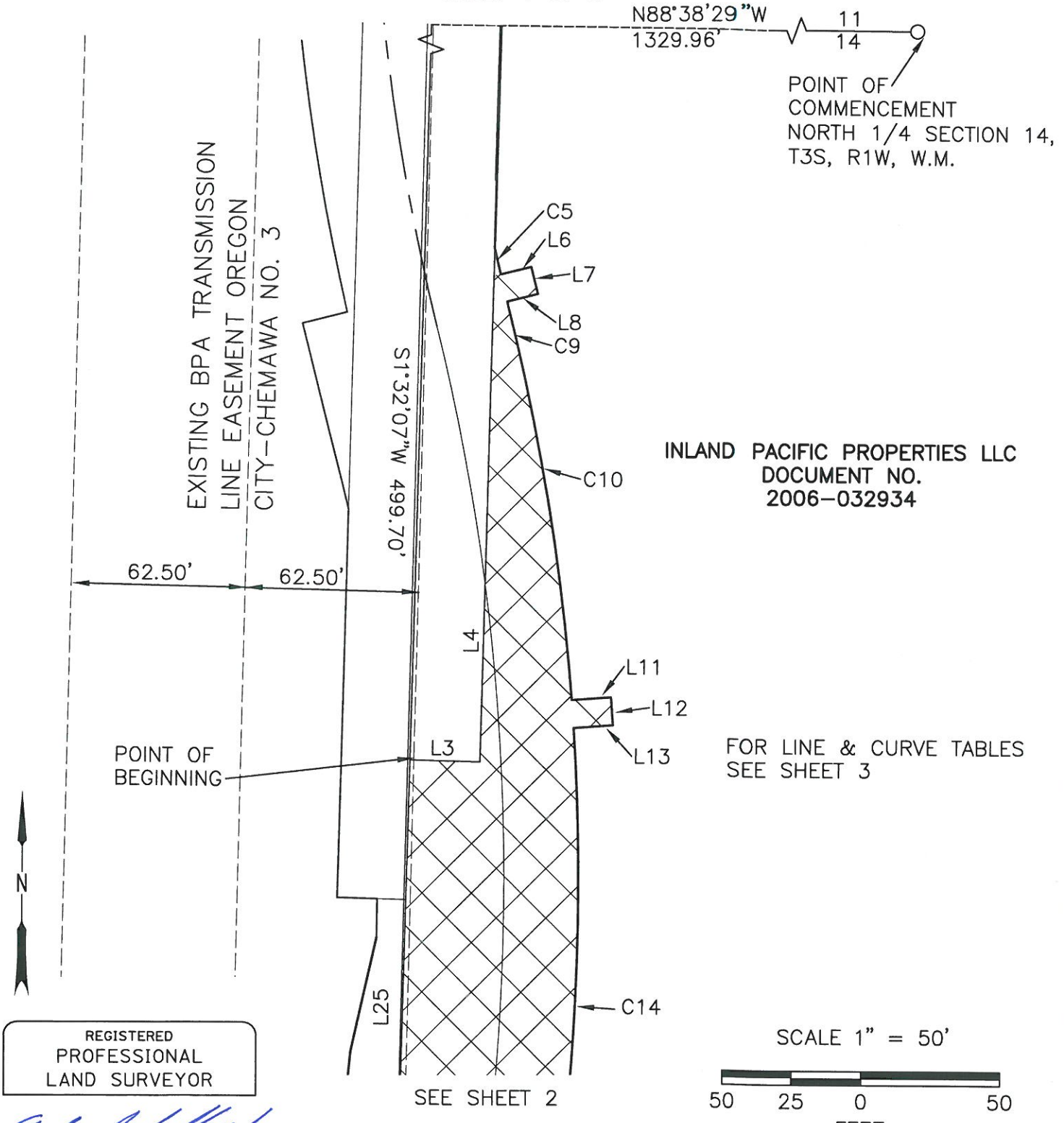
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 3



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

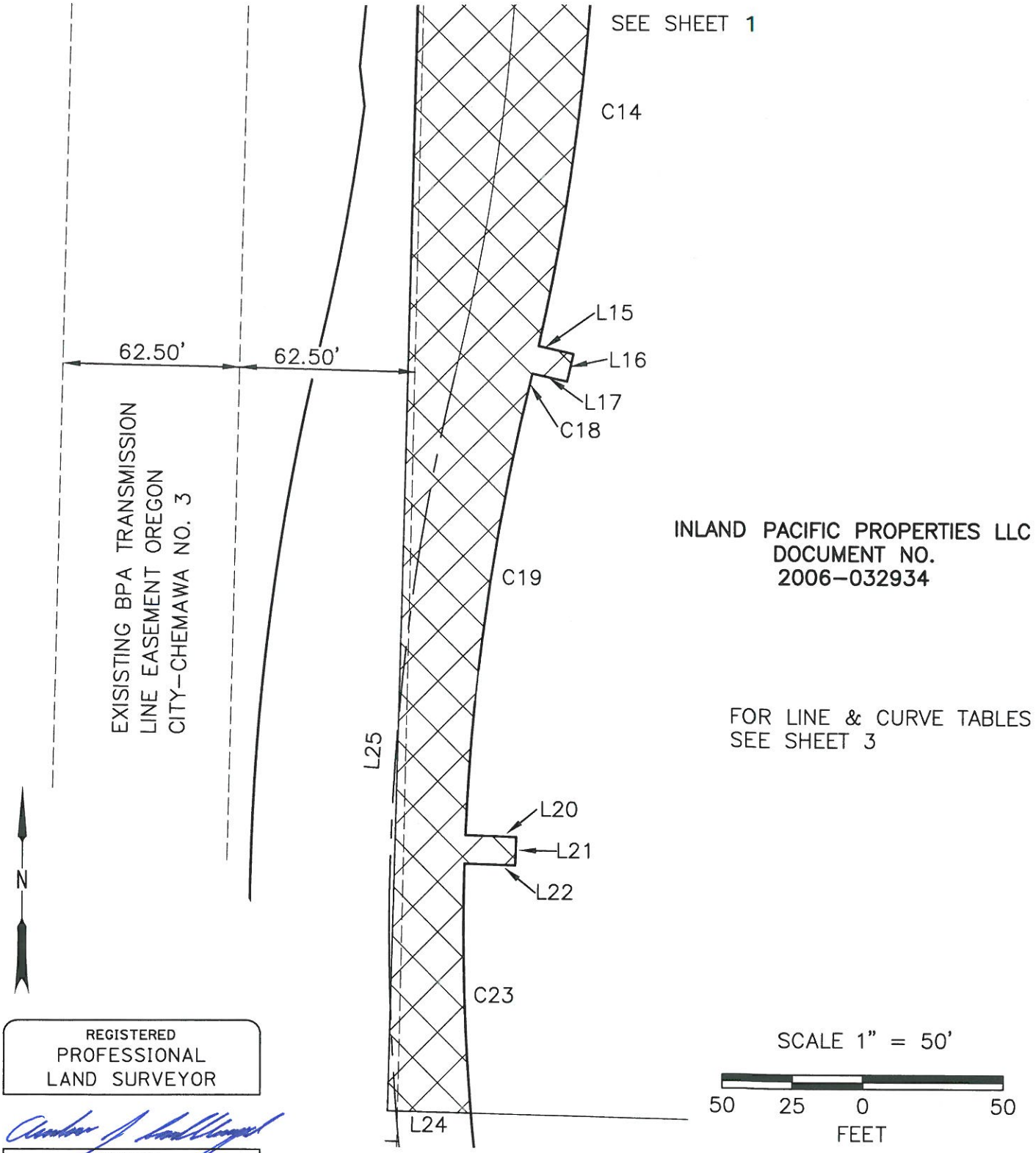
FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S07	CMB	AJS	1/23/15

Exhibit G

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

SHEET 2 OF 3



INLAND PACIFIC PROPERTIES LLC
DOCUMENT NO.
2006-032934

FOR LINE & CURVE TABLES
SEE SHEET 3

SCALE 1" = 50'

50 25 0 50
FEET

FEE AREA =
25,703 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S07	CMB	AJS	1/23/15

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 3 OF 3

LINE TABLE		
LINE	LENGTH	BEARING
L3	25.00'	S88°31'53"E
L4	184.35'	N1°32'07"E
L6	11.24'	N76°02'07"E
L7	10.00'	S13°57'53"E
L8	11.34'	S76°02'07"W
L11	14.01'	N85°55'15"E
L12	10.00'	S4°04'45"E
L13	14.01'	S85°55'15"W
L15	12.47'	S77°10'06"E
L16	10.00'	S12°49'54"W
L17	12.47'	N77°10'06"W
L20	17.98'	S88°02'59"E
L21	10.00'	S1°57'01"W
L22	17.98'	N88°02'59"W
L24	29.69'	N88°31'36"W
L25	499.65'	N1°32'07"E

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C5	803.50'	9.63'	S12°41'58"E 9.63'
C9	803.50'	2.56'	S13°50'50"E 2.56'
C10	856.50'	142.39'	S9°10'34"E 142.22'
C14	856.50'	242.82'	S4°22'38"W 242.01'
C18	856.50'	6.53'	S13°23'11"W 6.53'
C19	803.50'	158.44'	S7°57'20"W 158.18'
C23	803.50'	87.90'	S1°32'26"E 87.86'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
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FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S07	CMB	AJS	1/23/15

OBEC CONSULTING ENGINEERS

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EXHIBIT "A"

14429LD08
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00401 & 00491

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Oldcastle Precast, Inc., a Washington Corporation, by Warranty Deed, Document No. 96-086865, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 999.35 feet to the northwesterly corner of said real property and the **Point of Beginning**; thence leaving said sixteenth line, along the northerly line of said real property, South 88°31'36" East, a distance of 29.69 feet; thence leaving said northerly line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 6°32'03" East, 52.14 feet) an arc distance of 52.15 feet; thence North 81°15'12" East, a distance of 10.60 feet; thence South 8°44'48" East, a distance of 10.00 feet; thence South 81°15'12" West, a distance of 10.60 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 10°42'08" East, 44.75 feet) an arc distance of 44.76 feet, to the southerly line of said real property; thence along said southerly line, North 88°31'36" West, a distance of 48.28 feet, to the said sixteenth line and the westerly line of said real property; thence leaving said southerly line along said sixteenth line and the westerly line of said real property, North 1°32'07" East, a distance of 105.22 feet, to the **Point of Beginning.**

Containing 4,082 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

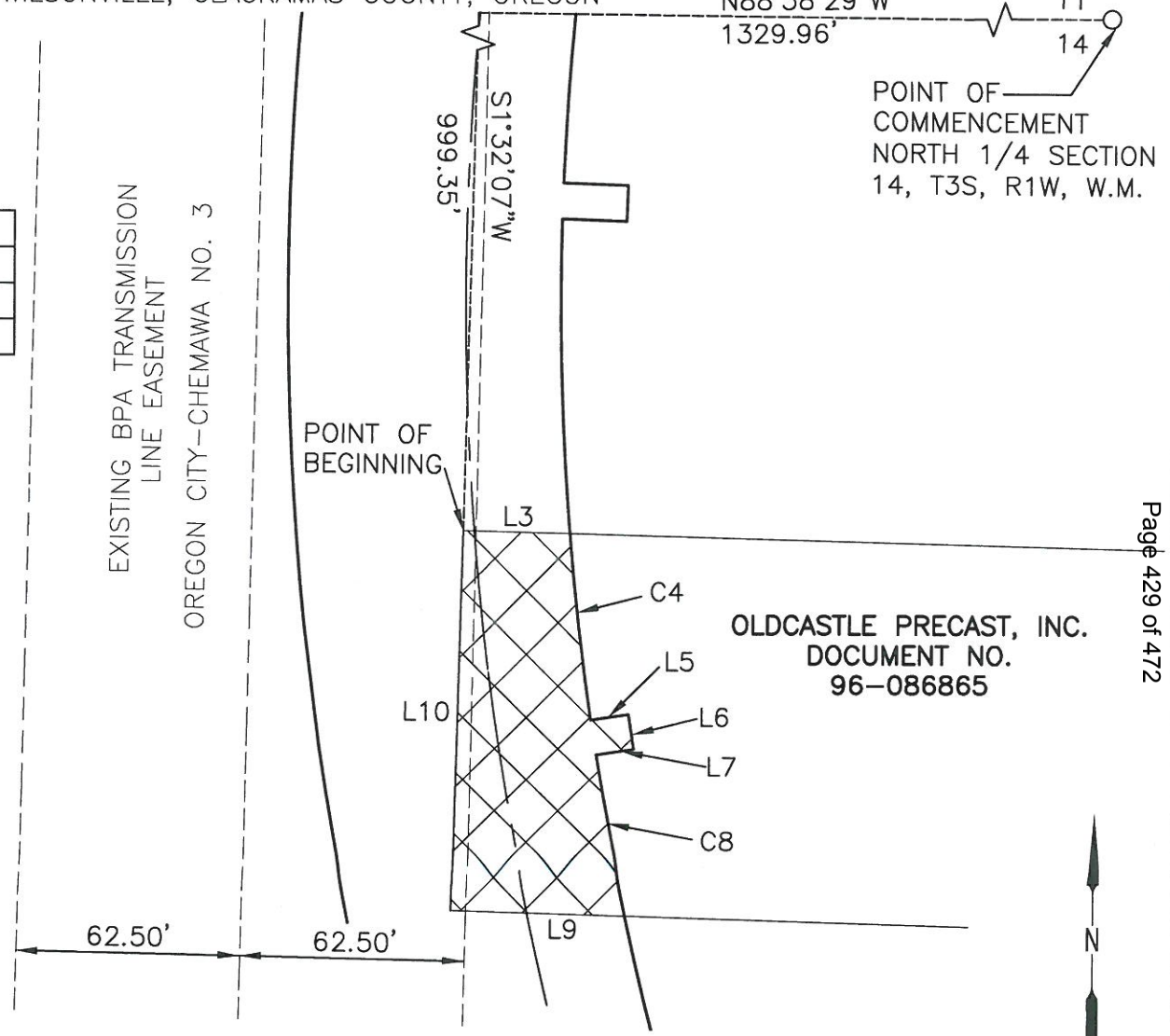
RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C4	803.50'	52.15'	S6°32'03"E 52.14'
C8	803.50'	44.76'	S10°42'08"E 44.75'

LINE TABLE		
LINE	LENGTH	BEARING
L3	29.69'	S88°31'36"E
L5	10.60'	N81°15'12"E
L6	10.00'	S8°44'48"E
L7	10.60'	S81°15'12"W
L9	48.28'	N88°31'36"W
L10	105.22'	N1°32'07"E



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S08	CMB	AJS	1/23/15

Exhibit H

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD09
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00500 & 00590

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Charles F. Breuer, by Statutory Special Warranty Deed, Document No. 95-044271, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West, along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 1104.57 feet to the northwesterly corner of said real property and the **Point of Beginning**; thence leaving said sixteenth line, South 88°31'36" East, along the northerly line of said real property, a distance of 48.28 feet; thence leaving said northerly real property line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 13°37'15" East, 37.09 feet) an arc distance of 37.09 feet; thence South 30°08'11" East, a distance of 19.97 feet; thence along the arc of a 798.50 foot radius curve to the left (the long chord of which bears South 22°21'06" East, 167.64 feet) an arc distance of 167.95 feet; thence North 60°24'03" East, a distance of 13.00 feet; thence South 26°28'24" East, a distance of 10.01 feet; thence South 60°24'03" West, a distance of 12.61 feet; thence along the arc of a 861.50 foot radius curve to the right (the long chord of which bears South 23°06'34" East, 184.80 feet) an arc distance of 185.16 feet; thence South 16°57'08" East, a distance of 43.35 feet; thence South 13°11'14" East, a distance of 38.86 feet; thence North 78°50'31" East, a distance of 13.19 feet; thence South 11°09'29" East, a distance of 10.00 feet; thence South 78°50'31" West, a distance of 12.93 feet; thence along the arc of a 863.13 foot radius curve to the right (the long chord of which bears South 08°57'47" East, 56.13 feet) an arc distance of 56.14 feet, to the southerly line of said real property; thence along said southerly line, North 88°33'43" West, a distance of 71.18 feet; thence leaving said southerly line, along the arc of a 827.80 foot radius curve to the left (the long chord of which bears North 6°26'51" West, 18.88 feet) an arc distance of 18.88 feet; thence along the arc of a 793.50 foot radius curve to the left (the long chord of which bears North 10°00'43" West, 21.75 feet) an arc distance of 21.75 feet; thence South 78°50'31" West, a distance of 16.94 feet; thence North 11°09'29" West, a distance of 10.00 feet; thence North 78°50'31" East, a distance of 16.94 feet; thence along the arc of a 793.50 foot radius curve to the left (the long chord of which bears North 20°22'43" West, 244.42 feet) an arc distance of 245.39 feet; thence South 60°24'03" West, a distance of 20.56 feet; thence North 28°32'04" West, a distance of 10.00 feet; thence South 60°24'03" West, a distance of 70.76

feet, to the west sixteenth line and the westerly line of said real property; thence along said west sixteenth line and the westerly line of said real property, North 1°32'07" East, a distance of 288.38 feet, to the **Point of Beginning.**

Containing 46,665 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

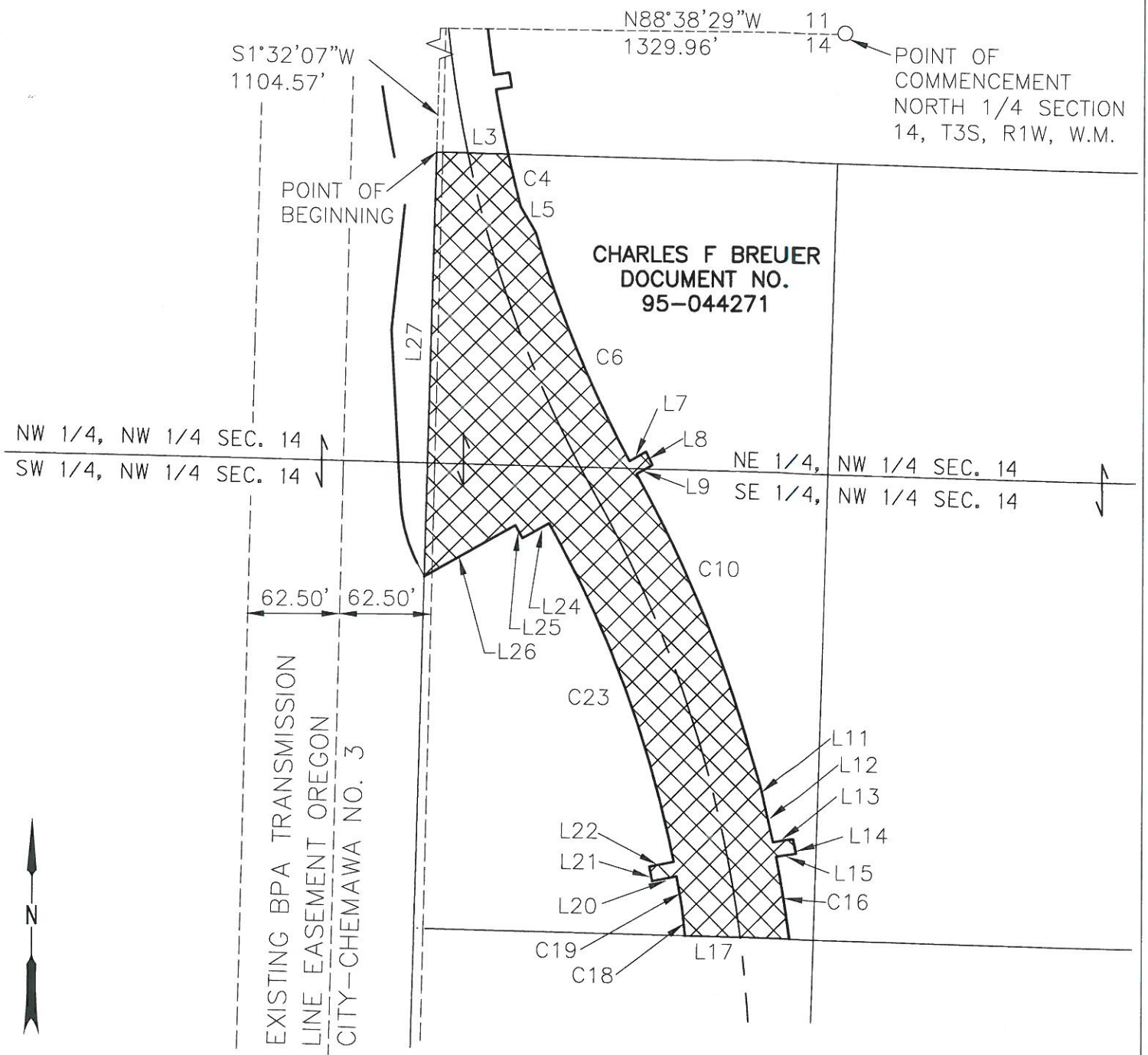
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

Exhibit I

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 2



FOR LINE & CURVE TABLES SEE SHEET 2

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA =
46,665 SQ. FT ±

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S09	CMB	AJS	1/23/15

Exhibit I

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 2 OF 2

LINE TABLE		
LINE	LENGTH	BEARING
L3	48.28'	S88°31'36"E
L5	19.97'	S30°08'11"E
L7	13.00'	N60°24'03"E
L8	10.01'	S26°28'24"E
L9	12.61'	S60°24'03"W
L11	43.35'	S16°57'08"E
L12	38.86'	S13°11'14"E
L13	13.19'	N78°50'31"E
L14	10.00'	S11°09'29"E
L15	12.93'	S78°50'31"W
L17	71.18'	N88°33'43"W
L20	16.94'	S78°50'31"W
L21	10.00'	N11°09'29"W
L22	16.94'	N78°50'31"E
L24	20.56'	S60°24'03"W
L25	10.00'	N28°32'04"W
L26	70.76'	S60°24'03"W
L27	288.38'	N1°32'07"E

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C4	803.50'	37.09'	S13°37'15"E 37.09'
C6	798.50'	167.95'	S22°21'06"E 167.64'
C10	861.50'	185.16'	S23°06'34"E 184.80'
C16	863.13'	56.14'	S8°57'47"E 56.13'
C18	827.80'	18.88'	N6°26'51"W 18.88'
C19	793.50'	21.75'	N10°00'43"W 21.75'
C23	793.50'	245.39'	N20°22'43"W 244.42'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
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FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S09	CMB	AJS	1/23/15

OBEC CONSULTING ENGINEERS

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EXHIBIT "A"

14429LD10
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00800

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that property conveyed to David S. Young, Sherilynn J. Young, and Marlene A. Young, by Correction Deed, Document No. 96-017347, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 1392.95 feet to a point on the easterly line of said real property and the **Point of Beginning**; thence leaving said easterly line, South 56°46'34" West, a distance of 21.50 feet; thence North 18°59'21" West, a distance of 65.48 feet; thence North 3°08'47" West, a distance of 117.91 feet; thence North 3°03'21" East, a distance of 75.34 feet; thence North 11°55'05" West, a distance of 66.51 feet; thence North 8°56'07" West, a distance of 60.42 feet; thence North 5°07'19" West, a distance of 55.42 feet; thence North 0°41'58" West, a distance of 54.82 feet; thence North 1°57'31" East, 43.91 feet; thence North 5°32'25" East, a distance of 65.79 feet; thence North 9°27'50" East, a distance of 50.14 feet; thence North 12°46'22" East, a distance of 38.42 feet; thence North 13°33'54" East, a distance of 50.06 feet; thence North 8°51'03" East, a distance of 36.62 feet; thence North 74°43'24" West, a distance of 36.62 feet; thence North 5°23'48" East, a distance of 26.00 feet; thence North 86°24'12" East, a distance of 43.52 feet; thence North 12°59'38" East, a distance of 18.60 feet; thence North 0°29'56" East, a distance of 37.06 feet; thence North 2°08'40" West, a distance of 59.27 feet; thence North 6°51'01" West, a distance of 41.24 feet; thence North 9°16'17" West, a distance of 36.46 feet; thence North 14°14'54" West, a distance of 57.05 feet; thence North 75°21'16" East, a distance of 30.49 feet; thence North 11°34'35" West, a distance of 30.75 feet; thence North 8°31'24" West, a distance of 36.76 feet; thence North 6°48'59" West, a distance of 26.18 feet; thence North 4°47'05" West, a distance of 41.94 feet; thence North 4°28'33" West, a distance of 31.50 feet; thence North 2°37'07" West, a distance of 32.51 feet; thence South 26°59'12" East, a distance of 10.69 feet; thence South 3°30'01" East, a distance of 11.61 feet; thence South 8°23'31" East, a distance of 77.41 feet; thence along the arc of a 860.50 foot radius curve to the left (the long chord of which bears South 9°46'09" East, 100.08 feet) an arc distance of 100.13 feet; thence South 75°59'01" West, a distance of 16.65 feet; thence South 14°11'24" East, a distance of

68.67 feet; thence South 1°32'07" West, a distance of 139.26 feet; thence South 88°27'53" East, a distance of 14.58 feet; thence South 0°37'39" West, a distance of 13.83 feet; thence South 12°59'38" West, a distance of 41.80 feet; thence South 5°41'15" West, a distance of 26.64 feet; thence South 6°40'09" East, a distance of 14.13 feet; thence along the arc of a 780.50 foot radius curve to the right (the long chord of which bears South 10°30'09" West, 84.47 feet) an arc distance of 84.51 feet; thence along the arc of a 879.50 foot radius curve to the left (the long chord of which bears South 0°01'48" West, 412.85 feet) an arc distance of 416.74 feet; thence South 5°51'34" West, a distance of 85.33 feet; thence South 3°08'47" East, a distance of 116.10 feet; thence along the arc of a 104.00 foot radius curve to the left (the long chord of which bears South 15°19'45" East, 43.89 feet) an arc distance of 44.23 feet; thence South 27°30'43" East, a distance of 10.22 feet to the **Point of Beginning.**

Containing 31,374 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

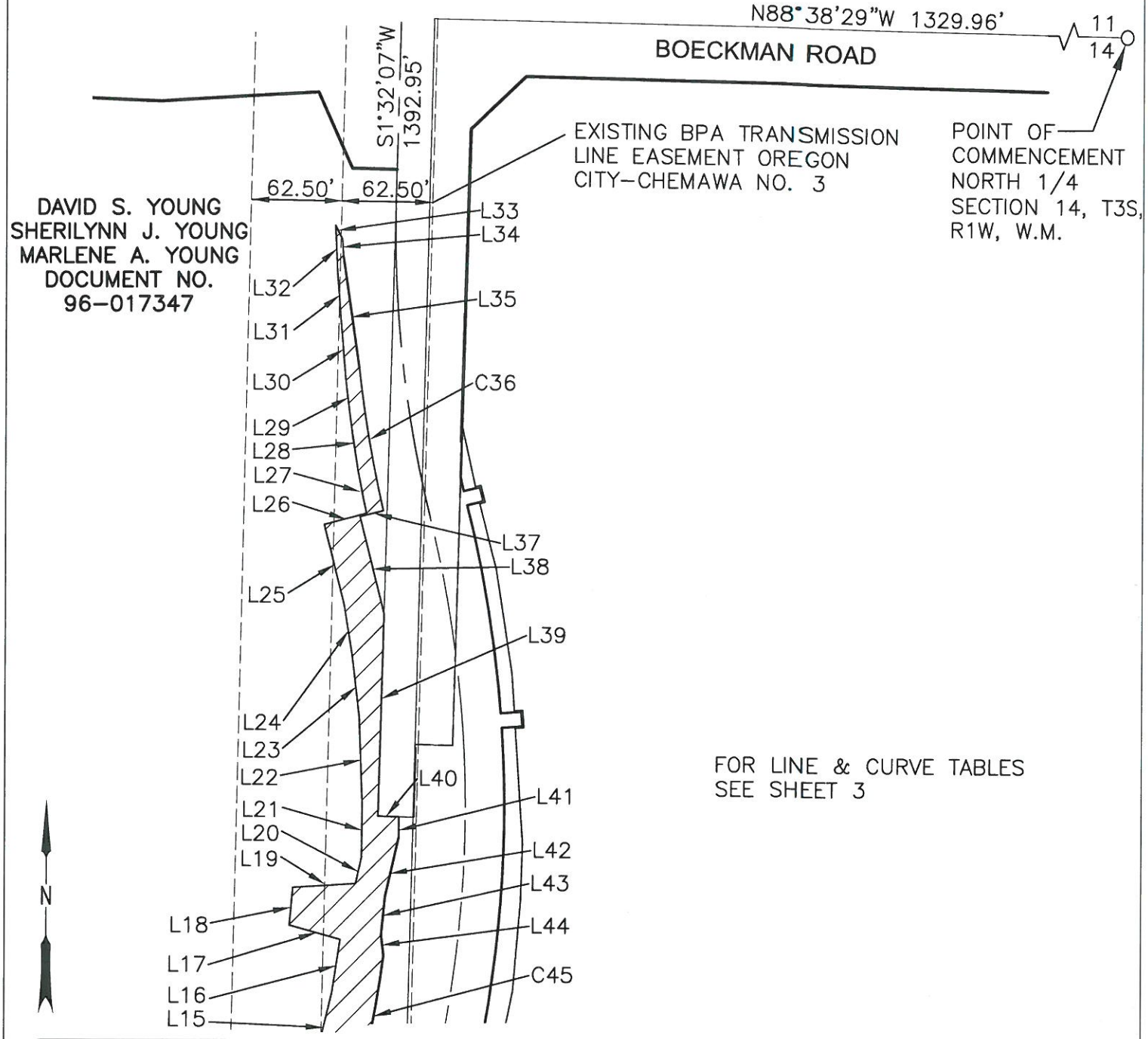
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

Exhibit J

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 3



FOR LINE & CURVE TABLES
SEE SHEET 3

SCALE 1" = 100'

100 50 0 100
FEET

PERMANENT EASEMENT FOR SLOPES = 31,374 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

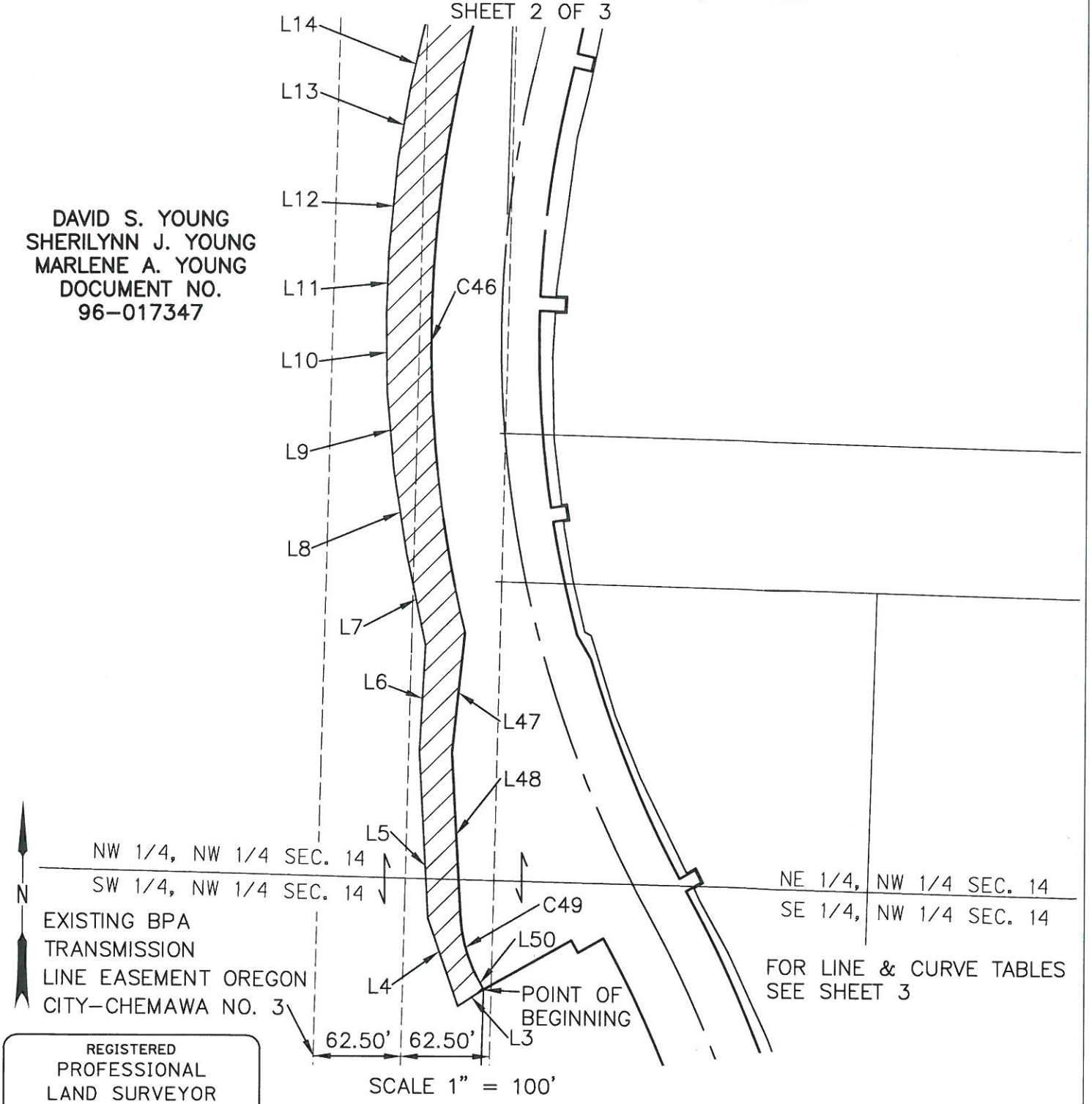
RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S10	CMB	AJS	1/23/15

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 2 OF 3



SCALE 1" = 100'

100 50 0 100
FEET

PERMANENT EASEMENT FOR SLOPES = 31,374 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 04/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S10	CMB	AJS	1/23/15

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION
FOR PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 3 OF 3

LINE TABLE		
LINE	LENGTH	BEARING
L3	21.50'	S56°46'34"W
L4	65.48'	N18°59'21"W
L5	117.91'	N3°08'47"W
L6	75.34'	N3°03'21"E
L7	66.51'	N11°55'05"W
L8	60.42'	N8°56'07"W
L9	55.42'	N5°07'19"W
L10	54.82'	N0°41'58"W
L11	43.91'	N1°57'31"E
L12	65.79'	N5°32'25"E
L13	50.14'	N9°27'50"E
L14	38.42	N12°46'22"E
L15	50.06'	N13°33'54"E
L16	36.62'	N8°51'03"E
L17	36.62'	N74°43'24"W
L18	26.00'	N5°23'48"E
L19	43.52'	N86°24'12"E
L20	18.60'	N12°59'38"E
L21	37.06'	N0°29'56"E
L22	59.27'	N2°08'40"W
L23	41.24'	N6°51'01"W
L24	36.46'	N9°16'17"W
L25	57.05'	N14°14'54"W
L26	30.49	N75°21'16"E
L27	30.75'	N11°34'35"W
L28	36.76'	N8°31'24"W
L29	26.18'	N6°48'59"W
L30	41.94'	N4°47'05"W
L31	31.50'	N4°28'33"W
L32	32.51'	N2°37'07"W
L33	10.69'	S26°59'12"E

LINE TABLE		
LINE	LENGTH	BEARING
L34	11.61'	S3°30'01"E
L35	77.41'	S8°23'31"E
L37	16.65'	S75°59'01"W
L38	68.67'	S14°11'24"E
L39	139.26'	S1°32'07"W
L40	14.58'	S88°27'53"E
L41	13.83'	S0°37'39"W
L42	41.80'	S12°59'38"W
L43	26.64'	S5°41'15"W
L44	14.13'	S6°40'09"E
L47	85.33'	S5°51'34"W
L48	116.10'	S3°08'47"E
L50	10.22'	S27°30'43"E

CURVE TABLE				
LINE	RADIUS	LENGTH		
C36	860.50'	100.13'	S9°46'09"E	100.08'
C45	780.50'	84.51'	S10°30'09"W	84.47'
C46	879.50'	416.74'	S0°01'48"W	412.85'
C49	104.00'	44.23'	S15°19'45"E	43.89'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
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FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S10	CMB	AJS	1/23/15

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD11
January 30, 2015
A. Silbernagel

LEGAL DESCRIPTION
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00202

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Inland Pacific Properties LLC, by Statutory Warranty Deed, Document No. 2006-032934, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 499.70 feet to the westerly northwest corner of said real property; thence leaving said sixteenth line, along said real property line, South 88°31'53" East, a distance of 25.00 feet; thence continuing along said real property line, North 1°32'07" East, a distance of 184.35 feet to the **Point of Beginning**; thence leaving said real property line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 12°41'58" East, 9.63 feet) an arc distance of 9.63 feet; thence North 76°02'07" East, a distance of 11.24 feet; thence South 13°57'53" East, a distance of 10.00 feet; thence South 76°02'07" West, a distance of 11.34 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 13°50'50" East, 2.56 feet) an arc distance of 2.56 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 9°10'34" East, 142.22 feet) an arc distance of 142.39 feet; thence North 85°55'15" East, a distance of 14.01 feet; thence South 4°04'45" East, a distance of 10.00 feet; thence South 85°55'15" West, a distance of 14.01 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 04°22'38" West, 242.01 feet) an arc distance of 242.82 feet; thence South 77°10'06" East, a distance of 12.47 feet; thence South 12°49'54" West, a distance of 10.00 feet; thence North 77°10'06" West, a distance of 12.47 feet; thence along the arc of a 856.50 foot radius curve to the right (the long chord of which bears South 13°23'11" West, 6.53 feet) an arc distance of 6.53 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 7°57'20" West, 158.18 feet) an arc distance of 158.44 feet; thence South 88°02'59" East, a distance of 17.98 feet; thence South 1°57'01" West, a distance of 10.00 feet; thence North 88°02'59" West, a distance of 17.98 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 1°32'26" East, 87.86 feet) an arc distance of 87.90 feet, to the southerly line of said real property; thence along said southerly line, South

88°31'36" East, a distance of 7.87 feet; thence leaving said southerly line, North 1°12'48" West, a distance of 54.91 feet; thence North 3°09'40" East, a distance of 31.81 feet; thence South 88°02'59" East, a distance of 8.13 feet; thence North 1°57'01" East, a distance of 12.00 feet; thence North 88°02'59" West, a distance of 7.87 feet; thence North 7°17'35" East, a distance of 113.12 feet; thence North 13°58'12" East, a distance of 33.45 feet; thence North 11°57'43" East, a distance of 25.16 feet; thence North 11°34'35" East, a distance of 64.89 feet; thence North 4°54'14" East, a distance of 61.19 feet; thence North 1°42'10" East, a distance of 39.99 feet; thence North 3°35'43" West, a distance of 79.46 feet; thence North 85°55'15" East, a distance of 5.91 feet; thence North 4°04'45" West, a distance of 12.00 feet; thence South 85°55'15" West, a distance of 5.81 feet; thence North 3°35'43" West, a distance of 25.31 feet; thence North 8°33'23" West, a distance of 73.06 feet; thence North 14°18'17" West, a distance of 46.25 feet; thence North 76°02'07" East, a distance of 3.81 feet; thence North 13°57'53" West, a distance of 12.00 feet; thence South 76°02'07" West, a distance of 3.92 feet; thence North 12°01'16" West, a distance of 43.17 feet, to the westerly line of said real property; thence along said westerly line, South 1°32'07" West, a distance of 35.82 feet to the **Point of Beginning.**

Containing 7,722 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

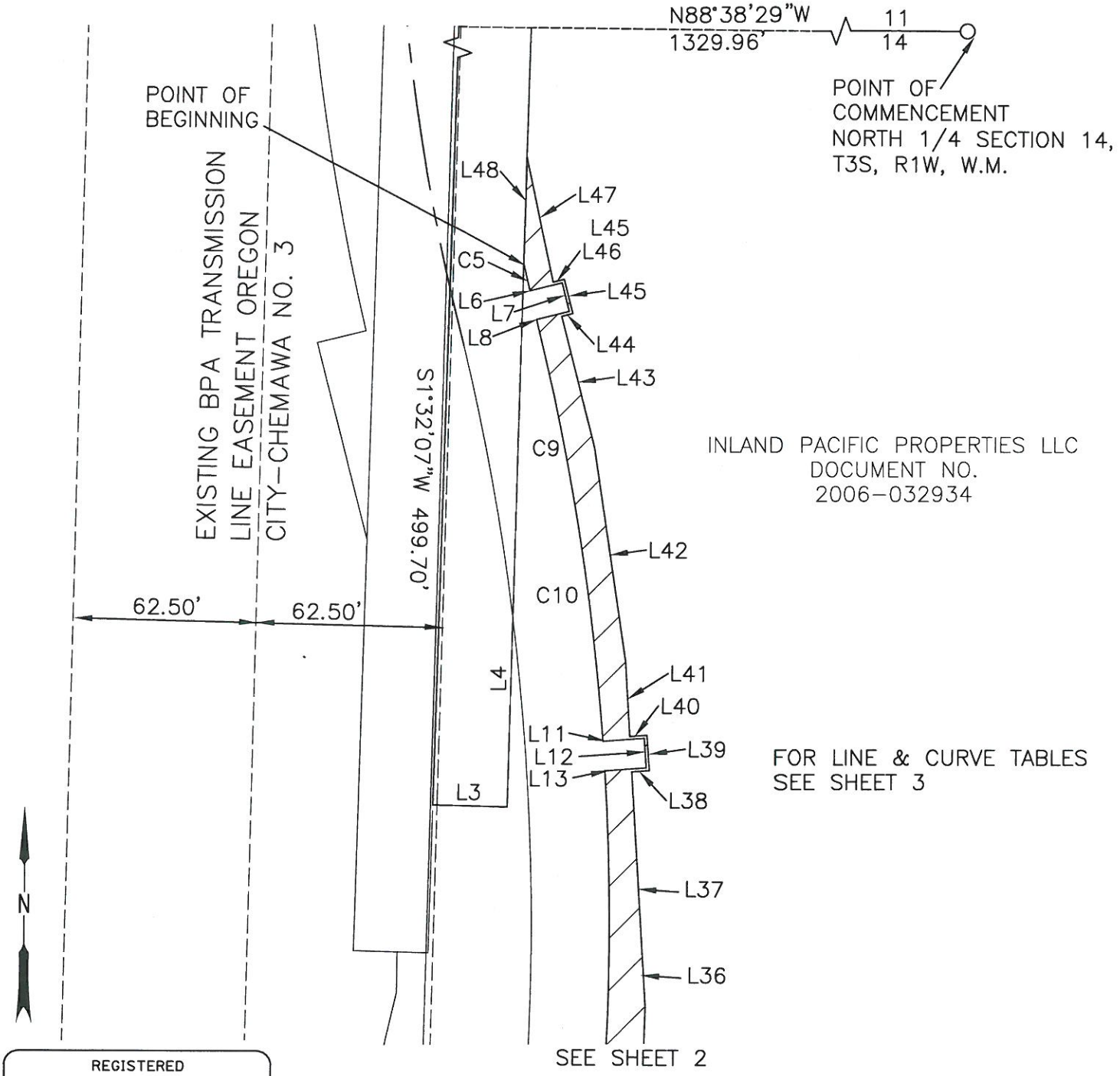
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

Exhibit K

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 3



SCALE 1" = 50'

50 25 0 50
FEET

PERMANENT EASEMENT FOR SLOPES = 7,722 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

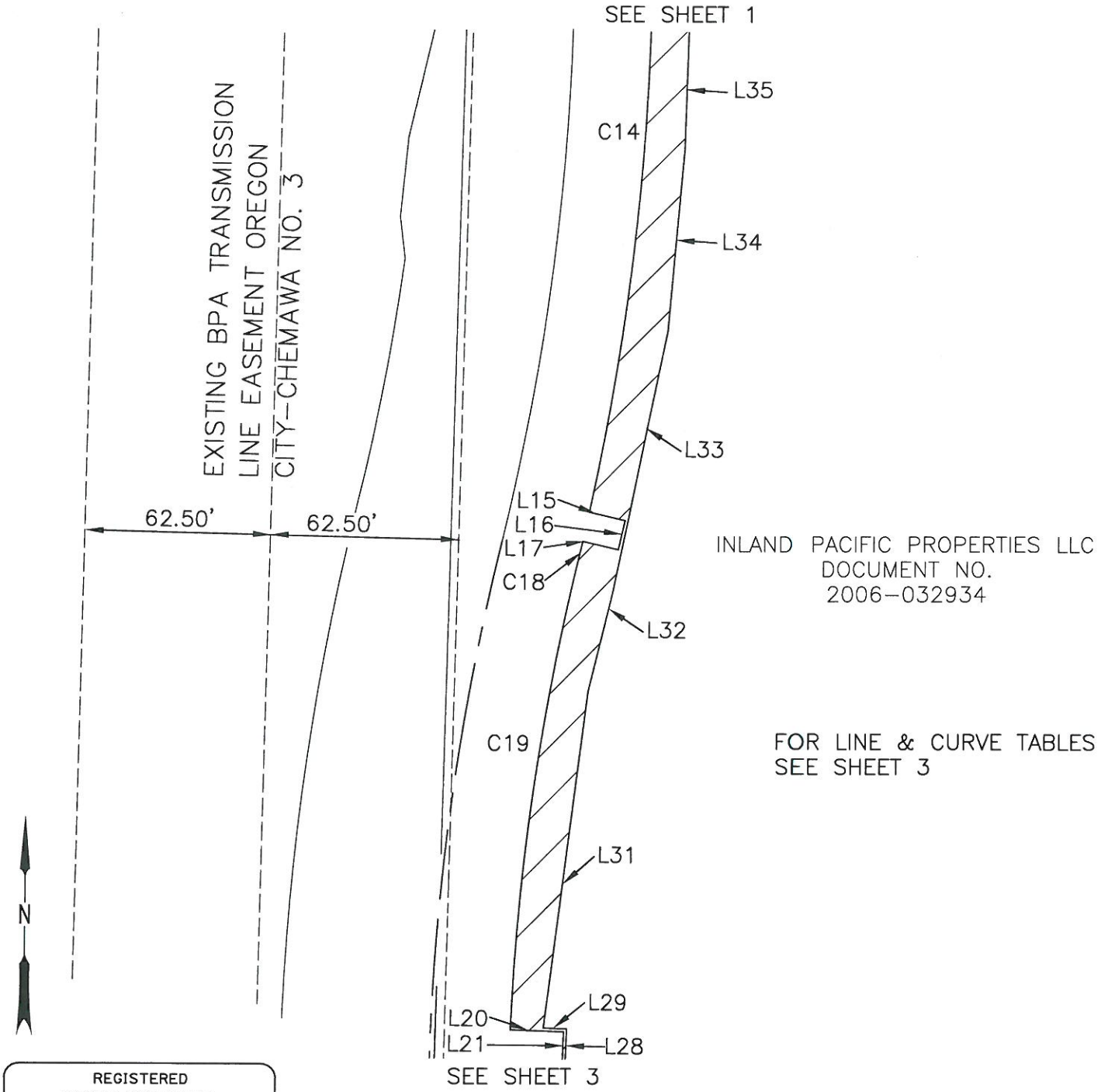
OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S11	CMB	AJS	1/30/15

Exhibit K

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 2 OF 3



INLAND PACIFIC PROPERTIES LLC
DOCUMENT NO.
2006–032934

FOR LINE & CURVE TABLES
SEE SHEET 3

SCALE 1" = 50'

50 25 0 50
FEET

PERMANENT EASEMENT FOR SLOPES = 7,722 SQ. FT ±

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

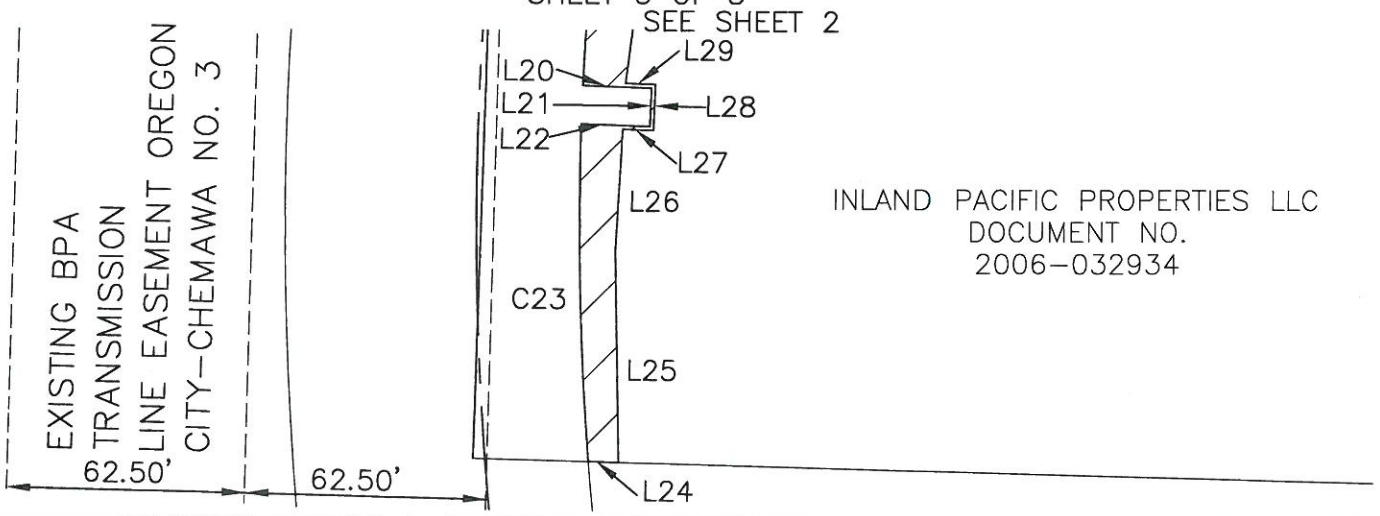
OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S11	CMB	AJS	1/30/15

Exhibit K

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 3 OF 3



LINE TABLE		
LINE	LENGTH	BEARING
L3	25.00'	S88°31'53"E
L4	184.35'	N1°32'07"E
L6	11.24'	N76°02'07"E
L7	10.00'	S13°57'53"E
L8	11.34'	S76°02'07"W
L11	14.01'	N85°55'15"E
L12	10.00'	S4°04'45"E
L13	14.01'	S85°55'15"W
L15	12.47'	S77°10'06"E
L16	10.00'	S12°49'54"W
L17	12.47'	N77°10'06"W
L20	17.98'	S88°02'59"E
L21	10.00'	S1°57'01"W
L22	17.98'	N88°02'59"W
L24	7.87'	S88°31'36"E
L25	54.91'	N1°12'48"W
L26	31.81'	N3°09'40"E
L27	8.13'	S88°02'59"E
L28	12.00'	N1°57'01"E
L29	7.87'	N88°02'59"W

LINE TABLE		
LINE	LENGTH	BEARING
L31	113.12'	N7°17'35"E
L32	33.45'	N13°58'12"E
L33	25.16'	N11°57'43"E
L34	64.89'	N11°34'35"E
L35	61.19'	N4°54'14"E
L36	39.99'	N1°42'10"E
L37	79.46'	N3°35'43"W
L38	5.91'	N85°55'15"E
L39	12.00'	N4°04'45"W

LINE TABLE		
LINE	LENGTH	BEARING
L40	5.81'	S85°55'15"W
L41	25.31'	N3°35'43"W
L42	73.06'	N8°33'23"W
L43	46.25'	N14°18'17"W
L44	3.81'	N76°02'07"E
L45	12.00'	N13°57'53"W
L46	3.92'	S76°02'07"W
L47	43.17'	N12°01'16"W
L48	35.82'	S1°32'07"W

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C5	803.50'	9.63'	S12°41'58"E 9.63'
C9	803.50'	2.56'	S13°50'50"E 2.56'
C10	856.50'	142.39'	S9°10'34"E 142.22'
C14	856.50'	242.82'	S4°22'38"W 242.01'
C18	856.50'	6.53'	S13°23'11"W 6.53'
C19	803.50'	158.44'	S7°57'20"W 158.18'
C23	803.50'	87.90'	S1°32'26"E 87.86'

N

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

SCALE 1" = 50'

50 25 0 50
FEET

PERMANENT EASEMENT FOR SLOPES = 7,722 SQ. FT ±

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S11	CMB	AJS	1/30/15

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD12
January 23, 2015
A. Silbernagel

LEGAL DESCRIPTION
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00401 & 00491

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Oldcastle Precast, Inc., a Washington Corporation, by Warranty Deed, Document No. 96-086865, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 999.35 feet, to the northwesterly corner of said real property; thence leaving said sixteenth line, along the northerly line of said real property, South 88°31'36" East, a distance of 29.69 feet to the **Point of Beginning**; thence leaving said northerly line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 6°32'03" East, 52.14 feet) an arc distance of 52.15 feet; thence North 81°15'12" East, a distance of 10.60 feet; thence South 8°44'48" East, a distance of 10.00 feet; thence South 81°15'12" West, a distance of 10.60 feet; thence along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 10°42'08" East, 44.75 feet) an arc distance of 44.76 feet, to the southerly line of said real property; thence along said southerly line, South 88°31'36" East, a distance of 6.28 feet; thence leaving said southerly line, North 9°24'14" West, a distance of 44.85 feet; thence North 81°15'12" East, a distance of 4.40 feet; thence North 8°44'48" West, a distance of 12.00 feet; thence South 81°15'12" West, a distance of 3.96 feet; thence North 6°18'22" West, a distance of 49.75 feet, to the northerly line of said real property; thence along said northerly line, North 88°31'36" West, a distance of 7.87 feet, to the **Point of Beginning.**

Containing 740 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

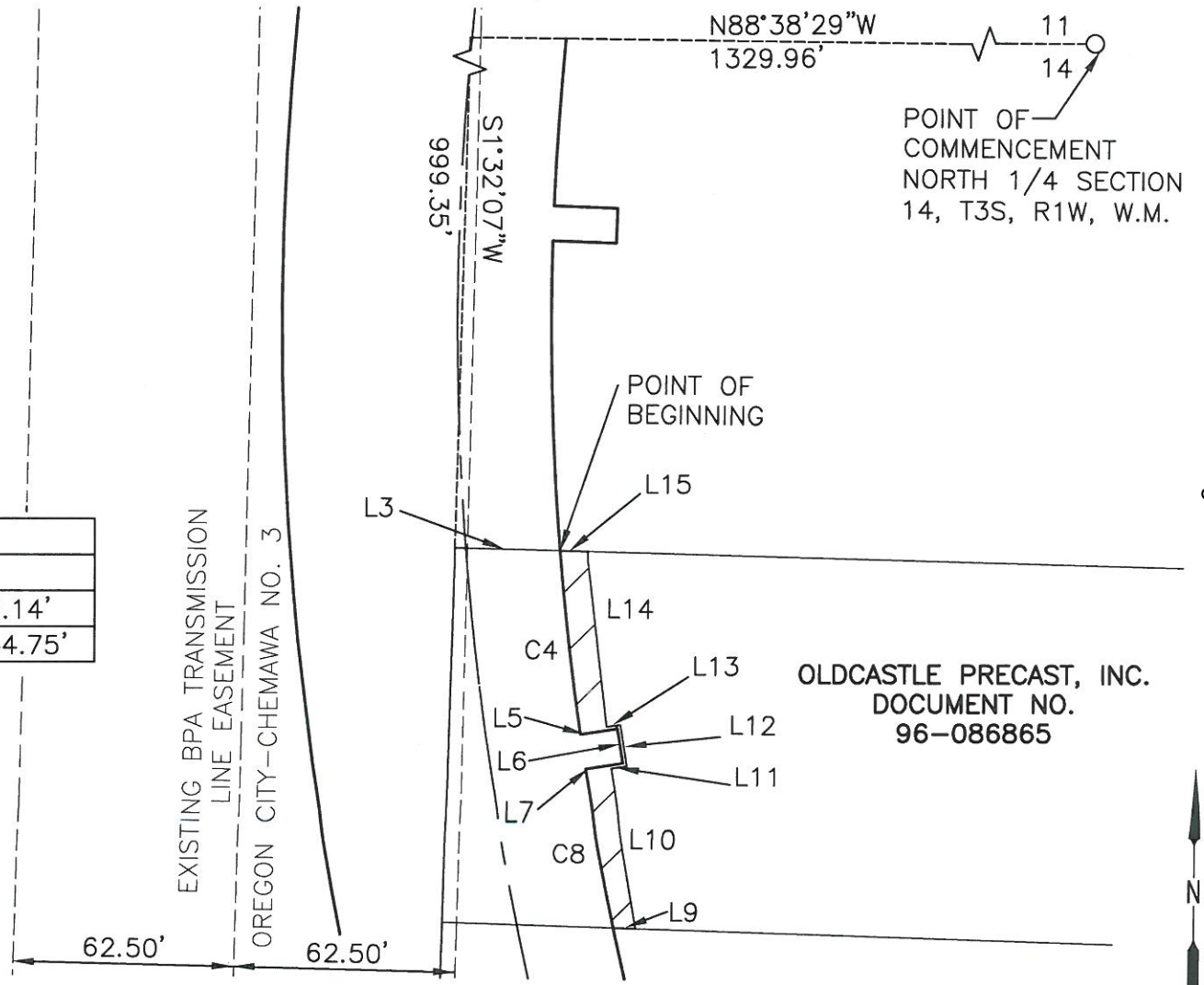
RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

LINE TABLE		
LINE	LENGTH	BEARING
L3	29.69'	S88°31'36"E
L5	10.60'	N81°15'12"E
L6	10.00'	S8°44'48"E
L7	10.60'	S81°15'12"W
L9	6.28'	S88°31'36"E
L10	44.85'	N9°24'14"W
L11	4.40'	N81°15'12"E
L12	12.00'	N8°44'48"W
L13	3.96'	S81°15'12"W
L14	49.75'	N6°18'22"W
L15	7.87'	N88°31'36"W

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C4	803.50'	52.15'	S6°32'03"E 52.14'
C8	803.50'	44.76'	S10°42'08"E 44.75'



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/26/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S12	CMB	AJS	1/23/15

Page 445 of 472

Exhibit L

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD13
January 30, 2015
A. Silbernagel

LEGAL DESCRIPTION
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00500 &00590

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Charles F. Breuer, by Statutory Special Warranty Deed, Document No. 95-044271, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West, along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 1104.57 feet, to the northwesterly corner of said real property; thence leaving said sixteenth line, South 88°31'36" East, along the northerly line of said real property, a distance of 48.28 feet to the **Point of Beginning**; thence leaving said northerly real property line, along the arc of a 803.50 foot radius curve to the left (the long chord of which bears South 13°37'15" East, 37.09 feet) an arc distance of 37.09 feet; thence South 30°08'11" East, a distance of 19.97 feet; thence along the arc of a 798.50 foot radius curve to the left (the long chord of which bears South 22°21'06" East, 167.64 feet) an arc distance of 167.95 feet; thence North 60°24'03" East, a distance of 13.00 feet; thence South 26°28'24" East, a distance of 10.01 feet; thence South 60°24'03" West, a distance of 12.61 feet; thence along the arc of a 861.50 foot radius curve to the right (the long chord of which bears South 23°06'34" East, 184.80 feet) an arc distance of 185.16 feet; thence South 16°57'08" East, a distance of 43.35 feet; thence South 13°11'14" East, a distance of 38.86 feet; thence North 78°50'31" East, a distance of 13.19 feet; thence South 11°09'29" East, a distance of 10.00 feet; thence South 78°50'31" West, a distance of 12.93 feet; thence along the arc of a 863.13 foot radius curve to the right (the long chord of which bears South 8°57'47" East, 56.13 feet) an arc distance of 56.14 feet, to the southerly line of said real property; thence along said southerly line, South 88°33'43" East, a distance of 11.72 feet; thence leaving said southerly line, North 10°22'12" West, a distance of 57.65 feet; thence North 78°50'31" East, a distance of 3.85 feet; thence North 11°09'29" West, a distance of 12.00 feet; thence South 78°50'31" West, a distance of 3.81 feet; thence North 8°41'50" West, a distance of 12.06 feet; thence North 16°49'16" West, a distance of 84.13 feet; thence North 21°20'59" West, a distance of 52.47 feet; thence North 24°35'09" West, a distance of 36.66 feet; thence North 25°24'40" West, a distance of 31.39 feet; thence North 29°07'18" West, a distance of 41.77 feet; thence North 24°36'42" West, a distance of 9.73 feet; thence

North 60°24'03" East, a distance of 7.62 feet; thence North 26°28'24" West, a distance of 12.02 feet; thence South 60°24'03" West, a distance of 7.51 feet; thence North 26°29'16" West, a distance of 74.62 feet; thence North 22°24'02" West, a distance of 47.79 feet; thence North 17°11'33" West, a distance of 59.28 feet; thence North 59°54'17" West, a distance of 5.21 feet; thence North 13°08'07" West, a distance of 34.79 feet, to the northerly line of said real property; thence along said northerly line, North 88°31'36" West, a distance of 6.28 feet, to the **Point of Beginning.**

Containing 4,164 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187,
Clackamas County Surveyors Office.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

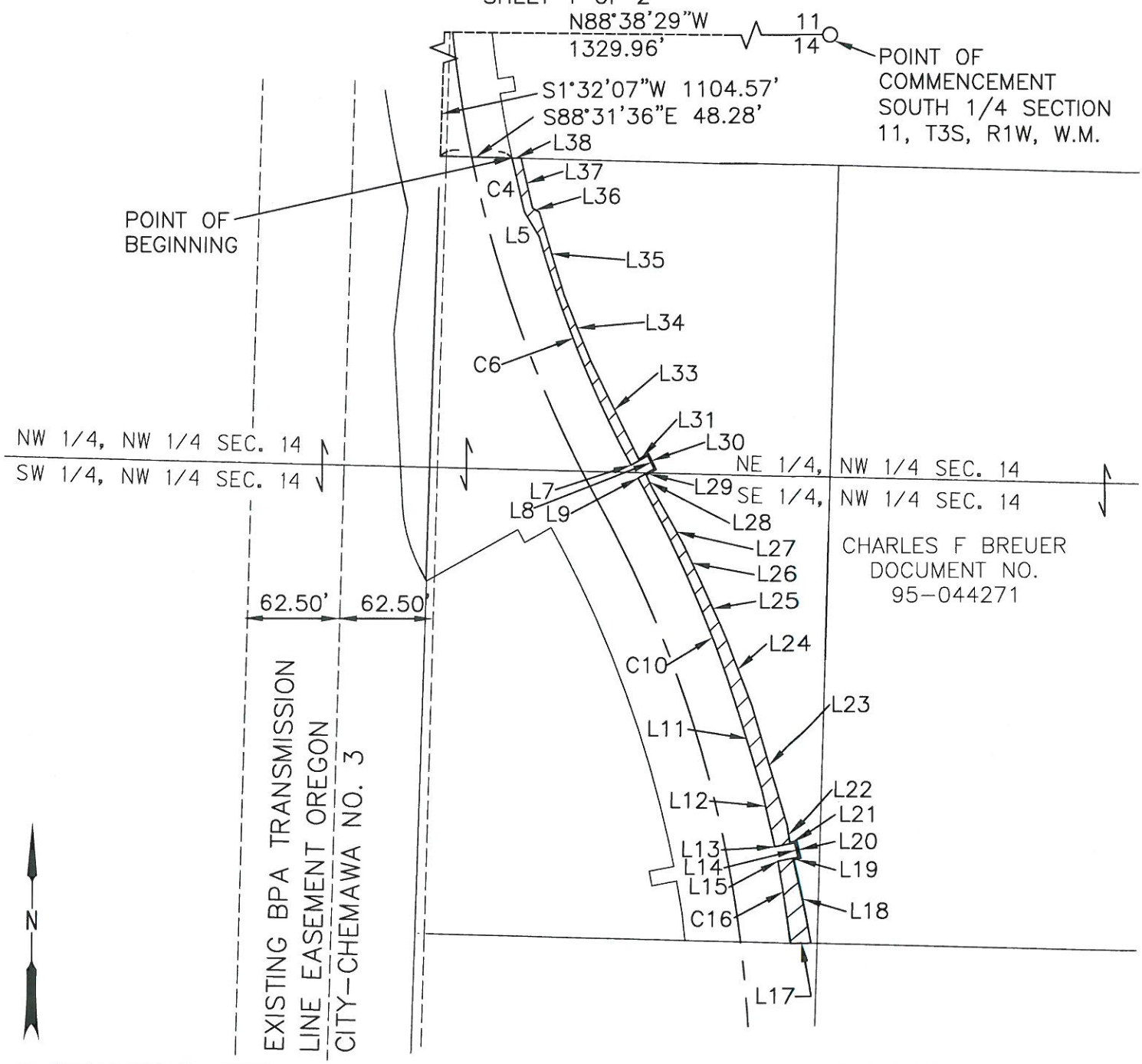
OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

Exhibit M

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR
PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 1 OF 2



FOR LINE & CURVE TABLES SEE SHEET 2

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

SCALE 1" = 100'

100 50 0 100
FEET

PERMANENT EASEMENT FOR SLOPES = 4,164 SQ. FT ±

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S13	CMB	AJS	1/30/15

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION
FOR PERMANENT EASEMENT FOR SLOPES
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON
SHEET 2 OF 2

LINE TABLE		
LINE	LENGTH	BEARING
L5	19.97'	S30°08'11"E
L7	13.00'	N60°24'03"E
L8	10.01'	S26°28'24"E
L9	12.61'	S60°24'03"W
L11	43.35'	S16°57'08"E
L12	38.86'	S13°11'14"E
L13	13.19'	N78°50'31"E
L14	10.00'	S11°09'29"E
L15	12.93'	S78°50'31"W
L17	11.72'	S88°33'43"E
L18	57.65'	N10°22'12"W
L19	3.85'	N78°50'31"E
L20	12.00'	N11°09'29"W
L21	3.81'	S78°50'31"W
L22	12.06'	N8°41'50"W
L23	84.13'	N16°49'16"W
L24	52.47'	N21°20'59"W
L25	36.66'	N24°35'09"W
L26	31.39'	N25°24'40"W
L27	41.77'	N29°07'18"W
L28	9.73'	N24°36'42"W
L29	7.62'	N60°24'03"E
L30	12.02'	N26°28'24"W
L31	7.51'	S60°24'03"W
L33	74.62'	N26°29'16"W
L34	47.79'	N22°24'02"W
L35	59.28'	N17°11'33"W
L36	5.21'	N59°54'17"W
L37	34.79'	N13°08'07"W
L38	6.28'	N88°31'36"W

CURVE TABLE			
LINE	RADIUS	LENGTH	CHORD
C4	803.50'	37.09'	S13°37'15"E 37.09'
C6	798.50'	167.95'	S22°21'06"E 167.64'
C10	861.50'	185.16'	S23°06'34"E 184.80'
C16	863.13'	56.14'	S8°57'47"E 56.13'

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

OBEC CONSULTING ENGINEERS
www.obec.com

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S13	CMB	AJS	1/30/15

OBEC CONSULTING ENGINEERS

www.obec.com

EXHIBIT "A"

14429LD14
January 30, 2015
A. Silbernagel

LEGAL DESCRIPTION
FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE
31W14B 00500 & 00590

A tract of land over real property situated in the City of Wilsonville, Clackamas County, Oregon, being a portion of that real property conveyed to Charles F. Breuer, by Statutory Special Warranty Deed, Document No. 95-044271, Clackamas County Deed Records, lying in the Northwest quarter of Section 14, Township 3 South, Range 1 West of the Willamette Meridian, more particularly described as follows:

Commencing at the North Quarter Corner of said Section 14, said corner being a 3-1/4" Brass Disk; thence North 88°38'29" West, along the north line of said Section 14, a distance of 1329.96 feet, to the west sixteenth line; thence leaving said north line, South 1°32'07" West, along said sixteenth line, a distance of 1392.95 feet, to a point on the westerly line of said real property and the **Point of Beginning**; thence continuing along the west sixteenth line, said sixteenth line also being the westerly line of said real property, South 1°32'07" West, a distance of 238.27 feet, to the southwesterly corner of said real property; thence leaving said westerly line, along the southerly line of said real property, South 88°33'43" East, a distance of 183.57 feet; thence leaving said southerly line, along the arc of a 827.80 foot radius curve to the left (the long chord of which bears North 6°26'51" West, 18.88 feet) an arc distance of 18.88 feet; thence along the arc of a 793.50 foot radius curve to the left (the long chord of which bears North 10°00'43" West, 21.75 feet) an arc distance of 21.75 feet; thence South 78°50'31" West, a distance of 16.94 feet; thence North 11°09'29" West, a distance of 10.00 feet; thence North 78°50'31" East, a distance of 16.94 feet; thence along the arc of a 793.50 foot radius curve to the left (the long chord of which bears North 20°22'43" West, 244.42 feet) an arc distance of 245.39 feet; thence South 60°24'03" West, a distance of 20.56 feet; thence North 28°32'04" West, a distance of 10.00 feet; thence South 60°24'03" West, a distance of 70.76 feet, to the **Point of Beginning.**

Containing 38,186 square feet, more or less.

Subject to easements and restrictions of record.

Bearings based on Survey No. 2010-187, Clackamas County Surveyors Office.

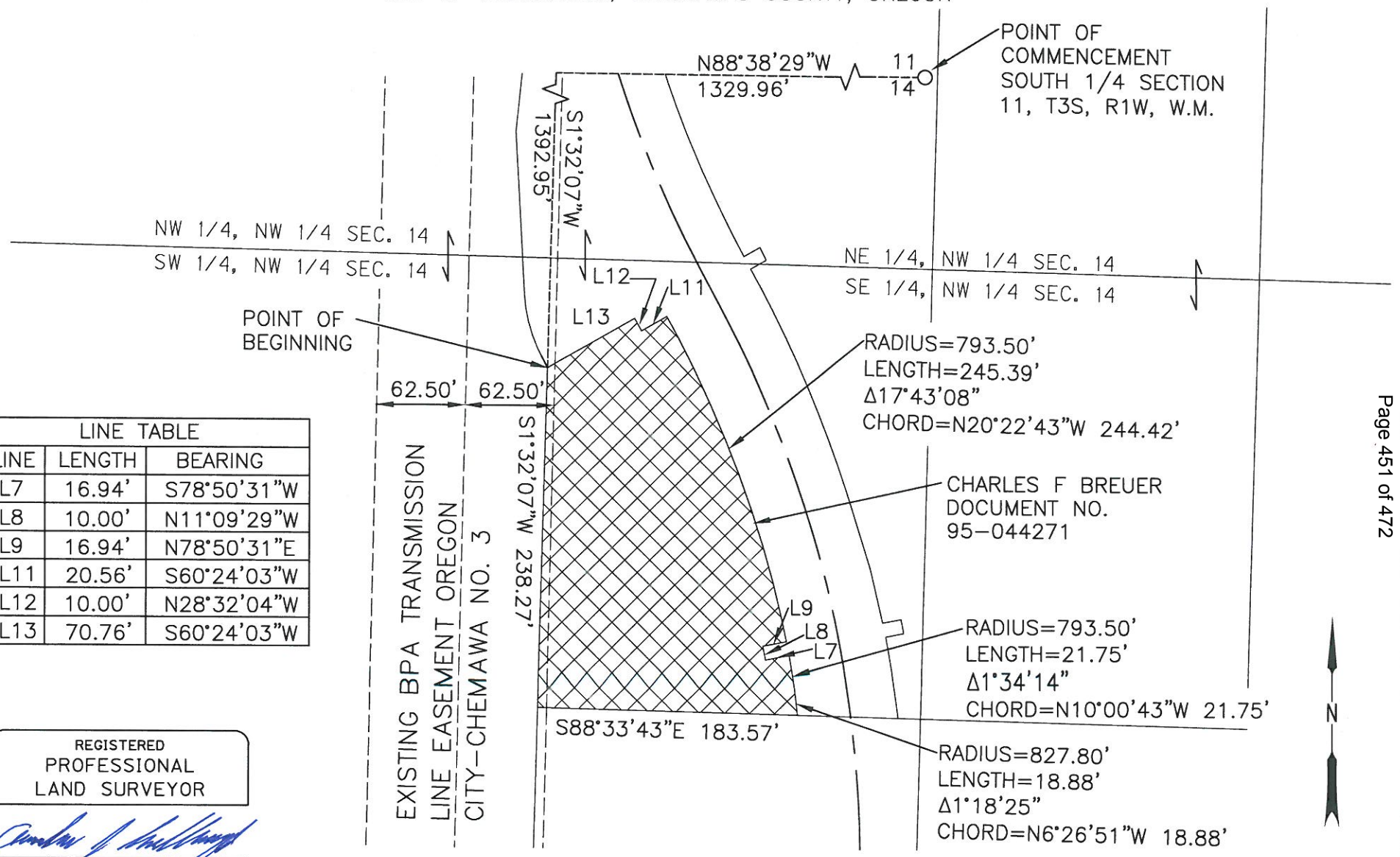
REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

EXHIBIT "B"

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR FEE
KINSMAN ROAD EXTENSION
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON



LINE TABLE		
LINE	LENGTH	BEARING
L7	16.94'	S78°50'31"W
L8	10.00'	N11°09'29"W
L9	16.94'	N78°50'31"E
L11	20.56'	S60°24'03"W
L12	10.00'	N28°32'04"W
L13	70.76'	S60°24'03"W

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
MAY 12, 2011
ANDREW JOSEPH SILBERNAGEL
#79198

RENEWS: JUNE 30, 2016
SIGNED: 01/30/2015

OBEC CONSULTING ENGINEERS
www.obec.com

SCALE 1" = 100'

100 50 0 100
FEET

FEE AREA =
38,186 SQ. FT ±

FILE NO.	DRAWN BY	DESIGN BY	DATE
14429S14	CMB	AJS	1/30/15

Exhibit N

KINSMAN ROAD RIGHT OF WAY AND EASEMENT ACQUISITIONS

FILE 14
CHARLES F. BREUER
31W14B 00500 & 00590

FILE 5
DAVID S. YOUNG
SHERILYNN J. YOUNG
MARLENE A. YOUNG
31W14B 00800

FILE 10
DAVID S. YOUNG
SHERILYNN J. YOUNG
MARLENE A. YOUNG
31W14B 00800

FILE 4
DAVID S. YOUNG
SHERILYNN J. YOUNG
MARLENE A. YOUNG
31W14B 00800

FILE 2
METRO
31W11C 01200

FILE 1
METRO
31W11C 01400

KINSMAN ROAD
(UNIMPROVED)

FILE 12
OLDCASTLE
PRECAST, INC.
31W14B 00401 &
00491

FILE 8
OLDCASTLE
PRECAST, INC.
31W14B 00401 &
00491

FILE 11
INLAND PACIFIC
PROPERTIES, LLC
31W14B 00202

FILE 7
INLAND PACIFIC
PROPERTIES, LLC
31W14B 00202

FILE 6
INLAND PACIFIC
PROPERTIES, LLC
31W14B 00202

FILE 3
OREGON PROPERTY
PARTNERS, LLC
31W11C 00900

FILE 13
CHARLES F
BREUER
31W14B 00500 &
00590

FILE 9
CHARLES F
BREUER
31W14B 00500 &
00590

BOECKMAN
ROAD

FEE AREA

PERMANENT EASEMENT
FOR SLOPES

N

NOT TO SCALE

c:\obec\pwobec01\d0129808\Tax Lot Exhibit.dgn

CITY OF WILSONVILLE

Monthly Report

COMMUNITY DEVELOPMENT DEPARTMENT JANUARY, 2015

FROM THE DIRECTOR'S OFFICE

Greetings! The Community Development Department hummed along through January as you will see in the following division reports.

A large focus this month has been on preparing draft budgets for the upcoming FY 2015-16 budget process. Each division has prepared proposals for revenues and expenditures after thoughtfully considering next year's activities and needs.

Eric has worked closely with Finance and other staff to finalize the 5-Year Capital Improvement Plan. There are so many moving parts that relate to timing of future development, but we sync things up as realistically and practically as possible given the unknowns.

Communication has been ongoing with Tualatin Valley Water District and Hillsboro on possible future partnership agreements and pipeline routes through Wilsonville. There is still much work to be done!

We are still awaiting a signed IGA with ODOT to kick off the French Prairie Bike/Ped/Emergency Access Bridge project. We will be ready to begin the consultant selection process as soon as it is signed.

Zach Weigel has been working on our ADA Transition Plan for which there will be a public open house on Tuesday, February 10 at 6 pm at City Hall and to which you are invited.

Respectfully submitted, Nancy Kraushaar, PE

Building Department

Single Family Dwelling Permits YTD: 36

Major Projects Under Review:

- Better Bean T.I.

Temporary or Certificates of Occupancy Issued:

- Oregon Wine Gardens, 32050 SW Charbonneau Dr.
- Melissa Data Solutions, 29100 SW Town Center Loop W
- Rice CPA, 25030 SW Parkway Ave.

World of Speed

Engineering Division, Capital Projects

Kinsman Road (4004): Environmental permits were received from Department of State Lands (DSL) and Department of Environmental Quality (DEQ). U.S. Army Corp permit issuance is expected any day. Property acquisition work is underway.

Barber Street Extension (4116): Construction is on schedule and within budget.

ADA Title II Transition Plan (4183/9115): A contract was executed with MIG, Inc. to draft the Transition Plan. A Public Workshop is scheduled for Feb. 10th at the City Hall Council Chambers.

For more information visit the project web page at www.ci.wilsonville.or.us/ADA.

Canyon Creek Road Extension (4184): Construction is completed; project is within budget.

Landover Medians (4720): A design contract was executed with HHPR. Construction is planned for April.

Tooze Road: 110th to Graham's Ferry (4146): OBEC is working on a design for the road which will continue the improvements to Boeckman Road westward and install a traffic signal at the intersection with Graham's Ferry.

Water Treatment Plant Master Plan (1122): The team of Corollo Engineers and MWH was selected by the multi-agency review panel. A kickoff meeting is scheduled for mid February.

5-year Capital Budget: The Draft 5-Year CIP was presented at a November 3rd Work Session and will be presented to the full Budget Committee in February.

Waste Water Collection System Master Plan (2088): The Planning Commission held a Public Hearing in December and has recommended the Master Plan to the City Council. The adopting ordinance will be before Council in February.

Engineering Division, Private Development

Brenchley 27 Single Family Homes: All underground utility work has been completed and has paved Vale Court. Home construction has begun with six foundations being poured. The majority of the work has been 95% completed.

Villebois Tonquin Woods 6 & 7 and Calais: Construction remains on-going in Tonquin Woods 6; construction work is largely completed in Villebois Calais and Tonquin Woods 7. Contractor is working on a schedule to proceed with reconstruction of Grahams Ferry Road between the Barber Street roundabout and Tooze Road. This likely will result in a temporary closure of Grahams Ferry Road with traffic detouring through Villebois; neither the dates nor length of closure have yet to be determined.

Renaissance Homes: Underground construction work and paving is completed.

Villebois Carvalho and Seville Row Homes: A Public Works Permit has been issued for construction of a total of 25 single family residential lots. These are infill parcels located off of Barber Street and Villebois Drive South in Central Villebois.

Fox Center Townhomes: Construction remains on-going for the 15-unit complex at Willamette Way East and Wilsonville Road. Have completed 95% of public improvements.

Wilsonville Greens, a 12-unit complex on Wilsonville Road, near Brown Rd, is under plan review. Waiting for plan approval.

Planning Division, Current

DRB Panel "B": APPROVED RESOLUTION NO. 296. Calais at Villebois, 5-year Temporary Use Permit for model homes in the Calais at Villebois subdivision. Mr. Jack Ross, Applicant. Staff: Dan Pauly, AICP. Case File: DB14-0069

Planning Division, Long Range

Frog Pond Area Plan: The Frog Pond Area Plan will establish the vision for the 500-acre Frog Pond area and define expectations for the type of community it will be in the future. The project team shared the DRAFT working preferred alternative at a Joint City Council and Planning Commission work session on Thursday, January 22nd, along with recommended revisions from the project Technical Advisory Committee and the Task Force (received at their meeting on December 4th). The project team requested specific feedback around lot size, location of the commercial area, and multi-family housing in the planning area. Work is now underway to prepare final concept plan recommendations for a Public Open House in April 2015.

For more information visit the project web page at www.ci.wilsonville.or.us/frogpond.

Basalt Creek Concept Plan:

The Basalt Creek Concept Plan will establish a vision and jurisdictional boundary for the 847-acres between the cities of Wilsonville and Tualatin. After presenting a 'base case' land-use scenario at a Joint Tualatin & Wilsonville City Council meeting on December 2nd the project team has identified revisions for the next land use scenario and a need for additional infrastructure analysis.

Underway:

- **Infrastructure**—Due to the potential costs and uncertainty around the depth and hardness of bedrock in the area, the project is going to have geotechnical exploratory borings completed next month. This will inform a sewer alternatives analysis that will look at installation as well as long-term operation costs to identify a preferred system that will be integrated into the land use alternatives.
- **Land Use Alternatives**—The project team has been working hard to refine the building assumptions in the consultants Envision Tomorrow model based on buildings in Wilsonville and Tualatin in order to better reflect what might be built in this area. Along with recommendations from the City Councils, a refined scenario is under development. The next iteration will be presented at a Joint Tualatin & Wilsonville City Council meeting on April 16.
- **Public Open House**—Citizens will be asked to share ideas about the alternatives for land use and infrastructure at a Public Open House planned for May 2015.

Economic Development Division

Retention/Expansion: It was an active month for business outreach calls and meetings. Outreach meetings were held with Sysco, RevMedx, Ultra-Tape, and Food Design.

Regional Efforts: Staff participated in the Oregon Business Summit.

Real Estate: Notice was received from the former owners/current tenants of the house acquired on Boeckman Road that they will be vacating the property at the end of February.

City of Wilsonville
December 2014

Clackamas County Sheriff's Office
2223 Kaen Rd
Oregon City, OR 97045

www.co.clackamas.or.us/sheriff

Monthly Summary

During December 2014, the Clackamas County Sheriff's Office provided law enforcement service to the City of Wilsonville on a 24 hour a day basis. During this time period the Sheriff's Office answered 491 calls for service, which was an average of 15.8 calls per day.

The monthly average for calls for service during the past three years has been 485.5. The 491 calls in the City during the month of December reflect a 1.1% increase over the average during the last three years.

Below is a chart showing the number of calls for service in the City during the last 5 years.

Year	Number of Calls	Monthly Average	Daily Average
2009	6,273	522.8	17.2
2010	5,803	483.6	15.9
2011	5,539	461.6	15.2
2012	5,709	475.8	15.6
2013	6,230	519.2	17.1

An overall look at the shift activity reflects the following percentages of calls taken, traffic stops made and reports written for December.

	Percentage of Calls Taken	Percentage of Traffic Stops
Graveyard:	**27.7%**	**44.3%**
Day Shift:	**41.8%**	**32.4%**
Swing Shift:	**30.5%**	**23.3%**

During December 2014, 377 traffic stops were made in the City with the following breakdown for each shift.

	Total		Graveyard		Days		Swing Shift	
Stops Made:	**377**	=	**167**	**44.3%**	**122**	**32.4%**	**88**	**23.3%**
Citations Issued:			Not available at this time					

Included in the above totals are 72 traffic stops (19.1%) by the Traffic Deputies.

Calls for Service

Number of Calls Per Shift	December 2014		Monthly Average 2013	
	491		**519.2**	
Graveyard (2100-0700)	**136**	**27.7%**	**103.3**	**19.9%**
Day Shift (0700-1700)	**205**	**41.8%**	**228.4**	**44.0%**
Swing Shift (1100-0300)	**150**	**30.5%**	**187.4**	**36.1%**
Average Number of Calls Per Day	**15.8**		**17.1**	

Other Officer Activity

Type of Activity	December 2014	2013 Monthly Average
Bike Patrol		N/A
Follow-Up Contact	**89**	73.4
Foot Patrol	**5**	4.2
Premise Check	**92**	97.0
Subject Stop	**51**	31.6
Suspect Contact	**3**	4.3
Suspicious Vehicle Stop	**2**	38.5
Warrant Service	**8**	15.1
Total:	**340**	264.0

The chart on the following page shows the types of calls for service received during the month. These calls do not reflect actual criminal activity. In some cases the call was dispatched as a particular type of incident, but it was later determined to be of a different nature. For actual criminal activity during the month see the “Reports Written” chart.

Types of Calls

Type of Calls	December 2014	2013 Monthly Average
Abandoned Vehicle		0.8
Accidents (All)	24	25.2
Alarms	56	49.8
Animal Complaint	5	8.8
Assault		4.1
Assist Outside Agency	18	11.6
Assist Public	32	36.7
Burglary	3	6.2
Criminal Mischief	6	14.3
Death Investigation	1	2.2
Disturbance	28	26.7
Extra Patrol Request	3	19.5
Fire Services	9	7.1
Fraud	13	11.5
Hazard	16	12.6
Juvenile Problem	6	14.4
Kidnap		.0
Mental	8	5.6
Minor In Possession	3	0.8
Missing Person	3	2.0
Noise Complaints	3	8.6
Open Door / Window	3	2.5
Promiscuous Shooting	2	1.3
Property Found / Lost / Recovered	8	13.9
Provide Information	16	27.2
Prowler	4	0.8
Recovered Stolen Vehicle	1	2.3
Robbery		0.9
Runaway Juvenile	2	5.3
Sexual Crime (All)	2	3.1
Shooting		0.2
Stolen Vehicle / UUMV	3	4.9
Suicide Attempt / Threat	14	6.7
Suspicious Circumstances	14	12.4
Suspicious Person	19	25.3
Suspicious Vehicle	14	11.3
Theft / Shoplift	48	37.9
Threat / Harassment / Menacing	14	14.8
Traffic Complaint	28	26.9
Unknown / Incomplete Call	16	13.3
Unwanted / Trespassing	8	10.9
Vice Complaints (Drugs)	4	6.3
Violation of Restraining Order		1.5
Welfare Check	25	13.5
Other Not Listed Above	9	7.7
Total:	**491**	**519.2**

Median Response Times to Dispatched Calls

All Dispatched Calls	All Calls	Priority 1 & 2 Calls
Input to dispatch: (Time call was on hold)	2:29 Minutes	2:05 Minutes
Dispatch to Arrival: (Time it took deputy to arrive after being dispatched)	4:58 Minutes	4:24 Minutes

Reports Written

Type of Report	December 2014	2013 Monthly Average
Accident	Not available at this time	15.4
Theft		30.1
Criminal Mischief		11.0
Burglary		4.5
Stolen Vehicle		3.8
Identity Theft		1.9
Assault		2.1
Drug Crimes		4.8
Miscellaneous Reports		127.9
Report Totals:		**201.5**

Shift Totals	December 2014	2013 Monthly Average	
Graveyard Shift:		**38.7**	**19.2%**
Day Shift:		**103.4**	**51.3%**
Swing Shift:		**59.4**	**29.5%**

WILSONVILLE
PUBLIC LIBRARY

Wilsonville Public Library
8200 SW Wilsonville Road
Wilsonville, OR 97070
503-682-2744
www.wilsonvillelibrary.org

Patrick Duke
Library Director

Wilsonville Public Library
Monthly Report to Council
February 2015

Headlines:

- **Free Tax Help** starts **February 7th through April 11th (Saturdays) 10am to 5pm.** Drop in. A volunteer will answer questions and help with your forms and filing.
- **History Pub at Mc Menamins:** Tuesday February 27th. Doors open at 5pm. This month**: A History of Coffee Roasting in Portland.**
- **Adult Winter Reading Program** ends **February 28th.** Get those book reviews in and have a chance to win a Kindle Fire HD 7 tablet… or dinner.
- **Library Board meeting. February 25th, 6:30pm** at the Library

January Statistics

- **Physical item circulation**: **37,305** items checked out or renewed.
- **E-book and downloadable audiobook circulation 1,818**.
- **Volunteer hours donated to the Library**: **990**
- **Current enrollment in Dolly Parton's Imagination Library: 584**, 45% of WV preschoolers

Adult Services

- **January** adult programming attendance: **277.**

Upcoming Programming (not mentioned above):

- **Writers Group. March 3rd 4pm.** The Writers Group meets regularly to improve our writing in a supportive environment.
- **First Friday Film. March 6th 6pm.** Our license says that we can't tell you the title, but I can tell you that it is the Stephen Hawking movie.
- **Book Club. March 12th 6pm.** This month, ***The Daughter's Walk*** by Jane Kirkpatrick
- **Booknotes Concerts. March 14th 2pm.** This month, **Beth Donnelly and Douglas Feller.** Operatic selections by acclaimed Northwest soprano and baritone soloitsts.

Youth Services

- **January** Youth Services programming attendance was **3,545.**
- **Upcoming Programming**

This year's weekly schedule:

Wilsonville Playgroup
Monday, 9:30am

Toddler Time
Tuesdays 10 am

Babytime
Tuesdays 11 am

Family Storytime
Tuesday 6:30 pm
Wednesday 10:30 am,
and 1:00 pm
Thursday 10:30 am

Read to the Dogs
Call for appointment
503-570-1599

Bilingual Storytime
each month.

School age programming
each month.

- **Fiesta de Cuentos: Spanish and English Program** on **Saturday February 28th at 2pm.**
- **K-2 Book Adventures March 19th 4pm.** This month, **Pet Show**

Other Services

- **Cultural Passes** are available for the: Portland Art Museum; Evergreen Aviation and Space Museum; Crystal Springs Rhododendron Garden; Pittock Mansion; Lu Su Chinese Garden; and the Portland Japanese Garden
- **Online Services** include 40 online databases and services and thousands of downloadable e-books and audiobooks.

See more events and services at **www.wilsonvillelibrary.org**

Program Snap Shot

Soccer Shots kicked off with 8 participants in the introductory soccer class.

Body Sculpt got the new year started with 13 participants in the core-focused fitness class.

In January, 512 meals were served in the Community Center dining room and 458 meals were delivered to home-bound seniors.

The Ukulele Workshop drew16 individuals ready to learn and play.

Tai Chi got moving in January with 39 total participants between the two classes.

Parks and Recreation

Parks Maintenance Update

Replanted (7) 4" caliper trees at Memorial, Sofia, Courtside, and Town Center Parks which were lost during the storms

Replaced (9) garbage cans at Town Center Park with more user-friendly and reduced maintenance receptacles

Repaired severe washout in Boeckman Creek behind the maintenance barn

Removed invasive species of Blackberry, Holly, and Ivy from Water Treatment Plant Park

Attended Customer Service Training

Upcoming Programs/Events

Daddy Daughter Dance - Friday, February 27th, 7:00pm to 9:00pm, Wilsonville Community Center. "Princesses and Kings" is the theme for this year's event. SOLD OUT!

Wilsonville Egg Hunt - Saturday, April 4th, 10:00am, Memorial Park Ball Fields. The event is free and open to children up to 11 years old.

Spa Saturday - Saturday, May 16th, 10:30am - 1:30pm, Wilsonville Community Center. No charge.

Public Works

January 2015

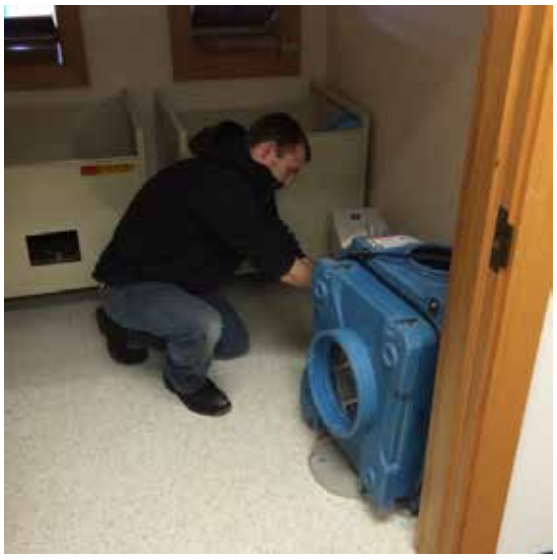
Batteries & Bulbs
Facilities

The facility department's Bulb and Battery recycling program continues to be a success. Crews recycled 125 pounds of batteries and 9 full cases of light bulbs on their last trip to the recycling center. The department plans on having a year-end tally in June 2015.

Book Burning
Facilities

Facilities crews along with TVF&R responded to a fire in the City's Library internal book drop on January 16th. Crews assisted the fire department by shutting down all of the Heating Ventilation and Cooling (HVAC) equipment, removing the damaged book cart, and opening windows to air out the smoke. After the initial response, crews continued to address the smoke damage by changing HVAC filters, swapping out ceiling tiles, and coordinating with painting & fire restoration contractors. In addition, a smoke detection sensor has been installed in the book drop room and connected to the fire alarm panel for early detection and response.

Below, Sr. Utility Worker, Ivan Crumrine plugs in an air scrubbing fan to assist in odor reduction.



IN THIS ISSUE

Clean Signs

Roads

The Roads Crew is getting the jump on some spring cleaning. They have started washing signs around town, removing the green mildew and grime. This simple maintenance act will help preserve the sharpness of the Retroreflectivity of the sign so that drivers can read them easier. In conjunction with washing the signs, any sign that does not meet the MUTCD Retroreflectivity standards will be replaced.

Street Tree Replacement

Roads

The City of Wilsonville lost several street trees this winter due to high winds. Public Works replaced a couple of Raywood Ash along Wilsonville Road with a different variety of Ash that has a better root system that should hopefully be able to withstand windy conditions better.

Annual Fire Hydrant Maintenance & Valve Actuation Programs

Water Distribution

Water Technicians Steve Gering (left) and Chris Reece (right) reassemble a fire hydrant on Kinsman Road following an inspection and repair procedure. Along with their regular duties, the Water Crew has been working on the annual fire hydrant maintenance and valve actuation programs. Fire hydrants need regular maintenance to ensure they are fully operational whenever the need arises. Our water valves need regular maintenance too, which ensures trouble-free operations during repairs or emergency shut off situations.

Sewer Main Cleaning

Sewer and Storm Water

The Sewer and Storm Water team continue to clean sewer mains this month on the East side of Wilsonville.

SMART
SOUTH METRO AREA REGIONAL TRANSIT

February 2015

Director's Report

SMART is in the process of reviewing proposals from firms who want to provide technology upgrades to our system. It is too early to know exactly which upgrades we will be making, but here are some of the things we are looking at:

Automatic Vehicle Locators (AVLs). These devices on every bus will connect to computers at the SMART office, allowing dispatchers and supervisors to know exactly where each bus is located at any moment. This will then lead to accurate estimates of arrival times at the next stop for each bus.

Real-time information. This is of obvious importance for SMART employees, but it will eventually be available to the public as well. Whether via smart phone or computer, the public will eventually be able to tap into this stream of information and know when a SMART bus is going to arrive at any given stop.

We hope to have the technology to make traveler information available in both voice and text modes.

It may sound strange, but SMART does not know exactly how many people are riding on any given bus at any given time. We know generally how many people in total ride on a given bus from the start of a route to the end of that run, but we do not have accurate figures on exactly how many people get either on or off at any given stop. For that reason, we are hoping to have automatic passenger counters installed on all buses used on our fixed routes. We do not yet know if they will be included in the proposals from the different vendors and whether they will be offered at an affordable price.

Finally, while making other tech upgrades, we hope to improve the kind of software we use to schedule and track our Dial-a-Ride (DAR) service. Given that many DAR trips are to medical appointments, we are especially concerned about keeping those trips on schedule.

For those who have watched as TriMet is moving towards phone-based ticketing, we have to report that SMART is likely to be a few years behind TriMet in implementing that technology. While it certainly would be valuable for a number of our passengers, the cost puts it out of our reach for some time yet. We are glad to see TriMet on the leading edge with this technology and we will watch closely as they perfect their phone-based ticketing over the next couple of years.

Stephan Lashbrook

(503) 570-1576

lashbrook@ridesmart.com

Solar Lighting at Bus Stops

Many of the bus stops in Wilsonville have adequate street lighting or are situated next to commercial business lights so waiting for the bus is easy to do during darker early morning or evening hours. However, some bus stops are not well lit which makes it difficult for the driver to see someone waiting at the stop and also may contribute to an uneasy feeling about waiting somewhere in the dark.

SMART is now testing various ways to help “brighten up” these dark stops so that passengers can be safe and be seen. Over the course of the next few months, you might notice a few different solar lighting options being tested by SMART and by riders of the system. Many solar lighting options are “user activated” and will only light up when there is a passenger at the stop. They will also turn off by timer, after the passenger is gone.

After testing is complete, SMART will purchase these public transit solar powered lighting solutions that best meet the needs of the community and are within SMART’s budget. These lights will be purchased using funds from a Federal Grant that encourages making upgrades to passenger amenities and safety.

The photos below are examples of different types of solar lighting for bus stops and shelters.

Please look forward to the *February Operations Report* information in the March 2015 issue.

New Bus Stop Seats

You asked and we listened!

SMART and the City's public works crew will be installing 30 bus stop seats along the most popular bus routes in Wilsonville. These particular stops do not quite meet the minimum ridership numbers to install a more expensive bus shelter, but these seats will help those who are waiting to be able to rest while they wait or set down a bag to help make the trip a little bit easier.

All of these seats are compliant with ADA rules and regulations and we hope that they help make your transit trip more enjoyable.

Let us know what you think. You can email or call and find us on Facebook and Twitter. smart@ridesmart.com 503-682-7790

Register Now

ourhealthystreets.org/atsummit

2015 Oregon Active Transportation Summit: Creating Healthy, Vibrant Communities

Hosted by the Bicycle Transportation Alliance

March 30-31
The Sentinel Hotel | Portland, Oregon

Join us...
for two days of inspiring mobile workshops, plenaries, professional training, and networking with innovators, thought leaders, and passionate professionals from the Pacific Northwest.

If you are a professional, policy maker, or advocate working in the fields of transportation planning and engineering, community development, recreation and tourism, or public health, **this event is for you!**

OREGON ACTIVE TRANSPORTATION SUMMIT

Did You Know?

If everyone opted to carpool just one day a week, the traffic on the nation's major highways and roads would be reduced by as much as 20%

RideSmart.com

Contact Us

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Transit Director
503-570-1576
Lashbrook@ridesmart.com

Steve Allen
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503-570-1577
Allen@ridesmart.com

Scott Simonton
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