

AGENDA

**WILSONVILLE CITY COUNCIL MEETING
JANUARY 30, 2012 5 P.M.**

**CITY HALL
29799 SW TOWN CENTER LOOP
WILSONVILLE, OREGON**

Mayor Tim Knapp

Council President Celia Núñez
Councilor Richard Goddard

Councilor Steve Hurst
Councilor Scott Starr

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.

Willamette River Room, City Hall, 2nd Floor.

5:00 P.M. COUNCILORS' CONCERNS

5:10 P.M. WORK SESSION

A. Storm Water Master Plan (staff – Rappold)

ADJOURN

**A BRIEF COUNCIL MEETING WILL IMMEDIATELY FOLLOW AT 6:15 P.M.
IN THE SAME LOCATION.**

**CITY COUNCIL MEETING
JANUARY 30, 2012**

6:15 P.M. CALL TO ORDER

A. Roll Call

6:20 P.M. CITIZEN INPUT

6:25 P.M. NEW BUSINESS

A. **Resolution No. 2344**

A Resolution Of The City Of Wilsonville Acting As The Local Contract Review Board Approving The Bid Process; Accepting The Lowest Responsible Bid; Awarding A Construction Contract To Robert Gray Partners, Inc., The Lowest Responsible Bidder; And Verifying Fund Availability For The Project Commonly Referred To As Smart Ops/Fleet Maintenance Facility Phase II Building And Site Improvements (staff – Retherford)

ADJOURN

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 COUNCIL - INFORMATION ITEM

Stormwater Master Plan – Special Work Session

Meeting Date: January 30, 2012
Report Date: January 24, 2012
Source of Item: CD/Natural Resources Program

Contact: Kerry Rappold
Contact Telephone Number: 503-570-1570
Contact E-Mail: rappold@ci.wilsonville.or.us

ISSUE STATEMENT

The City Council discussed the Stormwater Master Plan at the December 5 public hearing, and also received public comment. As a follow up to the public hearing, members of City Council provided some additional input and questions. The purpose of this information item is to provide responses to the input and questions received by staff.

In addition to the questions provided, the Councilors provided direction in finalizing the Stormwater Master Plan. These directives included:

1. Revise the executive summary to include a more detailed description and rationale for the recommended capital improvement projects, the reasons for incorporating Low Impact Development, and the options for the timing and magnitude of rate increases and bonding.
2. Provide the rationale for Low Impact Development policies and projects. Cost/benefit of Low Impact Development vs. conventional stormwater management.
3. Recommended capital improvement projects
 - a. Order of importance: 1) emergencies; 2) projects that cost the least and produce the most benefit; and 3) regulatory “near term” projects
 - b. Reduce the overall cost of the capital project list.
 - c. Rename the “unfunded” capital project category: “potential projects”, and possibly remove them from the Stormwater Master Plan.

Staff Response to City Council Directives

A new outline for the executive summary was provided, which staff will incorporate into the Stormwater Master Plan based on a discussion with the City Council. Exhibit 1 contains the proposed outline.

Staff has prepared some additional information regarding the rationale for Low Impact Development vs. conventional stormwater management, including a general discussion of cost and benefits. Exhibit 2 includes this information.

In regards to the proposed capital improvement projects, staff has created a spreadsheet that includes all the capital projects in the first ten years. The spreadsheet describes the benefits, costs of delay, and possible alternatives to the proposed projects including a “no project” alternative. This information will assist the City Council in discussing the projects and providing input to staff. Exhibit 3 contains the

capital improvement project spreadsheet.

QUESTIONS and STAFF RESPONSES

1. *Remove references to Building Design Solutions in LID-1*

Response: The building design solutions identified in Implementation Measure LID-1a have been used in development projects in Wilsonville, and are important elements in the Low Impact Development toolbox. The City should be providing developers and home owners with the broadest array of opportunities for minimizing their stormwater impacts, which may translate into reduced stormwater fees. The Lowrie Primary School improvements include a 15,000 gallon cistern, which will provide a non-potable source of water for the school. Green roofs have been constructed at Graham Oaks Nature Park and Creekside Woods. In addition, Section 4.139.05 of the Development Code includes Table NR-2 that identifies the same building design solutions. Developers have the flexibility to choose options within the table, and provide the best match for their development project.

2. *Remove LID-1c - "as practicable" not defined*

Response: The City's NPDES stormwater permit requires the prioritization of Low Impact Development for private development and public infrastructure "**as practicable**". The permit defines "impracticable" as a "high water table, shallow bedrock, poorly-drained or low permeable soils, contaminated soils, steep slopes or other constraints". In addition, under the description of Low Impact Development in Section 2.4.1 of Chapter 2, limitations to implementing Low Impact Development are listed, such as insufficient space, topography, and location within a floodplain. The design standards relating to "practicable" will be clarified and better defined with future revisions to the Public Works Standards.

3. *Remove LID-1b*

Response: The City's NPDES stormwater permit requires the **prioritization of Low Impact Development** for private development and public infrastructure. All other jurisdictions within the Portland metro area, as well as Eugene and Salem are required to comply with the same requirement. The Public Works Standards are the mechanism for ensuring compliance with local stormwater requirements, and, therefore, would need to be revised to reflect this state and federal requirement.

4. *Remove WQT-5a*

Response: The landscape requirements in Section 4.176 of the Development Code correspond with the requirements in Implementation Measure WQT-5a. The use of existing vegetation to serve as required landscaping and the restoration of native habitats, such as stream corridors, are both listed in the purpose statement for the landscape requirements. Ordinance 674 (i.e., Metro Title 13

compliance) adopted on November 16, 2009 by the City Council, included revisions to parking, landscape and street design standards in the Development Code.

Recommended Projects (Chapter 8):

1. *Remove the "unfunded projects" from the SWMP. Keep the plan focused on those projects prioritized for the 20 year planning period.*

Response: As suggested by Councilor Hurst, these projects could be renamed "potential projects". Staff recommends the project descriptions be retained under this new name and moved to an appendix within the master plan. By retaining the description of the projects, they provide important information for effectively planning and managing the City's stormwater system. Statewide Planning Goal 11 (Public Facilities and Services) requires the City to plan to provide facilities for the build-out of the city limits and UGB, which means looking out 20 years into the future.

2. *Remove those projects on private property. Examples include Wood MS LID, CLC-7.*

Response: Some of the recommended capital projects have been identified within private property because those sites represent the best opportunity for providing water quantity control or water quality treatment. In many instances geography and/or topography dictate the location of project sites. The 2001 Stormwater Master Plan also contained capital projects proposed for private property. It is not always feasible to locate capital projects within publically owned property and still achieve the objectives of the capital improvement program. If implemented, these projects would be located within a public easement and provide the same long-term benefits to the community as if they had been located on public property.

3. *BC-1 - need to identify lower cost options for achieving desired outcomes. Benefits not quantified to justify a \$5.4 million project.*

Response: BC-1 was also identified in the 2001 Stormwater Master Plan, and along with CLC-1 provides the only regional detention facilities proposed for the City's stormwater system. As with CLC-1, downstream conveyance of stormwater runoff is a limiting factor for future development. By constructing the BC-1 regional detention facility in the 10 to 20 year period, it will be possible to ensure future development in the Elligsen Road /Parkway Avenue area does not exacerbate insufficient capacity problems with the downstream conveyance system.

The BC-1 cost estimate identifies nearly \$3.7M for purchasing right-of-way for the project. It may be possible to significantly reduce the cost of right-of-way by combining this project with an on-site detention facility through an agreement with a future developer of the property. Thereby, the developer and City would be able to satisfy both on-site and regional detention requirements and participate in sharing some of the costs.

4. *SD4025-SD4028. Should not be spending \$733K on projects to correct predicted flooding problems that have not been supported by actual flooding experience. Dollars are better spent on fixing actual problems.*

Response: Flooding is predicted by the InfoSWMM model for specific storms to meet the requirements of the City of Wilsonville Design Standards. Carrying capacity for runoff volume from a 25-year storm (i.e., 4 percent chance of happening in any year) is required for storm drainage systems. A 25-year storm only occurs statistically once every 25 years. Although by itself a rare event, it is possible to have a series of smaller sequential storms that result in runoff similar to a 25-year event. Even if flooding is not frequently observed, there may still be a capacity concern for the system. Twenty-five year storm drainage capacity in piped systems is a standard used throughout the northwest; however, many experts are now predicting increases in major storm frequency.

For some areas, such as Charbonneau, there is an additional concern regarding the condition of the existing pipe. Corrugated Metal Pipe (CMP) pipe has a very high resistance to flow of water due to corrugations, reducing its capacity compared to other materials and old CMP pipe has limited longevity. Newer CMP pipe manufacturers claim a lifespan of 30 years; older pipe have been known to fail in much less time, perhaps 15 to 20 years. As these pipes fail, Charbonneau will experience flooding with increasing frequency.

5. *LID projects - \$6M in LID projects not supported by a clear legal mandate. Requirement to "prioritize" LID projects should be met by accounting for those projects that have been completed by private parties, and any recent City of Wilsonville LID investments. There is no requirement to spend a given dollar amount on LID projects, and \$6.4M cannot be justified by the benefits as described. Benefits have not been quantified.*

Response: In addressing the NPDES requirement for a water quality retrofit strategy, Low Impact Development projects must be constructed in areas previously developed. The Low Impact Development constructed by private parties does not satisfy the retrofit strategy objective because they provide stormwater management for **new development**. It should be possible to claim credit for previously constructed Low Impact Development capital projects, if they provided stormwater management of **existing development**.

A total of \$6.4M in Low Impact Development projects is proposed within the capital project list, but only \$1.3M will be funded. The remaining Low Impact Development projects will only be implemented if future funding sources are identified. The four proposed projects within the 20 year planning horizon may be necessary for addressing the retrofit strategy requirements of the NPDES stormwater permit.

6. *LID 8 should be removed from the SWMP. Project is not supported by the neighborhood. Benefits have not been quantified.*

Response: LID 8 includes elements of a priority project identified in the Bicycle and Pedestrian Master Plan, which described modifying the outside lane on French Prairie Road to be used as a shared roadway for bicyclists and motorists.

Because of the recently stated opposition to the project and the fact the project is listed in the unfunded category, staff is amenable to removing the project from the capital improvement program. However, it's likely some type of future water quality retrofit project will be necessary in Charbonneau to satisfy NPDES stormwater permit requirements.

7. *Given the list of projects presented in the proposed SWMP, and the impacts to customers in proposed rate increases, I would request that the capital requirements of the SWMP be limited to \$15M over the 20 year planning period and projects be prioritized within that budget. Rate forecast should be adjusted accordingly.*

Response: Staff will work with the City Council on the proposed list of capital improvement projects and the corresponding rate increases.

PUBLIC COMMENT

If the public comment has previously been addressed with the staff responses to the City Councilor's questions, no responses were provided in this section of the staff report. Only new comments and responses have been included.

1. *Has there been an "independent" vetting of the projects listed to be sure which ones are truly a result of new requirements, as well as, are there other ways to meet those requirements. And what is the "state of Wilsonville's stormwater system"? I would predict that an independent assessment would rate it as excellent – thus, why do we need such a massive and costly plan? Especially in this economy.*

Response: An extensive review and discussion, including applicable new requirements, was conducted by City staff in preparing the list of capital improvement projects. The group included planning, engineering and public works staff. In addition, two open houses were held to gather public input, and a number of work sessions were conducted with the Planning Commission. The City's stormwater system is the result of effective planning and management in the past, but there are problem areas and new requirements that need to be addressed by the proposed policies and capital improvement projects identified in the new master plan.

2. *Just how good was the public outreach? The "financial portion" of the plan was always "not ready yet".*

Response: In addition to the open houses, staff met with the Charbonneau Country Club board and provided information about the Stormwater Master Plan on the City's website and within the Boones Ferry Messenger, at community events, and in utility bill insert.

A public meeting was held on April 29, 2010 to discuss the proposed stormwater utility fee and System Development Charge. Representatives of the Home Builders Association and Chamber of Commerce attended the meeting and did not raise any objections to the proposed increases presented at the meeting.

3. *Way too many new regulations, and costly for users to achieve.*

Response: Chapter 2 includes existing and new policies. Some of the policies in the 2001 Stormwater Master Plan will continue to be implemented along with the proposed new policies.

The proposed policies and implementation measures address new requirements within the City's NPDES stormwater permit, support existing development code requirements, and provide important guidance in updating the Public Works Standards. Many of these policies and implementation measures are already being addressed by developers and builders, due to the broad application of the NPDES stormwater requirements. Therefore, it's important to provide effective guidance and support for these stormwater management techniques in local policies and standards.

4. *Why have projects CLC-6, CLC-7, and CLC-8 been included in the capital project list? There's not a current problem or a need for these projects.*

Response: All of the projects address the City's Temperature TMDL Implementation Plan, and will be part of the NPDES water quality retrofit strategy. They have been selected because they will provide improved water quality, and not because of a current conveyance or flooding problems. The Temperature TMDL Implementation Plan requires the planting of trees in areas (i.e., riparian) adjacent to streams to increase the amount of shading, which will lower the temperature of the stream.

OTHER PUBLIC COMMENT

City staff has received a request from two property owners about an existing stream crossing on Coffee Lake Creek, south of Wilsonville Road, which they believe should be added to the proposed capital improvement program. The property owner letters are attached as Exhibits 4 and 5.

Response: City staff is still researching the history of the culverts and stream crossing; however, it does not appear a public easement was dedicated to the City for its maintenance and repair. Since the stream crossing is for private use, with no public access, it is not considered a capital improvement project. In regards to flooding, the channel (i.e., Coffee Lake Creek) has sufficient capacity to convey flows even if the crossing may be overtopped periodically.

The updated FEMA floodplain mapping, completed in 2008, reduced the size of the 100-year floodplain due to adequate conveyance within the stormwater system. In the area between Barber Street and the Willamette River the 100-year floodplain was reduced by 50 acres. Exhibit 6 depicts the reduction in the floodplain directly upstream and downstream of the stream crossing in question.

The future resolution of the Brown Road extension, whether it involves a stream crossing at Bailey Street or 5th Street, would be a better option for addressing this situation. It would provide a public stream crossing, available to these property owners and other members of the community.

Exhibits:

1. Proposed outline for Executive Summary
2. Low Impact Development vs. conventional stormwater management
3. Capital Improvement Program alternatives
4. Letter from Sheri Young
5. Letter from Dave Bernert
6. FEMA 100-year floodplain comparison

Proposed Outline for the Executive Summary

- 1) Improve effectiveness of Executive Summary presentation:
 - A) Need stronger "this is our situation" outline:
 - Practical "these are current problems"
 - These are regulations we have to meet.
 - These are issues that will have a significantly higher cost if deferred.
 - B) Water Quantity:
 - Rationalization of chosen approach?
 - Why LID instead of larger pipe system?
 - Observational validation of all 4 predicted flood areas?
 - Costs to fix vs. accepting some infrequent flooding?
 - C) (LID Modeling) Move to a subsequent "Solutions" section.
 - Present possible solution options. (piping/treatment?)
 - Outline operational benefits of LID.
 - Outline cost/benefit profile of LID vs. other approaches.
 - D) Water Quality:
 - Approach options?
 - Rationalization of LID choice?
 - Potential regulatory outcomes: required outfall treatment facility?
 - Cost/benefit of LID in both near & long term.
 - E) Recommended Projects: Explanation of prioritization, include stronger "total cost to benefit achieved" component than now shown by "cost efficiency".
 - Practical, "must do now" projects.
 - Regulatory near term needed projects.
 - Projects which will likely cost a lot more, yet have to be done, in future.
 - Desirable projects w/cost-benefit analysis.
- 2) Financial Analysis:
 - Rate/timing of increases?
 - Magnitude/timing of bonding?
- 3) Concerns about specific Implementation Plans.

Low Impact Development vs. Conventional Stormwater Management

Source Material: The following information was extracted from the report: *The Economics of Low-Impact Development: A Literature Review*. The report was published by ECONorthwest in November 2007. ECONorthwest specializes in the economic and financial analysis of public policy.

The report describes the methods economists use when measuring the costs and benefits of LID and conventional stormwater controls, and summarizes the literature that identifies and measures the economic costs and benefits of managing stormwater using LID, or that compares costs or benefits, or both, between LID and conventional controls.

Introduction: Conventional stormwater controls collect stormwater from impervious surfaces, including roads, parking lots and rooftops, and transport the flow off site through buried pipes to treatment facilities or directly to receiving bodies of water. This approach efficiently collects and transports stormwater, but also can create high-velocity flows polluted with urban contaminants, including sediment, oil, fertilizers, heavy metals, and pet wastes. Such flows can erode stream banks and natural channels, and deposit pollutants that pose ecosystem and public health risks.

In contrast to conventional stormwater controls, Low Impact Development techniques emphasize on-site treatment and infiltration of stormwater. The term Low Impact Development encompasses a variety of stormwater-management techniques. Examples include vegetated swales, rain gardens, green streets, and pervious pavers.

Low Impact Development techniques are an effective, integrated approach to stormwater treatment because they emphasize the mimicking of natural systems through infiltration, vegetative uptake, and extensions of flow paths, which provide opportunities for multiple benefits including aesthetics and wildlife habitat.

Cost and Benefits: Comparing construction costs between LID and conventional options, while informative, provides no information on the relationship between the cost and effectiveness. For example, in cases where the Low Impact Development option costs more to build, it may also control a larger volume of stormwater relative to the conventional option. Low Impact Development that keeps stormwater out of pipes and large water quality treatment facilities help lower operations and maintenance (O & M) costs, and help extend the useful life of the infrastructure, which can reduce future construction costs.

In some cases, Low Impact Development can help lower construction costs by making use of a site's existing or undisturbed drainage conditions in ways that conventional controls cannot. Managing stormwater on site using Low Impact Development techniques can mean doing away with stormwater ponds, thus increasing a site's developable area. Selling additional lots can increase a builder's revenues and profits. Replacing curbs, gutters and stormwater pipes with vegetated swales, pervious pavers and other Low Impact Development techniques can be beneficial to developers in regards to marketing their product and providing a cost savings.

Exhibit 2

By promoting stormwater management on-site using a variety of approaches, Low Impact Development techniques can provide a range of benefits, which include reduced flooding, improved water quality, increased groundwater recharge, reduced public expenditures on stormwater infrastructure, reduced ambient air temperatures and reduced energy demand, improved air quality, and enhanced aesthetics and property values.

1. **Reduced flooding:** the benefits of managing stormwater on-site include reduced frequency, area, and impact of flooding events, which reduce expenditures on bridges, culverts and other stormwater-related infrastructure.
2. **Improved water quality:** the benefits include effectively capturing oil and sediment, animal waste, landscaping chemicals, and other common urban pollutants that typically wash into sewers and receiving water bodies during storm events. Low Impact Development techniques that include vegetation and soil infiltration, e.g., vegetated swales, can prevent more stormwater pollutants from entering receiving water bodies than conventional controls.
3. **Increased groundwater recharge:** on-site infiltration of stormwater helps recharge groundwater aquifers. Two benefits associated with increased groundwater recharge are increased volume of water available for withdrawal and consumption, and maintaining a higher water table, which reduces pumping costs and increases well pressure.
4. **Reduced public expenditures on stormwater infrastructure:** Low Impact Development techniques, such as vegetated swales, rain gardens, and permeable surfaces, can help reduce the demand for conventional stormwater controls, such as curb-and-gutter, and pipe-and-pond infrastructure.
5. **Reduced ambient air temperatures and reduced energy demand:** Low Impact Development techniques, such as green roofs and shade trees incorporated into vegetated swales and other controls can provide natural temperature regulation, which can help reduce energy demand and costs in urban areas.
6. **Improved air quality:** Trees and vegetation incorporated into LID help improve air quality by sequestering pollutants from the air, including nitrogen dioxide, sulfur dioxide, ozone, carbon monoxide, and particulate matter.
7. **Enhanced aesthetics and property values:** Low Impact Development can improve the aesthetics of the landscape and increase adjacent property values by providing architectural interest to otherwise open spaces. On commercial sites, Low Impact Development can provide amenities for people living and working in the area and complement the site's economic vitality, which can improve its competitive advantage over similar establishments for customers and tenants.

Exhibit 3

Project ID	Page #	Location/Description	Benefits	"No Project" Alternative	Alternative 1	Alternative 2	Other	Cost or Benefits of Delay
WD-3	8-30	Rivergreen Repair Project	Rectify existing problems	Legally obligated to the HOA to perform the repairs	Already completed Phase 1 of project repairs (grassy swale)	NA		Potential legal action and loss of existing stormwater improvements
BC-7	8-27	Boeckman Creek Realignment (Wilsonville Road bridge)	Least costly alternative and easiest to permit (ACOE/DSL)	Not an option - risks loss of bridge	Straight alignment of creek	Relocating creek west away from piers		Could lead to bridge failure/road closure
ST-5	8-40	Low Impact Development Design Standards and Implementation Guide	Assistance to developers in implementing LID	NPDES permit requires the city to provide guidance to the development community	Only update PW Standards	Reference other jurisdictions guidance, such as CWS, BES, etc.	Could reduce cost to \$25,000 and complete in-house with intern assistance	Out of compliance with NPDES requirements
ST-8	8-41	Install Two Permanent Stormwater Flow Monitoring Stations and Two Rain Guages	Data for InfoSWMM model (calibration of model)	Will be necessary for determining hydromodification impacts	Buy one flow monitoring station and one rain guage	NA		Lack of data to verify stormwater modeling and plan projects
ST-9	8-41	Purchase InfoSWMM Model	In-house modeling efficiency and reliability	Pay consultant to update and run model	NA	NA		Lose in-house ability to update model, which could add delays to project implementation
ST-6	8-40	Charbonneau Infrastructure Replacement Study	Awareness of infrastructure failure risks and the ability to plan effectively	Increasing failures of Charbonneau infrastructure	Reduce the cost, focus on interrelated infrastructure (e.g., streets/stormwater)	Delay any infrastructure study		Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term
BC-4	8-26	Gesellschaft Water Well Channel Restoration	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Decommission well, but will only partially mitigate the problem	Armor slope, but could be more costly		Greater slope failure and potential impacts to well house and private property
LID1	8-32	Memorial Park Parking Lot Vegetated Swales (3)	Combine project with other necessary stormwater and park improvements	Would not provide the stormwater system to manage parking lot runoff	Replace existing french drain system, however, would not provide any WQ benefits	Use permeable pavers		Reduced use of parking lot if failure occurs, and possible missed opportunity for cost-efficiency by combining projects
BC-8	8-8	Canyon Creek Estates Pipe Removal	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Adding perpendicular piping and energy dissipation			Greater slope failure to private property and undermining dwelling
SD4208 & SD4209	8-5	Barber Street Pipe Upgrade (at time of street extension)	Cheapest alternative and required with extension of Barber Street to Villebois	Future flooding as a result of new development and increased stormwater runoff	Require on-site retention of all increased stormwater runoff			Will be done concurrent with Barber Street extension
LID3	8-34	SW Camelot Green Street Mid-Block Curb Extensions	Addresses NPDES permit requirements and traffic safety issues	Would need to identify alternative NPDES permit demonstration project	Reduce number of curb extensions			Maintains status quo. An alternative project may be lower cost, with fewer benefits
CLC-3	8-19	Commerce Circle Channel Restoration	Conveyance system is integral to the development of Coffee Creek and Basalt Creek industrial areas	Increasing flooding problems for private property owners and loss of businesses	Deeper and wider channel requiring use of more private property	Declare it a private property problem and invest no further City funds in remediation	Significant infrastructure system for future industrial development	Flooding costs to existing businesses
ST-1	8-40	Study to analyze area north of Elligsen Rd/East of I-5	Alleviate flooding problems on private and ODOT property	Don't have the necessary information to remedy the problem	NA	NA	Became part of discussion about temporary TVFR facility	Potential liability for city if we don't address the current situation

Exhibit 3

Project ID	Page #	Location/Description	Benefits	"No Project" Alternative	Alternative 1	Alternative 2	Other	Cost or Benefits of Delay
FP	8-42	Future Project Development and Implementation	Provides a funding source for emergency problems	City will have to use alternative funds (e.g., general fund) as emergencies arise	Same project at a lower funding level			Insufficient funding for emergencies as they arise
BC-2	8-11	Boeckman Creek Outfall Rehabilitation	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Armor slope, but could be more costly	Divide up outfalls and do separately, however, total cost may increase		Greater slope failure and potential impacts to public and private property
BC-6	8-14	Multiple Detention Pipe Installation	Reduced erosion within Boeckman Creek and reduced impacts to public infrastructure and private property	Continued water quality impacts due to erosion	Divide up outfalls and do separately, however, will probably be more costly	Pipe bursting and replacement	Relatively expensive project	Greater slope failure and potential impacts to public and private property
BC-5	8-13	Boeckman Creek Outfall Realignment	Reduce water quality impacts to Boeckman Creek	Continued water quality impacts due to erosion	Replace bubbler structure with area drain	Armor slope, but could be more costly	Relatively inexpensive project	Greater slope failure and potential impacts to public property
BC-3	8-12	Cascade Loop Detention Pipe Installation	Reduced erosion within Boeckman Creek and reduced impacts to public infrastructure and private property	Continued water quality impacts due to erosion	Pipe bursting and replacement		Relates to BC-4	Greater slope failure and potential impacts to public property
BC-10	8-29	Memorial Park Stream and Wetland Enhancement	Reduce water quality impacts to Boeckman Creek and aesthetic improvements to the park	Continued water quality impacts	Combine with other improvements to Memorial Park			Lack of environmental benefit to park
BC-9	8-28	Memorial Drive Pathway and Storm Drain Repair	Improve the functionality of the swale, and avoid future overtopping and erosion to slope	Potential slope failure and damage to Memorial Drive, sidewalk and park trail	Remove swale and replace with hard pipe, which will likely be more expensive		Note history of clogging and flooding	Potentially more maintenance and repair costs if not addressed
LID7	8-38	SW Wilsonville Road Stormwater Planters	Reduces flow to Arrowhead Creek, which has experienced previous erosion problems. Improves water quality	Continued water quality impacts	Divide up planters and do separately, however, will probably be more costly	Acquire private property to the south of sidewalk and install stormwater facility	Project will be an important element of the City's water quality retrofit strategy	Eventual difficulty in complying with NPDES permit and continued erosion of Arrowhead Creek
CLC-2	8-18	SW Parkway Avenue Stream Restoration	Alleviate flooding problems on private and ODOT property	Continued flooding problems	Construct detention facilities elsewhere in drainage basin, however, could be more expensive		Relates to ST-1	Potential liability for city if we don't address the current situation
CLC-9	8-3	Jobsey Lane Culvert Replacement	Protect public access and avoid future erosion	Potential failure of creek crossing and damage to pathway	Construct footbridge for pedestrian traffic only	Remove pathway and eliminate creek crossing, closing pedestrian access	Project as important for pedestrian access as stormwater management	Potentially more maintenance and repair costs if not addressed
SD5707, 5709, 5714, 5719	8-7	SW Parkway Pipes Replacement	Prevents potential flooding to private property	Potential failure of outfall and damage to private property . Manhole lies 15' from house foundation.	Alternatives are included in proposed solution	Alternatives are included in proposed solution	Due to piecemeal construction 48" upstream pipe reduces to 15" outfall pipe	Potential liability for city if we don't address the current situation
ST-2	8-40	Advance Road School Site Study	Determine proportionate share of stormwater runoff and potential costs to the city	Cannot proceed with plans for either park or schools without addressing stormwater infrastructure	NA	NA	School District may be seeking bond approval in next 5-10 years. First phase of Advance Road infrastructure planning.	Don't have the necessary information to complete future planning

Exhibit 3

Project ID	Page #	Location/Description	Benefits	"No Project" Alternative	Alternative 1	Alternative 2	Other	Cost or Benefits of Delay
CLC-1	8-17	Detention/Wetland Facility near Tributary to Basalt Creek	Prevents potential flooding to significant industrial land	Limits future development in Basalt Creek and Coffee Creek industrial areas	Increase detention requirements for private property	Construct very large detention pipe	Need to negotiate with Tualatin for their share of costs and consider creation of local improvement district. Relates to CLC-3.	Could be delayed until infrastructure needed for new development
SD9038, 9045, 9046, 9054-9058	8-9	French Prairie Road in NW Charbonneau	Upgrades aging and substandard infrastructure	Increasing failures of Charbonneau infrastructure	Divide up pipe projects and do separately, however, total cost may increase	Delay until other infrastructure work is undertaken	Pipes; not LID projects	Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term
SD9052, 9053, 9059, 9061-9069	8-9	Curry Drive and French Prairie Road in NW Charbonneau Pipe Replacement	Upgrades aging and substandard infrastructure	Increasing failures of Charbonneau infrastructure	Divide up pipe projects and do separately, however, total cost may increase	Delay until other infrastructure work is undertaken	Pipes; not LID projects	Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term

January 9, 2012

City of Wilsonville
Community Development Team

Re: Dec 2011 City of Wilsonville (CoW) Draft Storm Water Master Plan (SWMP)

I concur with the letter from Bernert Nursery that the new Storm Water Master Plan should have identified the failure of the culvert crossing located on Coffee Creek south of Wilsonville Road.

Steve Adams said that the Community Development Team found no CoW responsibility for it, because the public doesn't cross there. However, the SWMP is about storm water conveyance, not transportation.

The public benefit in this case is public need for and benefit from storm water management, and the City responsibility is to meet the public need without causing disproportionate and unmitigated damage to individual property owners.

The City removed the owner installed crossing 30 years ago to clean the channel to meet the public need for increased storm water run-off generated by CoW development. By that act it took responsibility for the integrity of the replacement.

The City told the property owners the former structure would be replaced by a culvert of the same size as CoW installed south of it. Yet, following the removal and channel cleaning, the CoW said another large culvert was not available, and instead installed two 3' culverts with cement on top, so floodwater would wash over it.

The owners were not pleased. The lower crossing height made necessary a steep incline on either side of the concrete. For trucks, combines, tractors with disks or plows, or other heavy equipment it has always been a poor solution. Luke Bushman has for a decade identified it as a potential impediment to fish passage.

Further CoW development has increased flood flows; the structure is washed out underneath and the concrete is cracked. Mike Stone and several of your Committee members have seen this. It is increasingly risky to cross with wide or heavy equipment. The larger culvert the City installed to the south is not failing, so the issue is not the age, but the unsuitable culvert design.

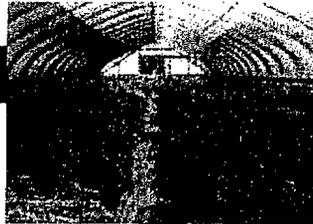
Silver Leaf Farms has fields both north and south of Wilsonville Road. Since the intersection changes on Boones Ferry, moving wide farm equipment via Boones Ferry is problematic. We need a working Coffee Creek crossing even more now than 5 years ago.

I met with City engineers to discuss engineering and permitting possibilities and issues. However, we have been told the CoW staff cannot address the issue unless it is identified on the SWMP.

Therefore, we are requesting this crossing be identified as a known storm water problem area.

Thank you,

Sheri Young
Silver Leaf Farms
P.O. Box 7
Wilsonville, Oregon 97070

Bernert**Nursery**

To: City of Wilsonville
 Attention: Lead for Stormwater Master Plan
 29799 SW Town Center Loop E
 Wilsonville Oregon, 97070

Date: January 2, 2012

Subject: City of Wilsonville Stormwater Master Plan

Dear City of Wilsonville

After reviewing the pending "*Final Draft City of Wilsonville Stormwater Master Plan*" I would like to make a recommendation for your consideration. As stated in the draft master plan on page ES-1: "The majority of the City generally drains south into the Willamette River, with the exception of Charbonneau district, with a large part of the City draining through Boeckman Creek and Coffee Lake Creek before discharging to the Willamette River." We currently are farming the land from the Willamette River to Wilsonville Road which includes the final section of Coffee Lake Creek, before it enters the Willamette River. This would be the land at the start of Wilsonville Road due south to the Willamette River.

There is a dramatically under sized culvert system that the City placed in the creek during the early 1980s. The installation does not meet standards and the current structure is under designed to carry the current and future projected drainage loads. I would recommend that the city add this culvert replacement project to the list of city storm water projects. From the report, I noticed that the City has projected increased demand into this drainage area. During the original installation, the City of Wilsonville understood that it was under designed, but communicated that it was a temporary solution. It is 30-35 years later and I would hope the city would be able to address this ongoing concern. From the table on page 3-3 this final section of the critical drainage system is carrying 56% of the drainage in the City of Wilsonville. The estimated flows rates are between 600 cfs for the 2 year event and 687 cfs projected for the 25 year event, based on project CLC-8. The current design will not support any thing even near that level of flow rate. Why would the city not address the heaviest flow location of the drainage system that is known to be dramatically miss-designed when it was installed by the City of Wilsonville?

In addition the CLC-8 makes a reference to the City's 2003 Transportation System plan recommending removal of Industrial Way. This was updated in the 2009 Transportation's System Plan and is no longer a recommendation that is present in the current TSP's. For clarity please update the document to eliminate the references to Industrial Way and the indication that Industrial Way is going to be abandoned. These statements can be found on page 8-25.

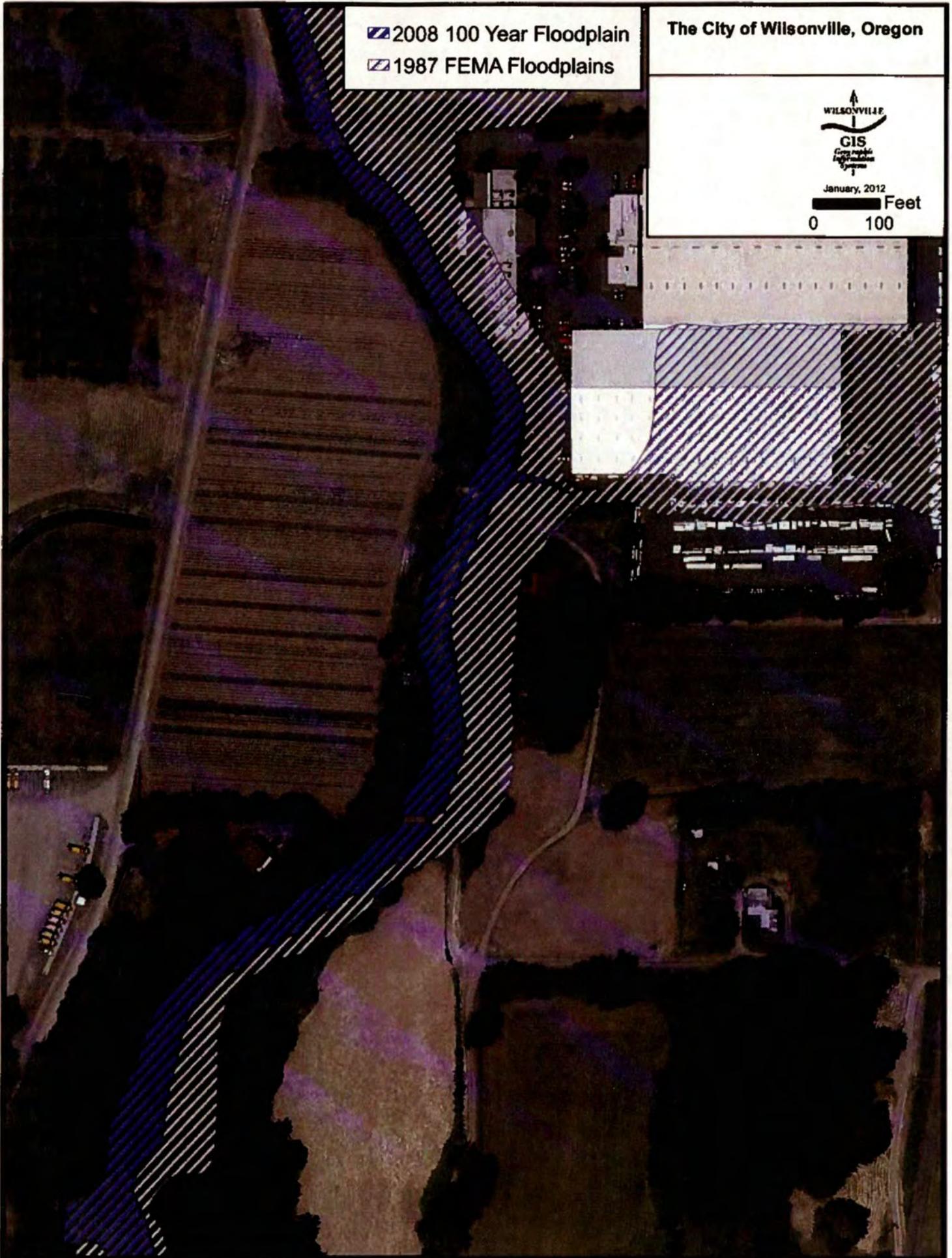
I hope the City will add this project as I believe it is a critical need that the current Stormwater Master Plan fails to address.

Kind Regards

David Bernert P.E.
 Bernert Nursery and Farms

CC: Sheri Young Silver Leaf Farms LLC
 Joe Bernert WCP INC Environmental Services
 George Adams Wilsonville Concrete Products LLC
 Tom Bernert Joe Bernert Towing Company INC
 Kathleen Bernert KJD Properties LLC
 Alan Kirk OrePac INC
 Mike Kohlhoff City of Wilsonville

(503) 557-8872 FAX (503) 723-9011 PO BOX 37, Wilsonville OR. 97070



cc work session
1/30/12 scl

Stormwater Master Plan

Special Work Session

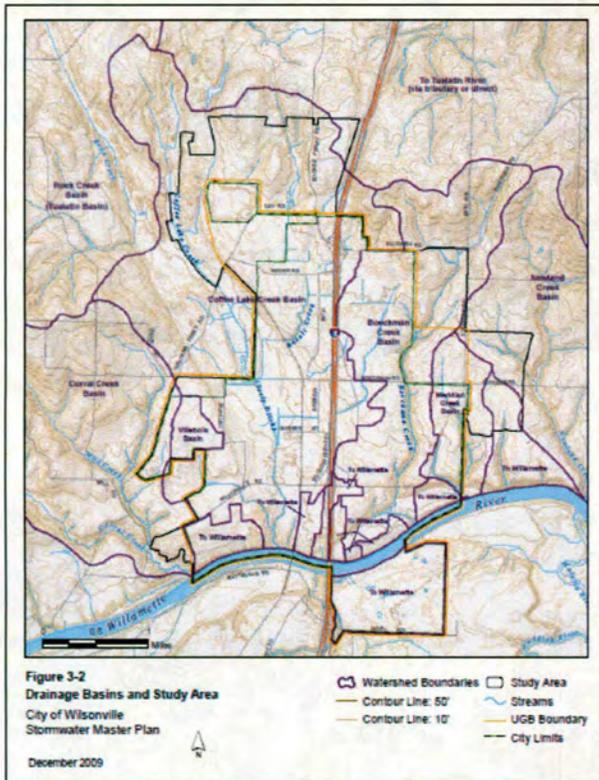
January 30, 2012

Kerry Rappold, Natural Resources Program Manager

Outline

- * Stormwater System & Planning and Management (protecting public and private property)
- * Operations and Maintenance (Delora Kerber)
- * Capital Improvement Program (Stephan Lashbrook)
- * Future Growth & Strategy (Michael Bowers)
- * Stormwater video

Stormwater System



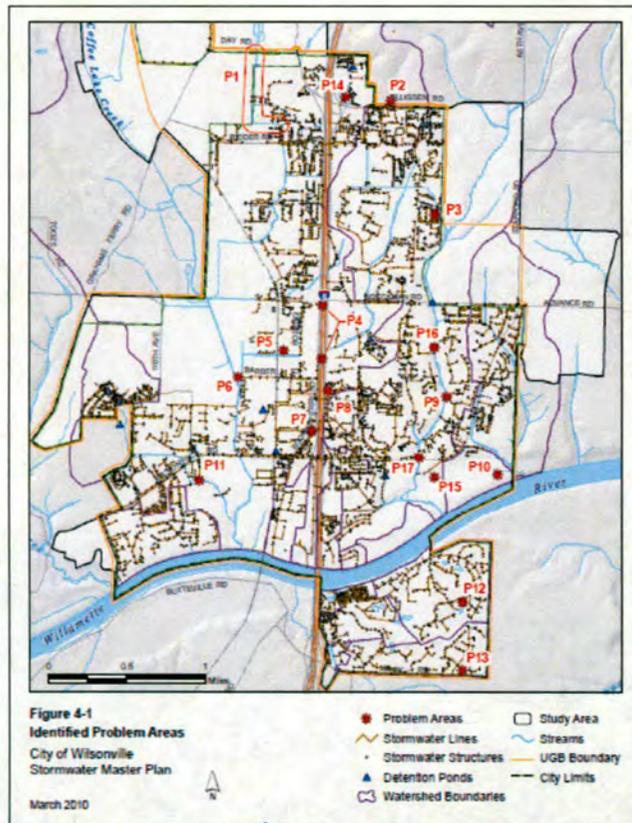
Willamette River
Streams
Wetlands
Ditches
Culverts
Pipes
Catch basins
Manholes
Controls
Facilities



Recent Storm Events



Planning & Management



Stormwater Master Plan

- Problem areas (e.g., flooding, erosion)
- Pollutant reduction/NPDES permit
- Capital improvement program
- Financial requirements
- Policies & requirements

City Code, Development Code & Public Works Standards

NPDES Stormwater Permit

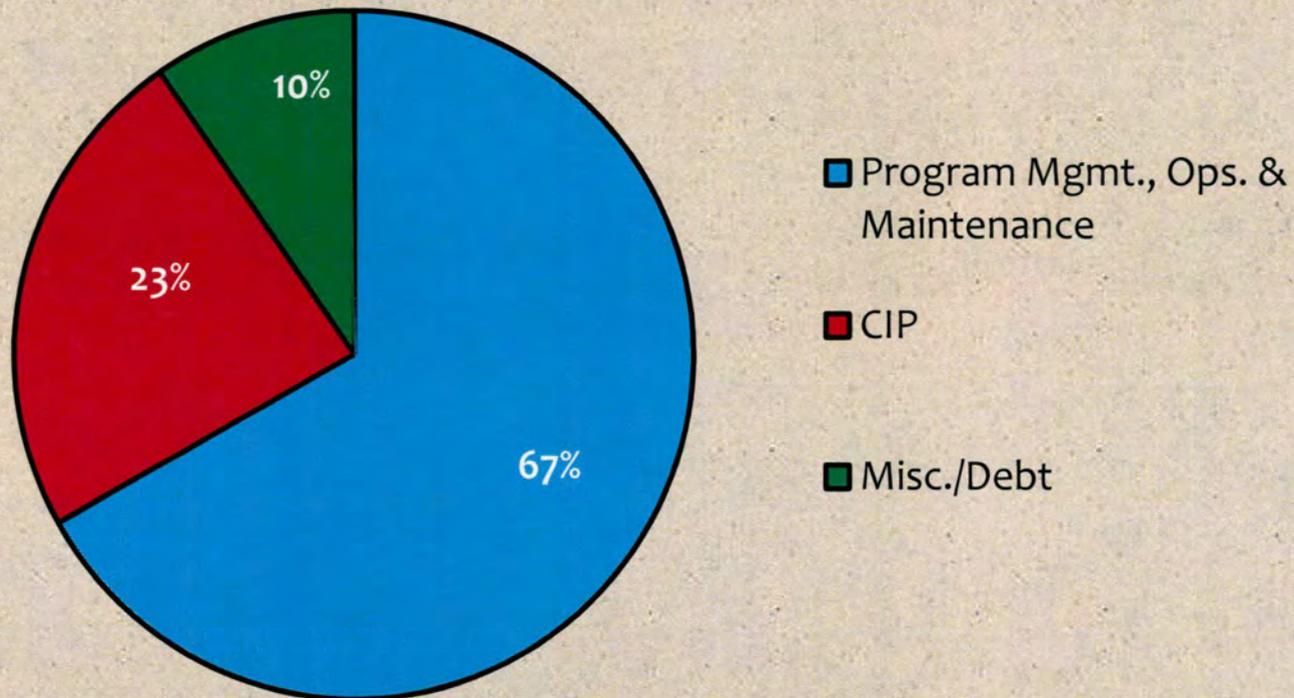
- Best management practices
- Monitoring & reporting

Polices (Existing vs. New)

- * **Existing Policies** – retained the most relevant and effective policies and implementation measures from the 2001 Stormwater Master Plan
- * **New Policies** – provide guidance for stormwater management techniques and comply with NPDES stormwater permit requirements (e.g., Low Impact Development)

Stormwater Expenditures

FY 2011-2021 STORM WATER FUND ALLOCATIONS



Operations & Maintenance



Leaf & debris control



Maintenance of conveyance system



Maintenance of stormwater facilities



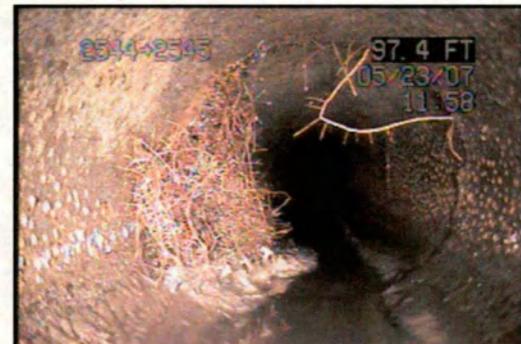
Operations & Maintenance



Clean up of
Vactor truck
hazardous spills



Street proper



Operations & Maintenance

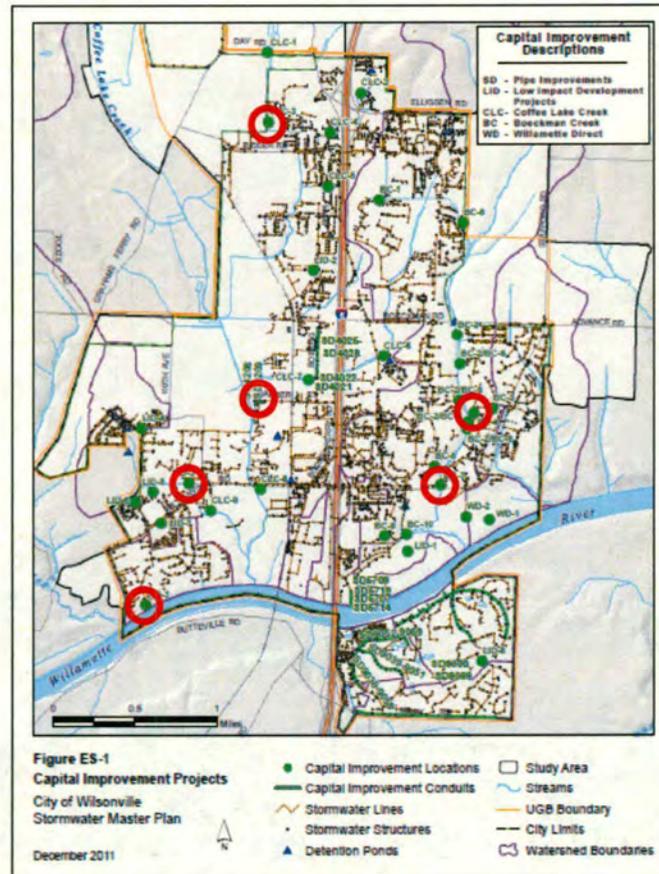


Villebois stormwater detention facility & basketball court

Capital Improvement Program

- * Pipe Upgrades and Improvements
- * Restoration Projects
- * Low Impact Development
- * Studies & specific alternative analysis

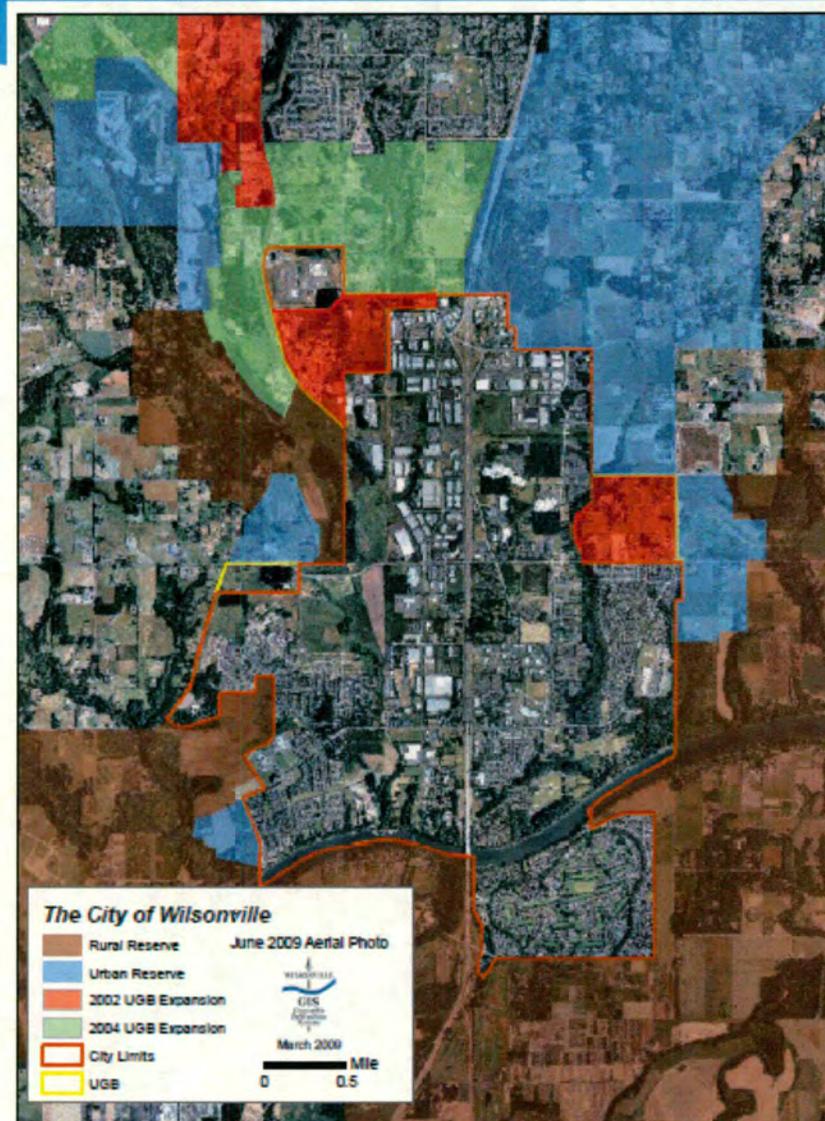
Capital Improvement Program



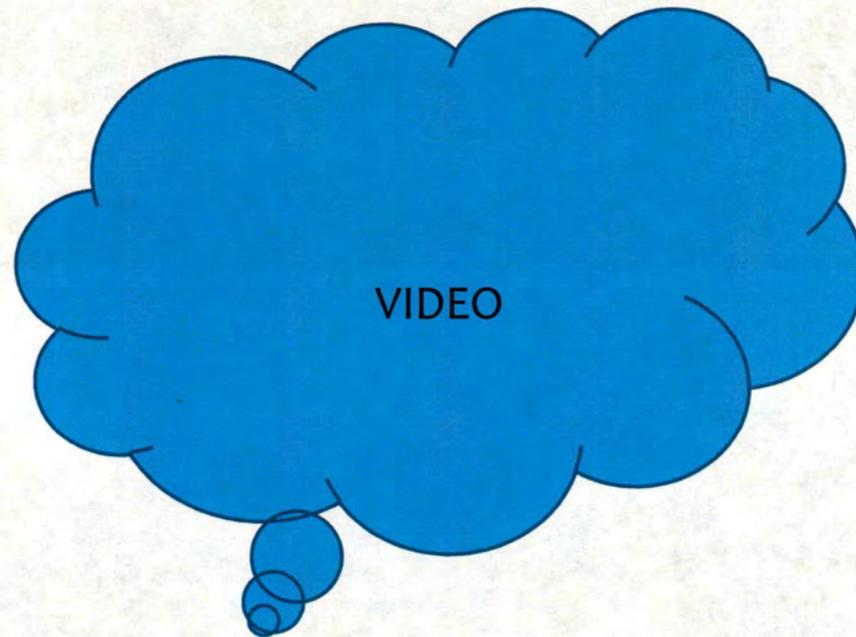
Future Growth & Strategy

- * Services inside the City
- * Existing UGB areas
- * Planning areas (not included in CIP)
- * Facts:
 - \$22,000/acre for new public stormwater services (Portland Metro area)
 - City Collected in 2011 about \$4,400/acre
 - **Who pays the difference?**

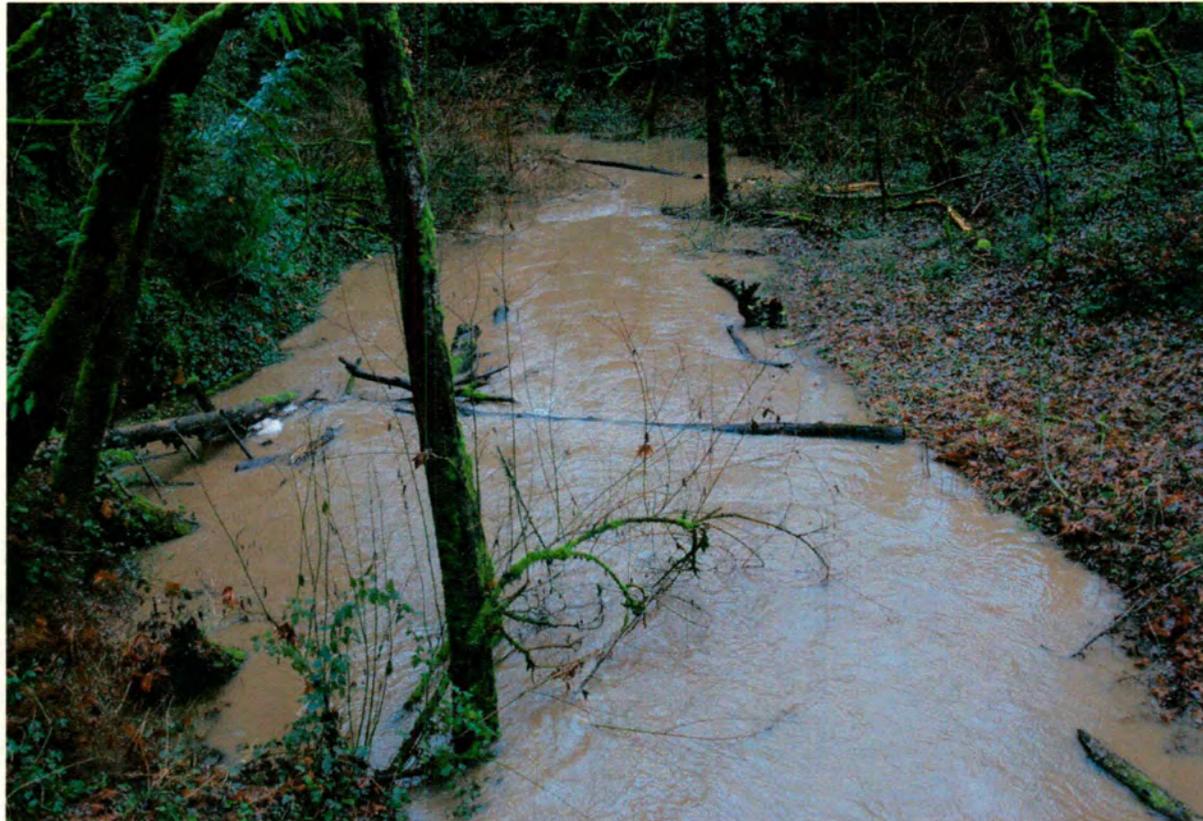
Future Growth & Strategy



Why does it matter?



QUESTIONS



Short- and Mid-Term (i.e., first 10-years) Capital Improvement Projects									
Project ID	Page #	Cost	Location/Description	Benefits	"No Project" Alternative	Alternative 1	Alternative 2	Other	Cost or Benefits of Delay
WD-3	8-30	\$285K	Rivergreen Repair Project	Rectify existing problems	Legally obligated to the HOA to perform the repairs	Already completed Phase 1 of project repairs (grassy swale)	NA		Potential legal action and loss of existing stormwater improvements
BC-7	8-27	\$577K	Boeckman Creek Realignment (Wilsonville Road bridge)	Least costly alternative and easiest to permit (ACOE/DSL)	Not an option - risks loss of bridge	Straight alignment of creek	Relocating creek west away from piers		Could lead to bridge failure/road closure
ST-5	8-40	\$57K	Low Impact Development Design Standards and Implementation Guide	Assistance to developers in implementing LID	NPDES permit requires the city to provide guidance to the development community	Only update PW Standards	Reference other jurisdictions guidance, such as CWS, BES, etc.	Could reduce cost to \$25,000 and complete in-house with intern assistance	Out of compliance with NPDES requirements
ST-8	8-41	\$45K	Install Two Permanent Stormwater Flow Monitoring Stations and Two Rain Guages	Data for InfoSWMM model (calibration of model)	Will be necessary for determining hydromodification impacts	Buy one flow monitoring station and one rain guage	NA		Lack of data to verify stormwater modeling and plan projects
ST-9	8-41	\$18K	Purchase InfoSWMM Model	In-house modeling efficiency and reliability	Pay consultant to update and run model	NA	NA		Lose in-house ability to update model, which could add delays to project implementation
ST-6	8-40	\$143	Charbonneau Infrastructure Replacement Study	Awareness of infrastructure failure risks and the ability to plan effectively	Increasing failures of Charbonneau infrastructure	Reduce the cost, focus on interrelated infrastructure (e.g., streets/stormwater)	Delay any infrastructure study		Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term
BC-4	8-26	\$136K	Gesellschaft Water Well Channel Restoration	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Decommission well, but will only partially mitigate the problem	Armor slope, but could be more costly		Greater slope failure and potential impacts to well house and private property
LID1	8-32	\$203K	Memorial Park Parking Lot Vegetated Swales (3)	Combine project with other necessary stormwater and park improvements	Would not provide the stormwater system to manage parking lot runoff	Replace existing french drain system, however, would not provide any WQ benefits	Use permeable pavers		Reduced use of parking lot if failure occurs, and possible missed opportunity for cost-efficiency by combining projects
BC-8	8-8	\$130K	Canyon Creek Estates Pipe Removal	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Adding perpendicular piping and energy dissipation			Greater slope failure to private property and undermining dwelling
SD4208 & SD4209	8-5	\$213K	Barber Street Pipe Upgrade (at time of street extension)	Cheapest alternative and required with extension of Barber Street to Villebois	Future flooding as a result of new development and increased stormwater runoff	Require on-site retention of all increased stormwater runoff			Will be done concurrent with Barber Street extension
LID3	8-34	\$585K	SW Camelot Green Street Mid-Block Curb Extensions	Addresses NPDES permit requirements and traffic safety issues	Would need to identify alternative NPDES permit demonstration project	Reduce number of curb extensions			Maintains status quo. An alternative project may be lower cost, with fewer benefits
CLC-3	8-19	\$564K	Commerce Circle Channel Restoration	Conveyance system is integral to the development of Coffee Creek and Basalt Creek industrial areas	Increasing flooding problems for private property owners and loss of businesses	Deeper and wider channel requiring use of more private property	Declare it a private property problem and invest no further City funds in remediation	Significant infrastructure system for future industrial development	Flooding costs to existing businesses
ST-1	8-40	\$57K	Study to analyze area north of Elligsen Rd/East of I-5	Alleviate flooding problems on private and ODOT property	Don't have the necessary information to remedy the problem	NA	NA	Became part of discussion about temporary TVFR facility	Potential liability for city if we don't address the current situation
FP	8-42	\$285K	Future Project Development and Implementation	Provides a funding source for emergency problems	City will have to use alternative funds (e.g., general fund) as emergencies arise	Same project at a lower funding level			Insufficient funding for emergencies as they arise
BC-2	8-11	\$168K	Boeckman Creek Outfall Rehabilitation	Reduce water quality impacts to Boeckman Creek	Continuing erosion and slope damage to private and public property	Armor slope, but could be more costly	Divide up outfalls and do separately, however, total cost may increase		Greater slope failure and potential impacts to public and private property

11/30/12 CCWS.
ack. stormwater masterplan.

Project ID	Page #	Cost	Location/Description	Benefits	"No Project" Alternative	Alternative 1	Alternative 2	Other	Cost or Benefits of Delay
BC-6	8-14	\$1.4M	Multiple Detention Pipe Installation	Reduced erosion within Boeckman Creek and reduced impacts to public infrastructure and private property	Continued water quality impacts due to erosion	Divide up outfalls and do separately, however, will probably be more costly	Pipe bursting and replacement	Relatively expensive project	Greater slope failure and potential impacts to public and private property
BC-5	8-13	\$38K	Boeckman Creek Outfall Realignment	Reduce water quality impacts to Boeckman Creek	Continued water quality impacts due to erosion	Replace bubbler structure with area drain	Armor slope, but could be more costly	Relatively inexpensive project	Greater slope failure and potential impacts to public property
BC-3	8-12	\$810K	Cascade Loop Detention Pipe Installation	Reduced erosion within Boeckman Creek and reduced impacts to public infrastructure and private property	Continued water quality impacts due to erosion	Pipe bursting and replacement		Relates to BC-4	Greater slope failure and potential impacts to public property
BC-10	8-29	\$84K	Memorial Park Stream and Wetland Enhancement	Reduce water quality impacts to Boeckman Creek and aesthetic improvements to the park	Continued water quality impacts	Combine with other improvements to Memorial Park			Lack of environmental benefit to park
BC-9	8-28	\$112K	Memorial Drive Pathway and Storm Drain Repair	Improve the functionality of the swale, and avoid future overtopping and erosion to slope	Potential slope failure and damage to Memorial Drive, sidewalk and park trail	Remove swale and replace with hard pipe, which will likely be more expensive		Note history of clogging and flooding	Potentially more maintenance and repair costs if not addressed
LID7	8-38	\$363K	SW Wilsonville Road Stormwater Planters	Reduces flow to Arrowhead Creek, which has experienced previous erosion problems. Improves water quality	Continued water quality impacts	Divide up planters and do separately, however, will probably be more costly	Acquire private property to the south of sidewalk and install stormwater facility	Project will be an important element of the City's water quality retrofit strategy	Eventual difficulty in complying with NPDES permit and continued erosion of Arrowhead Creek
CLC-2	8-18	\$279K	SW Parkway Avenue Stream Restoration	Alleviate flooding problems on private and ODOT property	Continued flooding problems	Construct detention facilities elsewhere in drainage basin, however, could be more expensive		Relates to ST-1	Potential liability for city if we don't address the current situation
CLC-9	8-3	\$115K	Jobsey Lane Culvert Replacement	Protect public access and avoid future erosion	Potential failure of creek crossing and damage to pathway	Construct footbridge for pedestrian traffic only	Remove pathway and eliminate creek crossing, closing pedestrian access	Project as important for pedestrian access as stormwater management	Potentially more maintenance and repair costs if not addressed
SD5707, 5709, 5714, 5719	8-7	\$497K	SW Parkway Pipes Replacement	Prevents potential flooding to private property	Potential failure of outfall and damage to private property . Manhole lies 15' from house foundation.	Alternatives are included in proposed solution	Alternatives are included in proposed solution	Due to piecemeal construction 48" upstream pipe reduces to 15" outfall pipe	Potential liability for city if we don't address the current situation
ST-2	8-40	\$57K	Advance Road School Site Study	Determine proportionate share of stormwater runoff and potential costs to the city	Cannot proceed with plans for either park or schools without addressing stormwater infrastructure	NA	NA	School District may be seeking bond approval in next 5-10 years. First phase of Advance Road infrastructure planning.	Don't have the necessary information to complete future planning
CLC-1	8-17	\$3.5M	Detention/Wetland Facility near Tributary to Basalt Creek	Prevents potential flooding to significant industrial land	Limits future development in Basalt Creek and Coffee Creek industrial areas	Increase detention requirements for private property	Construct very large detention pipe	Need to negotiate with Tualatin for their share of costs and consider creation of local improvement district. Relates to CLC-3.	Could be delayed until infrastructure needed for new development
SD9038, 9045, 9046, 9054-9058	8-9	\$867K	Misc. Pipe Upgrades in NW Charbonneau	Upgrades aging and substandard infrastructure	Increasing failures of Charbonneau infrastructure	Divide up pipe projects and do separately, however, total cost may increase	Delay until other infrastructure work is undertaken	Pipes; not LID projects	Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term
SD9052, 9053, 9059, 9061-9069	8-9	\$1.0M	Misc. Pipe Upgrades in NW Charbonneau	Upgrades aging and substandard infrastructure	Increasing failures of Charbonneau infrastructure	Divide up pipe projects and do separately, however, total cost may increase	Delay until other infrastructure work is undertaken	Pipes; not LID projects	Potential infrastructure spot failures, which may impact more than stormwater system. Saves money short-term, likely to cost more long-term

**CITY COUNCIL
STAFF REPORT**

SMART Ops/Fleet Facility Phase II Building & Site Improvements Bid

Meeting Date: January 30 th , 2012	Contact: Kristin Retherford, Urban Renewal Manager
Report Date: January 24 th , 2012	Contact Telephone Number: 503-570-1539
Source of Item: Community Development	Contact E-Mail: retherford@ci.wilsonville.or.us

ISSUE STATEMENT

A Resolution of the Wilsonville City Council acting as the Contract Review Board, approving bid process, accepting the lowest bidder and awarding a construction contract to Robert Gray Partners, Inc. Action by City Council requested.

BACKGROUND

Phase I of this project, which consisted of earthwork improvements, was awarded in September of 2011 for \$164,150 and completed in November 2011. The engineering cost estimate for this phase of work was \$354,444.

In early December of 2011, an Invitation to Bid on Phase II improvements consisting of building and site improvements for the a SMART Ops/Fleet Maintenance Facility on Boberg Road, was advertised in *The Daily Journal of Commerce*, *The Observer*, and *The Skanner*, and the *Asian Reporter*. A mandatory pre-bid meeting was held on December 21, 2011 with thirty firms in attendance. This was a good indication of strong interest in this project.

On January 12th, 2012 City Staff opened ten sealed bids. There were ten qualified responders to this Invitation to Bid and the bid received from Robert Gray Partners, Inc. in the total amount of \$3,459,800.00 for building and site improvements, including a deductive alternate of \$62,030.00 for a fuel station and an additional amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800. The total bid is \$1,363,200 than the project construction cost estimate of \$4,900,000. The second lowest bid was \$3,570,000 and the highest bid received was \$3,935,809.

The bid amount excludes a number of project costs that are being handled as separate payments or contracts which staff is still working on procuring. These primarily include:

Permit fees	TBD
System Development Charges	TBD
Security/Access Control	Bid received for \$33,535
Low voltage wiring/data networking	Bid received for \$37,262
Special inspections and testing	Bid received for \$14,044
Construction management/owner's rep services	TBD

Furnishings	TBD
Equipment	TBD
Move costs	TBD

This project is included in the FY 2011/12 budget as Project No. 8083. Construction will span two fiscal years with Phase II construction beginning February 2012 and final completion scheduled for November 2012. Funds will need to be re-allocated in the upcoming 2012/13 budget to cover expenses in the upcoming fiscal year, but not to exceed the construction budget of \$4,900,000 and total project budget of \$6.9 million set by Council in 2011.

The funding sources for the total project budget were set forth as follows:

\$2,000,000	Connect Oregon grant
\$1,500,000	Fleet building sale (cash in hand)
\$ 470,000	SMART building sale (cash pending)
\$ 300,000	ARRA grant for design
\$1,000,000	SMART cash reserves
\$ 400,000	Fleet cash reserves
<u>\$1,300,000</u>	General Fund loan
\$6,970,000	

RECOMMENDATION

Staff recommends City Council adopt Resolution No. 2344 approving the bid process, accepting the lowest responsible bid, and awarding a construction contract to Robert Gray Partners, Inc. in the amount of \$3,536,800 to construct Phase II Building and Site Improvements needed for the SMART Ops/Fleet Maintenance Facility as described in the bid packet and authorizing a contingency budget of 7% of the contract amount equaling \$247,576.

SUGGESTED MOTION

Move to adopt the attached Resolution approving the bid process, accepting the lowest responsible bid, awarding the contract to Robert Gray Partners, Inc., the lowest responsible bidder, for \$3,459,800.00 for building and site improvements and an additional amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800 plus a 7% construction contingency equaling \$247,576.

RESOLUTION NO. 2344

A RESOLUTION OF THE CITY OF WILSONVILLE ACTING AS THE LOCAL CONTRACT REVIEW BOARD APPROVING THE BID PROCESS; ACCEPTING THE LOWEST RESPONSIBLE BID; AWARDING A CONSTRUCTION CONTRACT TO ROBERT GRAY PARTNERS, INC., THE LOWEST RESPONSIBLE BIDDER; AND VERIFYING FUND AVAILABILITY FOR THE PROJECT COMMONLY REFERRED TO AS SMART OPS/FLEET MAINTENANCE FACILITY PHASE II BUILDING AND SITE IMPROVEMENTS.

WHEREAS, in accordance with the provisions of Oregon Revised Statutes, Chapter 279, Public Bids and Contracting; Wilsonville Code 2.3.14, Contracts with the City; and the Attorney General's Model Rules which the City has adopted as its contracting rules; the Wilsonville City Council serves as the city's Contract Review Board; and

WHEREAS, the SMART Ops/Fleet Maintenance Phase II Building and Site Improvements Project was duly advertised for pre-qualification and competitive bids in the Daily Journal of Commerce on December 15 and 19, 2011, in the Portland Skanner on December 14, 2009, the Asian Reporter on December 19, 2011 and the Portland Observer on December 21, 2011; and

WHEREAS, the bid advertisement and invitation to bid included a Request for Qualifications and established a qualification process under which prospective bidders must be qualified in order to be considered a responsive bidder; and

WHEREAS, ten sealed bids were received prior to 1 p.m. local time, January 12, 2012, at the City Hall, 29799 SW Town Center Loop East, Wilsonville, OR, 97070; and

WHEREAS, all ten of these bids were from qualified, responsive bidders as defined under the Request for Qualifications; and

WHEREAS, the ten responsive bids were then opened individually, and separately read aloud at 3:30 p.m., local time, January 12, 2012. The Summary of Bids is marked Exhibit "A", attached hereto and incorporated herein; and

WHEREAS, Robert Gray Partners, Inc. submitted the lowest responsible bid; and

WHEREAS, the Robert Gray Partners, Inc base bid of \$3,459,800.00 for building and site improvements including a deductive alternate of \$62,030.00 for a fuel station and an additional

amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800, is \$1,363,200 than the project construction cost estimate of \$4,900,000; and

WHEREAS, the City desires to execute a Construction Contract Agreement in a timely manner; and

WHEREAS, the City's FY11-12 budget includes a \$4,100,000 appropriation for the SMART Ops/Fleet Maintenance Facility Project, which is Project #8083 in the budget; and

WHEREAS, construction of this project will occur over two fiscal years with funds being carried over and re-budgeted in the City's FY12-13 budget process.

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

1. The City Council acting as the Local Contract Review Board finds and concludes:

- a. The recital of findings above is incorporated by reference herein.
- b. The bid from Robert Gray Partners, Inc. in the amount of a \$3,459,800.00 base bid for building and site improvements and an additional amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800, is deemed responsive. Robert Gray Partners, Inc. is the lowest responsible bidder and is qualified for the work.

2. Subject to the final review and approval of the Project Manager and in accordance with the provisions of Oregon Revised Statutes, Chapter 279, Public Bids and Contracting; Wilsonville Code 2.3.14, Contracts with the City; and the Attorney General's Model Rules which the City has adopted as its contracting rules; the City Council acting as the Contract Review Board hereby awards the contract for construction to Robert Gray Partners, Inc. in the amount of \$3,536,800 and authorizes expenditure of an additional 7% of the contract award equaling \$247,576 as project contingency.

3. Subject to final completion of all improvements specified in the contract documents and any supplementary changes, the Project Manager is authorized to certify the required improvements complete and make final payment including release of retainage.

4. The Project Manager is authorized to approve change orders to this contract as required provided, however, that the total cost does not exceed the approved budget for this project.

5. The City Council hereby authorizes the expenditures for this contract not to exceed the total FY11-12 budget amount:

RESOLUTION NO. 2344

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PAGE 2 of 3

<u>Account</u>	<u>Amount</u>
260.950.45030.8083	\$4,100,000

6. This Resolution becomes effective upon adoption.

ADOPTED by the Wilsonville City Council at a special meeting thereof this 30th day of January 2012, and filed with the Wilsonville City Recorder this date.

TIM KNAPP, MAYOR

ATTEST:

Sandra C. King, MMC, City Recorder

SUMMARY of Votes:

Mayor Knapp	_____
Council President Núñez	_____
Councilor Hurst	_____
Councilor Goddard	_____
Councilor Starr	_____

SMART OPS/FLEET FACILITY BID TABULATIONS

	Lump Sum	Deduct Alt #1	Alt #2	Alt #3	Alt #4	Alt #5	Alt #6
Triplett Wellman Contractors PO Box 160 Woodburn, Oregon 97071	\$ 3,628,000	\$ 60,000	No Bid	No Bid	No Bid	No Bid	No Bid
Emerick Construction Company PO Box 66100 Portland, Oregon 97209-6100	\$ 3,590,000	\$ 70,000	\$ 16,000	\$ 10,000	No Bid	\$ 3,700	No Bid
Howard S. Wright 425 NW 10th Avenue, Suite 200 Portland, Oregon 97209-6100	\$ 3,570,000	\$ 75,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ -	\$ 60,000
Woodburn Construction Company PO Box 129 Woodburn, Oregon 97071	\$ 3,742,000	\$ 69,000	\$ 11,000	\$ 12,000	\$ 9,000	No Change	No Bid
Robert Gray Partners PO Box 1000 Sherwood, Oregon 97140	\$ 3,459,800	\$ 62,031	\$ 84,900	\$ 70,000	\$ 77,000	\$ 68,000	\$ 70,000
John Hyland Construction, Inc. PO Box 7867 Eugene, Oregon 97475	\$ 3,831,352	\$ 64,700	No Bid	\$ 16,149	No Bid	\$ 8,966	\$ 65,830
Todd Construction, Inc. PO Box 949 Tualatin, Oregon 97062	\$ 3,849,000	\$ 65,000	\$ 15,000	No Bid	No Bid	\$ 10,000	\$ 62,000
Skyward Construction, Inc. 15908 NE 10th Avenue Ridgefield, Washington 98642	\$ 3,935,809	\$ 71,891	\$ 10,288	\$ 10,820	\$ 8,243	\$ 1,461	\$ 53,738
Brockamp & Jaeger, Inc. 15796 S, Broadwalk Oregon City, Oregon 97045	\$ 3,805,733	\$ 63,800	\$ 89,600	\$ 90,100	\$ 92,000	\$ 76,500	\$ 87,000
Union Corner Construction 6500-A NE Street Johns Road Vancouver, Washington 98661-1230	\$ 3,753,000	\$ 63,150	\$ 140,000	\$ 93,000	\$ 84,000	\$ 80,000	\$ 144,000

RESOLUTION NO. 2344

A RESOLUTION OF THE CITY OF WILSONVILLE ACTING AS THE LOCAL CONTRACT REVIEW BOARD APPROVING THE BID PROCESS; ACCEPTING THE LOWEST RESPONSIBLE BID; AWARDING A CONSTRUCTION CONTRACT TO ROBERT GRAY PARTNERS, INC., THE LOWEST RESPONSIBLE BIDDER; AND VERIFYING FUND AVAILABILITY FOR THE PROJECT COMMONLY REFERRED TO AS SMART OPS/FLEET MAINTENANCE FACILITY PHASE II BUILDING AND SITE IMPROVEMENTS.

WHEREAS, in accordance with the provisions of Oregon Revised Statutes, Chapter 279, Public Bids and Contracting; Wilsonville Code 2.3.14, Contracts with the City; and the Attorney General's Model Rules which the City has adopted as its contracting rules; the Wilsonville City Council serves as the city's Contract Review Board; and

WHEREAS, the SMART Ops/Fleet Maintenance Phase II Building and Site Improvements Project was duly advertised for pre-qualification and competitive bids in the Daily Journal of Commerce on December 15 and 19, 2011, in the Portland Skanner on December 14, 2009, the Asian Reporter on December 19, 2011 and the Portland Observer on December 21, 2011; and

WHEREAS, the bid advertisement and invitation to bid included a Request for Qualifications and established a qualification process under which prospective bidders must be qualified in order to be considered a responsive bidder; and

WHEREAS, ten sealed bids were received prior to 1 p.m. local time, January 12, 2012, at the City Hall, 29799 SW Town Center Loop East, Wilsonville, OR, 97070; and

WHEREAS, all ten of these bids were from qualified, responsive bidders as defined under the Request for Qualifications; and

WHEREAS, the ten responsive bids were then opened individually, and separately read aloud at 3:30 p.m., local time, January 12, 2012. The Summary of Bids is marked Exhibit "A", attached hereto and incorporated herein; and

WHEREAS, Robert Gray Partners, Inc. submitted the lowest responsible bid; and

WHEREAS, the Robert Gray Partners, Inc base bid of \$3,459,800.00 for building and site improvements including a deductive alternate of \$62,030.00 for a fuel station and an additional

amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800, is \$1,363,200 less than the project construction cost estimate of \$4,900,000; and

WHEREAS, the City desires to execute a Construction Contract Agreement in a timely manner; and

WHEREAS, the City's FY11-12 budget includes a \$4,100,000 appropriation for the SMART Ops/Fleet Maintenance Facility Project, which is Project #8083 in the budget; and

WHEREAS, construction of this project will occur over two fiscal years with funds being carried over and re-budgeted in the City's FY12-13 budget process.

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

1. The City Council acting as the Local Contract Review Board finds and concludes:
 - a. The recital of findings above is incorporated by reference herein.
 - b. The bid from Robert Gray Partners, Inc. in the amount of a \$3,459,800.00 base bid for building and site improvements and an additional amount of \$77,000.00 for the HVAC controller system identified in Bid Alternate #4, for a total of \$3,536,800, is deemed responsive. Robert Gray Partners, Inc. is the lowest responsible bidder and is qualified for the work.
2. Subject to the final review and approval of the Project Manager and in accordance with the provisions of Oregon Revised Statutes, Chapter 279, Public Bids and Contracting; Wilsonville Code 2.3.14, Contracts with the City; and the Attorney General's Model Rules which the City has adopted as its contracting rules; the City Council acting as the Contract Review Board hereby awards the contract for construction to Robert Gray Partners, Inc. in the amount of \$3,536,800 and authorizes expenditure of an additional 7% of the contract award equaling \$247,576 as project contingency.
3. Subject to final completion of all improvements specified in the contract documents and any supplementary changes, the Project Manager is authorized to certify the required improvements complete and make final payment including release of retainage.
4. The Project Manager is authorized to approve change orders to this contract as required provided, however, that the total cost does not exceed the approved budget for this project.
5. The City Council hereby authorizes the expenditures for this contract not to exceed the total FY11-12 budget amount:

RESOLUTION NO. _____

<u>Account</u>	<u>Amount</u>
260.950.45030.8083	\$4,100,000

6. This Resolution becomes effective upon adoption.

ADOPTED by the Wilsonville City Council at a special meeting thereof this 30th day of January 2012, and filed with the Wilsonville City Recorder this date.

Tim Knapp, Mayor

ATTEST:

SANDRA C. KING, City Recorder

SUMMARY of Votes:

Mayor Knapp	_____
Council President Nunez	_____
Councilor Hurst	_____
Councilor Goddard	_____
Councilor Starr	_____

CITY COUNCIL ROLLING SCHEDULE

Board and Commission Meetings 2012

January

Date	Day	Time	Event	Place
1/19	THURSDAY	7 p.m.	City Council Meeting	Council Chambers
1/23	Monday	6:30 p.m.	DRB Panel B	Council Chambers
1/25	Wednesday	6:30 p.m.	Library Board	Library
1/30	Monday	5 p.m.	City Council Work Session Storm Water Master Plan	Willamette River I & II

FEBRUARY

Date	Day	Time	Event	Place
2/6	Monday	7 p.m.	City Council Meeting	Council Chambers
2/8	Wednesday	6 p.m.	Planning Commission	Council Chambers
2/13	Monday	6:30 p.m.	DRB Panel A	Council Chambers
2/20	City Offices Closed Presidents Day			
2/23	Thursday	7 p.m.	City Council Meeting	Council Chambers
2/27	Monday	6:30 p.m.	DRB Panel B	Council Chambers

COMMUNITY EVENTS

JANUARY

January 27th – **Middle School Dance**,
7:30 p.m. – 9:30 p.m. Community Center
\$5.00 at the door, must have Middle School Student ID for admittance



January 28th – **Volunteer Planting Event – City of Wilsonville and Friends of Trees**
Meet at the Forest Shelter in Memorial Park at 9 a.m.
Dress for the weather. Contact Lisa Need for more information 503-570-1535

FEBRUARY

February 13-18 Week Long Library 30th Birthday Celebration. More information to follow.

February 16 - Adult 55+ Special Event - **The Bucket List Party**
1:00 PM - 3:00 PM at the Community Center
Cost: \$5.00 For more information please contact Patty Brescia - 503-570-1525

Academy Awards Film Fest – Wilsonville Public Library, Oak Room

February 17 – 6 p.m.

February 18 – 1:30 p.m. and 3:30 p.m.

February 24 – 6p.m.

February 25 – 1:30 p.m. and 3:30 p.m.

Call the Library for more details 503-682-2744. The screenings are free.



February 24 – Middle School Dance

7:30 p.m. . – 9:30 p.m. Community Center

\$5.00 at the door, must have Middle School Student ID for admittance

King, Sandy

From: Bowers, Michael
Sent: Tuesday, December 20, 2011 2:26 PM
To: King, Sandy
Subject: FW: Last night Storm Water MP

FYI. – Michael B.

From: Bowers, Michael
Sent: Tuesday, December 20, 2011 11:48 AM
To: Cosgrove, Bryan; Lashbrook, Stephan; Rappold, Kerry
Cc: Kohlhoff, Mike
Subject: RE: Last night Storm Water MP

NOT INCLUDED IN
THE PACKET FOR
1-30-12

Thanks Bryan. I just reviewed the 2011 Work Sessions with our new Council (does not include the 2010 work sessions.)

- Feb 24th 2011 – Policies, M.P. Overview, Basic Regulatory drivers and Storm Water 101
- April 4th, 2011 – Policies Reviewed (Old and New)
- April 18th, 2011 – Finances and Capital Project List
- May 16th 2011 – Financing options and updated Capital Projects
- August 1 2011 – Policy and Financing updated
- Sept 7, 2011 – Financing Options (Finance & CD Dept combined presentation)

It is interesting looking at the packets on-line on the City Web Site. The topics and strategy that Council seemed to articulate last evening in going forward seemed to describe the exact strategy and approach that we did this past year – so hopefully you can assist in getting us off dead center.

The piggy bank is broke and we have no approved budget for the Master Plan in this fiscal year. Finance needs to do a budget supplemental for any further Master Plan work, modifying consultant contracts for any further analysis (Finance or Capital Projects alternatives) and to pay for the emergency repairs that we are discovering with the aging infrastructure. My guess is the Supplemental for the current fiscal year is about \$300,000 - \$350,000 unless we use G.F. contingency.

Respectfully, - Michael B.

- Michael B.

From: Cosgrove, Bryan
Sent: Tuesday, December 20, 2011 10:09 AM
To: Lashbrook, Stephan; Rappold, Kerry; Bowers, Michael
Subject: RE: Last night

I concur, and there's nothing that we could have done to keep the train on the tracks after Alan Kirk's 3-pages of testimony. The strategy moving forward is to remove all points of resistance, beginning with the policies. I know it's frustrating, but really not uncommon for things to unravel a bit with master plans right at the point of adoption.

I am sending out an email to Council today asking for all policy related questions/concerns to be submitted to me on or before January 4th. I will forward them to you if/when they arrive in my in-box.

503.570.1504 (work)
cosgrove@ci.wilsonville.or.us
29799 SW Town Center Loop
Wilsonville, Oregon 97070

DISCLOSURE NOTICE: Messages to and from this E-mail address may be subject to the Oregon Public Records Law.

If you tell the truth you don't have to remember anything. ~Mark Twain

From: Lashbrook, Stephan
Sent: Tuesday, December 20, 2011 8:03 AM
To: Rappold, Kerry; Bowers, Michael
Cc: Cosgrove, Bryan
Subject: Last night

Kerry and Michael:

It may have been a lump-of-coal evening for both of you but you guys both did a great job with your presentation and your answers to every question. I was proud of our team even in spite of the reception by the Council.

Eldon used to say that it was time to declare victory and move on. Maybe we should just start working on the 2021 Stormwater Master Plan.

S

Stephan A. Lashbrook
AICP, LEED AP
Assistant CD Director
City of Wilsonville
Community Development
(503) 570-1560
lashbrook@ci.wilsonville.or.us

Disclosure Notice: Messages to and from this e-mail address may be subject to the Oregon Public Records Law.

King, Sandy

From: Bowers, Michael
Sent: Tuesday, December 20, 2011 2:24 PM
To: Cosgrove, Bryan; Kohlhoff, Mike; Callaway, Tamara; King, Sandy; Lashbrook, Stephan
Subject: STORM WATER MASTER PLAN
Attachments: Scan001.PDF

Bryan: In addition to the 2011 Council Work Sessions noted in an earlier email today -- I thought you might find the April 5th and May 3, 2010 Work Session materials interesting in that the City Staff has answered the same questions posed by the City Council last evening apparently several times.

The attached staff report from 2010 and attachments describe the answers to Project Criteria & prioritization as well as more details about public outreach and involvement by the various constituencies such as the HOAs, Parks and Recreation Advisory Board, the School District, etc. In addition, the complete Planning Commission record was provided to three members on the current City Council on April 5th 2010.

Perhaps one of the things we should consider as we move the SWMP forward to the next steps in 2012 is providing Council a complete record on the 8 Council Work Sessions, the notes from Planning Commission, etc.. Or perhaps we should ask Council members to read and review the record on-line regarding the 8 specific meetings I have referenced?

R,
- Michael Bowers

-----Original Message-----

From: xeroxcopier@ci.wilsonville.or.us [mailto:xeroxcopier@ci.wilsonville.or.us]
Sent: Tuesday, December 20, 2011 7:07 AM
To: Bowers, Michael
Subject: Scan from Dogwood Copier

Please open the attached document. It was scanned and sent to you using a Xerox WorkCentre Copier (Dogwood) at Wilsonville City Hall.

Number of Images: 13
Attachment File Type: PDF

For more information about this scan please call City Hall at 503-682-1011.

**Community Development
Staff Report**

Date: April 27, 2010

To: Honorable Mayor and City Council

From: Kerry Rappold, Natural Resources Program Manager

Subject: Work Session - Stormwater Master Plan

Introduction

At the City Council work session on April 5th, staff gave a presentation about the proposed Stormwater Master Plan. During the discussion of the master plan, staff responded to questions and comments from the councilors. However, a number of questions required staff and the consultant team to do some additional research, which is summarized in this memorandum. In addition, staff has revisited the prioritization of the capital improvement projects, and identified the primary rationale for ranking them in the proposed order, such as site issues, regulatory compliance, and other factors (e.g. studies).

Staff has also had a chance to reconsider some of the wording in Chapter 2 (i.e. recommended policies), which addresses requirements in the renewal of the City's National Pollutant Discharge Elimination System (NPDES) permit. These changes are specific to the policies and implementation measures regarding Low Impact Development. A discussion and recommended wording is included in this memorandum.

Councilor Questions and Staff Responses

1. Which capital projects address the problem areas identified in Chapter 4?

Response: Exhibit 1 provides a list of the problem areas and the corresponding capital improvement projects. This information will be included in Chapter 8 (i.e. capital improvement program) of the final draft of the Stormwater Master Plan.

2. Partnership Fund

- a. How will the partnership fund be paid for? And how much will it cost rate payers?

Response: The partnership fund will be paid through the monthly stormwater utility fee. The partnership fund will be spread out over ten years, with half funded in the short-term (0-5 years) and half funded within the mid-term (5-10 years). As analyzed in Exhibit 2, the fund will have a very small impact on the

fee. It will increase the fee by an average of 13 cents through 2019, and will increase the fee by an average of 25 cents from 2020 - 2029.

- b. Why should rate payers support other property owners in retrofitting their sites?

Response: The partnership fund is an important element in achieving the goals and objectives of the Stormwater Master Plan. It addresses the goal of gaining public support for concepts in the master plan, and provides a mechanism for implementing Low Impact Development in areas lacking water quality treatment.

A requirement for developing a retrofit strategy for improving water quality will be included in the City's NPDES permit renewal. The partnership fund will be a valuable tool in achieving the strategy's objectives.

- c. What is the enticement for property owners to retrofit their sites?

Response: Beyond the financial incentive of the partnership fund, property owners may choose to retrofit a site due to existing drainage problems (i.e. localized flooding or other stormwater issues); they anticipate re-designing their site to improve landscaping and aesthetics and may be willing to incorporate Low Impact Development as part of that design; and some property owners voluntarily make environmental improvements. Education and outreach will play a critical role in garnering interest and participation by property owners.

3. How does Wilsonville's SDC and utility fee compare to other jurisdictions?

Response: Staff has completed a comparison of other jurisdiction's stormwater SDC and utility fees, which is included in Exhibit 3. The comparison includes the total cost of SDCs, and the most recent adoption date for the jurisdiction's SDC and stormwater master plan.

A developer's forum will be held on April 29th at City Hall to solicit input from affected parties on the proposed SDC and utility fee increases. The meeting results will be presented at the City Council work session.

4. Have you received input from the Park at Merryfield HOA, Charbonneau Country Club, Parks and Recreation Advisory Board, and the School District about relevant LID projects?

Response: Staff has gathered input from the parties listed above. A detailed description is contained in Exhibit 4.

5. Why does Implementation Measure WQT-4b require property owners to plant shade in existing surface water facilities?

Response: The measure has been revised to take out the reference to *existing* facilities.

Implementation Measure WQT-4b: The City of Wilsonville shall require shading of surface facilities in order to reduce water temperatures in ~~existing and~~ new surface water facilities **and encourage shading in existing facilities**. The City shall not permit the use of unshaded, shallow (*less than 3 feet average depth*) surface water facilities where water would be ponded more than two days.

6. How will the City educate developers and property owners about the use of Low Impact Development?

Response: A variety of opportunities are available to developers and property owners to learn more about Low Impact Development. Metro offers a series called “Green from the Ground Up”, which includes a number of workshops on Low Impact Development. These workshops have focused on different aspects of Low Impact Development, such as site and building design, and the incorporation of rain gardens and other types of sustainable stormwater features.

The growing interest in LEED certification has the benefit of introducing developers and site designers to Low Impact Development. In addition, larger agencies such as the City of Portland and Clean Water Services have emphasized the use of Low Impact Development, which improves the overall knowledge and experience of developers in applying these techniques.

Locally, staff will continue to provide education about the benefits of Low Impact Development through articles, events and other efforts.

Ranking of Capital Improvement Projects

All of the capital improvement projects were ranked according to four main categories, which included site issues (i.e. flooding or facility failure), regulatory compliance, cost efficiency, and liveability. Prioritization criteria and the ranked projects are shown in Table 9-1 of the Stormwater Master Plan.

In an effort to clarify the primary rationale for ranking capital projects in their proposed order, staff has prepared a table that breaks the projects down into three categories, which include site issues, regulatory compliance, and other factors. A description of the categories and the corresponding table is located in Exhibit 5.

Proposed Revisions to Policy and Implementation Measure

Based on the current status of the City’s NPDES permit renewal, Low Impact Development will be the highest priority in regards to stormwater management. To address this impending requirement, staff recommends the following revisions to the Low Impact Development policies and implementation measures in Section 2.4.1.

Policy LID-1: The City encourages shall prioritize the implementation of Low Impact Development techniques and habitat-friendly development practices throughout the City for new development, redevelopment, and retrofitting existing development.

Implementation Measure LID-1b: The City shall review and revise its Public Works Standards to encourage prioritize the use of Low Impact Development practices prior to discharging stormwater into a conventional drainage system. The City's authorized representative shall review and approve Low Impact Development systems and verify their onsite use. Maintenance responsibilities shall be required for all owners of Low Impact Development improvements.

Exhibits

1. Problem areas and corresponding capital improvement projects
2. Comparison of stormwater utility fee in regards to partnership fund
3. Comparison of stormwater SDC and utility fee with other jurisdictions
4. Input received from interested parties about Low Impact Development projects
5. Primary rationale for ranking capital improvement projects

Problem Areas and Corresponding CIP

Chapter 8 – add description of problem areas addressed in each CIP:

CLC-9 – Jobsey Lane Culverts (Short-term)

Add: This project addresses existing problem P11 described in Chapter 4.

SD4021 and SD4022 – Boberg Road Culvert (Mid-Term)

Add: This project addresses existing problem P5 described in Chapter 4.

SD4208 and SD4209 – Barber Street – Western End (Short-term)

Add: This project addresses existing problem P6 described in Chapter 4.

BC-8 – Canyon Creek Estates (Colvin Lane) (Short-term)

Add: This project addresses existing problem P3 described in Chapter 4.

SD3420-SD3427 – Town Center Loop West (Mid-term)

Add: This project addresses existing problems P7 and P8 described in Chapter 4.

SD9000 through SD9069 – Charbonneau (Mid- and Long-term)

Add: This project addresses existing problems P12 and P13 described in Chapter 4.

BC-2 – Five Outfalls in Boeckman Creek (Mid-term)

Add: This project, along with BC-6, addresses existing problem P16 described in Chapter 4.

BC-3 – Detention Pipe at Cascade Loop II (Mid-term)

Add: This project, along with BC-4, addresses existing problem P9 described in Chapter 4.

BC-6 – Detention Pipes Upstream of Outfall Projects (Long-term)

Add: This project, along with BC-2, addresses existing problem P16 described in Chapter 4.

WD-1 – Montgomery Way Culvert (Long-term)

Add: This project addresses existing problem P10 described in Chapter 4.

WD-2 – Rose Lane Culvert (Mid-term)

Add: This project addresses existing problem P15 described in Chapter 4.

CLC-1 Detention/Wetland Facility near Tributary to Basalt Creek (Mid-term)

Add: This project, along with CLC-3, addresses existing problem P1 described in Chapter 4.

CLC-3 – Channel Project – Commerce Circle (Short-term)

Add: This project, along with CLC-1, addresses existing problem P1 described in Chapter 4.

BC-4 – Major Drainage to Boeckman Creek at Gesellschaft Water District Well (Short-term)

Add: This project, along with project BC-3, addresses existing problem P9 described in Chapter 4.

BC-7 – Realignment of Boeckman Creek/Reconnection of Channel at Wilsonville Road (Short-term)

Add: This project addresses existing problem P17 described in Chapter 4.

Study ST-1 Study to Analyze Area North of Elligsen Road/East of I-5 (Mid-term)

Add: This project addresses existing problem P14 described in Chapter 4.

**Comparison of Stormwater SDC and Utility Fee
Portland Metro Area Cities for Single Family Residential**

Somerville SWMP Exhibit 3 - SDC Comparisons

	Sewer	Water	Storm	Parks	Street	Total	SDC Last Updated	Stormwater Utility Fee	Stormwater Master Plan Adopted	Next Stormwater MP Update Planned
Clatsop	\$3,600	\$3,258	\$275	\$4,530	\$3,679	\$15,342	June 2009	\$ 4.36	1972	Update planned in 2-3 years.
Clatskanie	\$893	\$999	\$1,138	\$3,985	\$1,611	\$8,626	July 2009	\$ 9.90	Sept 2004	Update planned for 2011/12.
Clatskanie Oswego	\$2,258	\$2,478	\$124	\$10,683	\$3,319	\$18,862	January 2010	\$ 17.94	1992	Update planned in 5 years or more.
Clatskanie	\$3,835	\$1,793	\$690	\$7,972	\$2,398	\$16,688	July 2009	\$ 19.80	1995	Their Stormwater System Plan will be updated in 2012.
Clatskanie	\$3,600	\$2,041	\$500	\$4,811	\$3,679	\$14,631	June 2000	\$ 6.25	Stormwater Standards last updated in 2007	They continuously update their Stormwater MP.
Clatskanie	\$2,745	\$5,523	\$994	\$8,376	\$5,948	\$23,586	July 2010	\$ 4.57	Dec 2006	Update planned in 2 years.
Wilsonville existing	\$4,153	\$4,436	\$492	\$4,602	\$5,284	\$18,967	Dec 2001	\$ 3.72	June 2001	July 2010
Wilsonville proposed	\$4,153	\$4,436	\$1,387	\$4,602	\$5,284	\$19,862	July 2010	\$ 4.88	July 2010	
Canby	\$2,489	\$2,813	\$100	\$4,725	\$2,517	\$12,644	August 2009	None	Dec 1994	Updated planned in 3 years.
Clatskanie	\$5,056	\$4,153	\$824	\$3,827	\$2,823	\$16,683	July 2009	\$ 17.20	April 2005	They are currently updating it.
Clatskanie	\$3,732	\$4,449	\$644	\$3,516	\$3,498	\$15,839	January 2010	\$ 6.50	Jan 1988	Update planned in 1-2 years.
Clatskanie	\$3,635	\$3,290	\$1,439	\$6,175	\$3,697	\$18,236	January 2010	\$ 6.25	1994	They do subregional plans but do not plan to do a large Stormwater MP.
Clatskanie	\$3,781	\$6,366	\$614	\$7,205	\$6,508	\$24,474	July 2009	\$ 11.77	July 2007	Update planned within the next 2 years.

Summary of Input: Low Impact Development Projects

1. Project: LID1 – Memorial Park Parking Lot – Vegetated Swales (3)

Interested Party: Parks and Recreation Advisory Board

Input: Staff prepared a memo to the Parks and Recreation Advisory Board, which was distributed to the board members at their April 8th meeting. In the memo staff provided information about the project, and a copy of the project description in the master plan. A number of comments were provided by the Parks and Recreation Advisory Board. Staff prepared a response memo, and asked for follow-up comments by April 23rd. No subsequent comments were received from the board members. The comments received and corresponding staff responses are summarized below:

1. No affect on the number of parking spaces or restrict the movement of vehicles within the parking lot.

Response: Staff recognizes the importance of maintaining the existing number of parking spaces and not affecting the movement of vehicles in the parking lot. A circulation plan that eliminates two-way vehicular conflicts will be an important element of the re-design of the parking lot. The parking lot is currently stripped for one-way traffic, however, due to the width of the drive aisles vehicles routinely travel in both directions. By narrowing the visual field of view through reducing drive aisle width and adding directional signage, it will be possible to improve circulation, potentially add parking spaces, and incorporate vegetated swales for stormwater management.

2. No affect on pedestrian movement in the parking lot.

Response: The re-design of the parking lot will provide a safe and efficient layout for pedestrians, enhancing pedestrian circulation. The swales would include foot paths or other techniques (i.e. stepping stones) for safely crossing them.

3. No tree removal within the parking lot islands.

Response: It is the intent of staff to preserve the existing trees in the parking lot. The vegetated swales will be located within the reconfigured parking lot, and will not displace any of the existing trees. We will be adding landscaping in the swales that will improve the aesthetics of the parking lot.

Staff will continue to work with the Parks and Recreation Advisory Board on the future design of the project.

2. Project: LID3 – SW Camelot Green Street – Mid-Block Curb Extensions (20)

Interested Party: Park at Merryfield HOA

Input: Staff sent an e-mail to Bryan Smith, president of the Park at Merryfield HOA. In the e-mail staff provided information about the project, and a copy of the project description in the master plan. Staff received a positive response about the project from the HOA board members. It was also discussed at the February HOA meeting, and received a positive response from residents of the neighborhood. Staff will continue to work with Park at Merryfield HOA on the future design of the project.

**3. Project: LID5 – Wood Middle School Parking Lot – Multiple Strategies
LID6 – Boones Ferry Primary School Parking Lot – Green Gutters and
Pervious Paving**

Interested Party: West Linn-Wilsonville School District

Input: Staff sent an e-mail to Tim Woodley, Director of Operations for the West Linn-Wilsonville School District. In the e-mail staff provided information about the project, and a copy of the project description in the master plan. The School District did not have any objections to the project, other than landscape care is a growing concern for the School District. Staff will continue to work with the School District on the future design of the project.

4. Project: LID8 – SW French Prairie Green Street – Multiple Concepts

Interested Party: Charbonneau Country Club

Input: Staff sent an e-mail to Susie Stevens, Executive Director of the Charbonneau Country Club. In the e-mail staff provided information about the project, and a copy of the project description in the master plan. Susie forwarded the e-mail to the board members, and only received comments back from Steve Perry. His comments included potential impacts to the landscaper vehicles that park along French Prairie Road, a concern about any signage due to the new pathway, and the possibility of adding turn lanes because the road would be reduced to one travel lane in each direction. Susie mentioned the project would benefit the on-going problem with pedestrians in the street, which has been an issue for decades.

Staff is scheduled to give a short presentation about the project at the May 11th board meeting. Any comments received from board members and responses provided by staff will be shared with the City Council.

Primary Rationale for Ranking Capital Improvement Projects

Introduction:

Staff has revisited the prioritization of the capital improvement projects, and identified the primary rationale for ranking them in the proposed order, such as site issues, regulatory compliance, and other factors (e.g. studies).

Although each project is listed under one category, such as site issues, there is overlap between the categories. Therefore, the categories could be used interchangeably in regards to a specific project.

Description of Rationales:

1. **Site Issues:** The projects address an existing problem, such as flooding, a facility failure, or a water quality problem (e.g. erosion). Flooding was identified as significant or a nuisance. These projects are necessary to correct on-going problems and will be combined with other capital projects (e.g. street improvements), if feasible, to achieve cost efficiencies.
2. **Regulatory Compliance:** The City's National Pollutant Discharge Elimination System (NPDES) permit, Temperature TMDL plan, and elements of Metro's Title 13 factor into placing projects in this category. The City's NPDES permit will be renewed in the next few months. It will include specific references to implementing Low Impact Development, developing a retrofit strategy to improve water quality, and mitigating the impacts of stormwater runoff on receiving water bodies, such as local streams or the Willamette River. Projects that provide additional shading of streams as required by the City's Temperature TMDL plan dovetails with the stormwater management objectives of the master plan. The proposed Low Impact Development projects address Metro's habitat-friendly development practices identified in Title 13.
3. **Other Factors:** This category includes projects that provide information for improving stormwater management (e.g. flow monitoring/modeling, channel surveys, etc.), projects currently being constructed (i.e. Boones Ferry Road), and projects related to future growth (e.g. regional detention, master plan update, etc.).

Primary Rationale for Ranking Capital Improvement Projects					
Site Issues		Regulatory Compliance		Other Factors	
Project ID	Description	Project ID	Description	Project ID	Description
Short-Term Projects - Implementation in 0 to 5 years					
BC-7	Realignment of Boeckman Creek/Reconstruction of Channel at Wilsonville Road	BC-4	Major drainage to Boeckman Creek at Gesellschaft Well	WD-3	Boones Ferry Road Pipe Project
CLC-3	Channel Project - Commerce Circle	ST-5	Low Impact Development Design Standards and Implementatin Guide	ST-3	Survey of Open Channel Conveyance
BC-8	Canyon Creek Estates (Colvin Lane)	Partnership Fund	Low Impact Development Partnership Fund (funding split evenly between 0-5 and 5-10)	ST-8	Install Two Permanent Stormwater Flow Monitoring Stations and Two Rain Gauges
CLC-9	Jobsey Lane Culverts	BC-5	Bubbler Outfall in Boeckman Creek	ST-9	Purchase InfoSWMM Model
CLC-2	Stream Restoration at SW Parkway Avenue and I-5	LID-1	Memorial Park Parking Lot - Vegetated Swales (3)	CLC-11	Tooze Road Pipe Project
SD4208 & SD4209	Barber Street - Western End	BC-10	Stream and Wetland Enhancement at Memorial Park		
BC-9	Memorial Drive to Memorial Park Pathway Storm Drain	LID-2	SW Hillman Green Street - Stormwater Curb Extensions		
		LID-3	SW Camelot Green Street- Mid Block Curb Extensions (20 extensions)		
		LID-7	SW Wilsonville Road - Stormwater Planters Between Trees		

Primary Rationale for Ranking Capital Improvement Projects

Site Issues		Regulatory Compliance		Other Factors	
Project ID	Description	Project ID	Description	Project ID	Description
Mid-Term Projects - Implementation in 5 to 10 years					
SD3420 - SD3427	Town Center Loop West	BC-3	Detention Pipe at Cascade Loop II	ST-6	Charbonneau Infrastructure Replacement Study
SD4021 & SD4022	Boberg Road Culvert	CLC-7	Stream Restoration - South Tributary to Coffee Lake Creek	CLC-1	Detention/Wetland Facility near Tributary to Basalt Creek
WD-2	Rose Lane Culvert	BC-2	5 Outfalls in Boeckman Creek	ST-1	Study to analyze area north of Elligsen Road/East of I-5
SD5707, 5709, 5714, 5719	SW Parkway from Wilson Street to Outfall	CLC-4	Wetland Restoration Project West of I-5 - North of Ridder Road	ST-7	Boeckman Creek at Boeckman Road Stormwater Study
SD9052, 9053, 9059, 9061-9069	NW Charbonneau - Curry Drive and French Prairie Road	LID-5	Wood Middle School Parking Lot - Multiple Strategies	ST-2	Advance Road School Site - East of Stafford Road
SD9038, 9045, 9046, 9054-9058	NW Charbonneau - French Prairie Road - West of Boones Bend	LID-6	Boones Ferry Primary School Parking Lot - Green Gutters and Pervious Paving	ST-4	Master Plan and Model Update
SD9039, 9044, 9047, 9051	NW Charbonneau - Boones Bend	CLC-6	Wetland Enlargement - East of SW Parkway Avenue		
		CLC-8	Coffee Lake Creek Restoration		

Primary Rationale for Ranking Capital Improvement Projects

Site Issues		Regulatory Compliance		Other Factors	
Project ID	Description	Project ID	Description	Project ID	Description
Long-Term Projects - Implementation in 10 to 20 years					
SD4025-SD4028	Boberg Road from Stream Crossing to Boeckman Road	BC-6	Detention Pipes Upstream of Outfall Projects		
SD9000-9012	S Charbonneau - Miley Road	BC-1	Regional Stormwater Detention/Stream Enhancement - North of Wiedeman Road		
SD9030-9037	NE Charbonneau - Edgewater Drive E and French Prairie Road	CLC-5	Stream and Riparian Enhancement - I-5 to SW 95th Avenue		
SD9013-9021, 9060	NE Charbonneau - French Prairie Road	LID-4	SW Costa Circle - Vegetated Swale and Stormwater Curb Extension		
SD9022-9029	NE Charbonneau - Old Farm Road	LID-8	SW French Prairie Green Street - Multiple Concepts		
WD-1	Montgomery Way Culvert				

King, Sandy

From: Cosgrove, Bryan
Sent: Tuesday, December 20, 2011 10:25 AM
To: celianunez01@gmail.com; Mayor Tim Knapp; richardgoddard2010@gmail.com; scottstarr97070@gmail.com; Steven.j.hurst@gmail.com
Subject: follow up

All,

Just a reminder to please forward any comments, questions, or concerns related to the policies outlined in the draft storm water master plan on or before January 4, 2012. I will assemble the questions/concerns and staff will provide written responses that will be distributed to the full Council the following week. It might be helpful to do a side-by-side comparison of the old policies. I will have Kerry provide an electronic version of the proposed policies, and a PDF version of the existing policies via email.

503.570.1504 (work)
cosgrove@ci.wilsonville.or.us
29799 SW Town Center Loop
Wilsonville, Oregon 97070

DISCLOSURE NOTICE: Messages to and from this E-mail address may be subject to the Oregon Public Records Law.

If you tell the truth you don't have to remember anything. ~Mark Twain

Charbonneau country club

32000 S.W. Charbonneau Drive • Wilsonville, OR 97070
Phone 503-694-2300 • Fax 503-694-5783 • Email ccc@teleport.com

December 14, 2011

To: Wilsonville City Council

From: Charbonneau Country Club Board of Directors

Re: The Stormwater Master Plan-Proposed SW French Prairie 'Green Street'

Dear Mayor Knapp, Council President Nunez, and Councilors Goddard, Hurst and Starr:

We understand that a revision of the 2001 Stormwater Master Plan will be discussed at the City Council meeting on December 19th. Further, we believe the revised Plan contains a proposal for French Prairie Road in Charbonneau to convert what is now a street with two lanes each way and a center divider strip with trees and shrubs into one travel lane in each direction, using the extra space for stormwater swales and a bike/pedestrian/golf cart pathway. This proposal was presented to the Charbonneau Board of Directors in May 2010

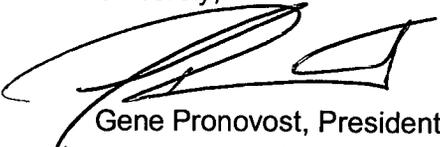
The Board has again considered this proposal in light of the forthcoming meeting and wants to convey our opposition to the concept for the following reasons:

- During daylight hours French Prairie Road frequently has several landscape contractors working from the Road every day, given that each of 12 homeowner associations and the Country Club engage their own landscapers. Though proper warning signs are used, trucks frequently block the nearside lane on either side.
- In the fall, for several months there are many contractors involved in leaf removal, a huge operation given the three lines of oak trees all around French Prairie Road.
- Added to the above are garbage trucks, utility service trucks and bicycles all using at least one lane on either side.
- Tualatin Valley Fire & Rescue vehicles are frequent visitors to Charbonneau, particularly to Spring Ridge. In 2009, TVFR had 320 calls from Charbonneau, 290 of which were medical emergencies. Rapid access for emergency vehicles is particularly important to this community.
- French Prairie, with its oak tree canopy, is already one of the most 'green' streets in the City.
- In a time of austerity we think that this project is one that can be cut from the City budget.

In summary, Charbonneau residents are opposed to a reduction in the number of lanes on French Prairie Road.

Thank you for your consideration of this matter.

Sincerely,


Gene Pronovost, President
Charbonneau Country Club

Rec'd 12/19/11

December 19, 2011

Rec'd 12/19/11

Good evening Mayor and Councilors

My name is Alan Kirk, 7926 S W Edgewater E, Wilsonville, Oregon, and also representing Orepac Building Products, 30170 S W Orepac Ave, Wilsonville, Oregon.

I am here this evening to testify in opposition to the proposed Stormwater master plan. This plan adds excessive costs and multiple new regulations to citizens and businesses of Wilsonville

I have taken the liberty to provide you with copies of pages from the plan that I would like to address, so that you do not have to flip through the plan. I have numbered the pages in the lower, right hand corner, for reference

1 – The current, 20-year stormwater master plan, was adopted just 10 years ago, in June of 2001. Has there been an “independent” vetting of the projects listed to be sure which ones are truly a result of new requirements, as well as, are there other ways to meet those requirements. And what is the “state of Wilsonville’s stormwater system” – I would predict that an independent assessment would rate it as excellent – thus, why do we need such a massive and costly plan, especially in this economy

2 - \$35,822,186 is the cost of the projects, with \$12,832,926 in “unfunded projects” – just what does that mean? Unfunded? Means that the cost was not included in the proposed new rates, but for how long?

As Mr. Rappold testified 2 weeks ago, the current plan was for around \$10,000,000

3 – public process – when you read the recap, there were a number of opportunities for involvement, but if my memory serves me right, the “financial portion” of the plan was always “not yet ready”

Just how good was the public outreach, if no testimony was received from the public at the planning commission meeting on a master plan of \$35,822,186

4 – lists 4 areas where flooding could happen – I drive 3 of those areas all the time and I have never seen flooding, except for one corner on French Prairie, where the

two drains get plugged from leaves, which is resolved with a rake, which I have done from time to time. Have any of you seen flooding at these 4 areas?

5 – recap of timing of the \$35,822,186 in projects

6 – financial analysis – current rate of \$3.52 per ERU with 8 increases presented up to \$9.54 per ERU equating to a multiplier of 2.71 almost triple the current rate

7 - Current SDC rate of \$492 per ERU, with one increase up to \$1,356 equating to a multiplier of 2.84, almost triple the current rate

I would hope that you would agree, especially in this economy, that the citizens and businesses of Wilsonville cannot afford these increases

8-16 8 + pages of new policies and recommendations – way too many new regulations, and costly for users to achieve

Examples of projects that could be entirely removed, or scope greatly reduced

17 733,590 no current problem

18 497,405 no current problem

19 810,109 what are other, less costly, options

20 2,419,380 way too costly a solution

21 5,446,350 ++++ hard to comprehend this kind of cost/benefit

22 490,286 no need – private property

23 496,114 no current problem

24 486,877 no current problem, a current enhancement just completed
(Private funds)

25 – 33 6,379,610 of low impact development projects

33 4,587,000 for turning one of the most “green” streets in Wilsonville, into

34 almost triple rates

35 almost triple SDC's

36 reject the plan – tell staff you want a “modest” refinement of the existing plan, only for those projects that are vetted by an independent group, and are required to be done, prioritize them, with a MAXIMUM budget of no more than \$10,000,000

Mr. Rappold, in his testimony 2 weeks ago, showed you many pictures of recent improvements to the storm water system. Most of those improvements were privately funded.

Some examples in just 2011:

- Fred Meyer development
- Tom Stern warehouses on Wilsonville Road
- Thunderbird development
- New office building South of Albertsons

Thank you for listening to me

Do you have any questions at this time

SUMMARY:

Over the course of the past three years, the Planning Commission and City Council have conducted a variety of public involvement activities including hosting two public open houses (October 2008 and May 2009), conducting work sessions and receiving numerous updates from Staff on the development of the Stormwater Master Plan. Chapter 5 of the Master Plan provides a detailed overview of the public process that has been conducted leading to the December 5, 2011 public hearing before the City Council.

The previous Stormwater Master Plan was adopted in June 2001. Although only ten years have passed since its adoption, there have been a number of changes in stormwater management requirements and objectives, as well as, a number of opportunities staff has had to reassess the need for some of the projects identified in the Capital Improvement Program.

This document, once adopted, will replace the 2001 Stormwater Master Plan in its entirety, and will be considered a sub-element of the City's Comprehensive Plan. Chapter 2 contains new recommended stormwater policies that address Low Impact Development, water quantity control, water quality treatment and riparian and wildlife habitat, and source control.

Project Phases:

The development of the Stormwater Master Plan was divided into three phases, which addressed federal, state and regional requirements integrated into the Master Plan. Phase 1 entailed the development of Total Maximum Daily Load (TMDLs) implementation plans, required by the Oregon Department of Environmental Quality (DEQ). These plans provide guidance for the management of mercury, bacteria and temperature, and augment the City's existing National Pollution Discharge Elimination System (NPDES) Stormwater Management Plan. Plans were submitted to DEQ in March 2008, and have been approved.

Phase 2 involved developing recommendations regarding habitat-friendly development practices for stormwater management consistent with Metro's Title 13 (Nature in Neighborhoods) program. These recommendations were combined with other programmatic components, such as mapping and code development, to achieve compliance with Title 13. Metro's Title 13 program identifies a list of design and construction practices to minimize hydrologic impacts through Low Impact Development (i.e., nature-friendly development practices). After a lengthy review and public process, the Planning Commission reviewed and forwarded a recommendation of approval to the City Council. The City Council adopted the Title 13 package in November 2009.

Phase 3 involved reviewing, updating and revising elements of the existing Stormwater Master Plan, such as basin and land use analysis; stormwater modeling; goals, policies and implementation measures related to stormwater management; Capital Improvement Program (CIP); and financial analysis and plan. Phases 1 and 2 informed the development of the various tasks in Phase 3.

Low Impact Development:

Low Impact Development principles were explored in the development of the Master Plan. The primary stormwater management objective for Low Impact Development is to match pre-development hydrologic conditions over the full range of rainfall intensities and durations to mimic the natural system. Villebois includes a number of Low Impact Development principles and techniques, including bio-retention cells and permeable pavers. Staff will be revising the Public Works Standards to recognize the use of Low Impact Development techniques for stormwater management, subject to approval by the City Council.

Over the last few years, Washington County, Clackamas County and most municipalities have amended elements of their Comprehensive Plans and Development Codes to support and encourage Low Impact Development. These efforts have been completed as part of local compliance with Metro's Title 13 requirements.

Key Provisions of the Stormwater Master Plan include:

- Water Quantity Analysis
- Evaluate Water Quality of Stormwater Runoff
- Develop a Capital Improvement Program to include Low Impact Development (LID), detention, pipe system, restoration, outfalls, spill control
- Incorporate LID, Title 13, temperature Total Maximum Daily Load (TMDL)
- Stormwater Policy Recommendations
- Financial Analysis

Stormwater Master Plan:

The following sections provide a summary of the contents of the Master Plan.

Executive Summary and Chapters 1-2:

The executive summary provides a synopsis of the Master Plan, and includes background, modeling and analysis results, and a list of prioritized capital improvement projects totaling nearly \$23M, with just under \$3M in short-term projects, \$11M in mid-term projects, \$9M in long-term projects, and nearly \$13M in unfunded projects. The unfunded projects were identified to be a low priority and require additional information and study prior to incorporation in the funded CIP. Recommended capital

2

PUBLIC PROCESS:

Staff conducted an extensive review and discussion of the Stormwater Master Plan with the Planning Commission and the City Council. In addition, two open houses were held with the public.

Planning Commission:

The Planning Commission conducted an extensive review of the proposed Stormwater Master Plan. Work sessions were held at the Planning Commission on June 11 and July 9, 2008; and April 8, May 13, June 10 and October 14, 2009 to allow feedback from the commissioners.

Two open houses for the Stormwater Master Plan were held on October 16, 2008 and May 27, 2009, and provided the public an opportunity to comment on the various elements of the Master Plan.

~~A public hearing was conducted before the Planning Commission on January 13, 2010. No testimony was received from the public, and the Planning Commission approved the Stormwater Master Plan without any revisions.~~

City Council:

~~Over the past three years, the City Council has reviewed and discussed the Stormwater Master Plan at nine work sessions. At these work sessions, staff received input on the proposed policies, capital improvement program, financial analysis and rate structure, and public involvement opportunities. Revisions have been made to the Master Plan to address input from the City Council.~~

Since the adoption of the Stormwater Master Plan by the Planning Commission, the most significant revision to the document involved changes to the capital improvement program. Those changes included the following:

1. Created an unfunded category of capital improvement projects;
2. Eliminated the proposed Partnership Fund at the request of the City Council;
3. Eliminated the Boones Ferry Road Pipe project because the construction was completed during the review of the Stormwater Master Plan;
4. Eliminated the Tooze Road Pipe project because the Villebois school site was relocated;
5. Added two new projects, including the Rivergreen Repair (WD-3, short-term) and Future Project Development and Implementation (short-term and mid-term); and
6. Overall, the changes have reduced the total funded CIP from \$37M to nearly \$23M.

Results of the existing condition simulations were compared with problem areas identified by City staff associated with flooding and drainage issues. Based on model results, four general areas were predicted to experience flooding. These areas include:

- Commerce Circle – A business park development in the northwestern area of the City, predicted to overtop its banks and flood nodes (a point connecting two or more linear segments) along the channel, beginning at the 2-year, 24-hour storm event, at the northwest boundary of the Commerce Circle business development.
- SW Boberg Road north of SW Barber Street – The section of pipe along Boberg Road running south to the south tributary of Coffee Lake Creek is predicted to flood, beginning at the 2-year, 24-hour storm event.
- Hillman Court and 95th Avenue – Flooding was identified along SW 95th Avenue, just north of SW Freeman Road to SW Hillman Road, beginning at the 2-year, 24-hour storm event.
- Charbonneau District – The Charbonneau District is an older development (approximately 40 years old) with some portions of the District on the south side of the Willamette River. Flooding along the northern portion of SW French Prairie Road is predicted to begin at the 2-year, 24-hour storm event.

LOW IMPACT DEVELOPMENT MODELING

Model simulations were conducted to determine the potential benefits of reducing stormwater runoff through implementation of Low Impact Development projects. Low Impact Development was modeled using two methods; one method that provides a site specific analysis but is time consuming to implement, the other provides a broader, more generalized analysis. A scenario for each analysis assumed 10- and 25-percent of Low Impact Development implementation (i.e., 10- and 25-percent of total land area is treated by Low Impact Development practices). Results for both methods show that 25-percent implementation of Low Impact Development provides significantly more flow-reduction benefits than 10-percent implementation. Benefits are also more pronounced for land use associated with higher percentages of impervious areas, such as commercial versus residential. Due to limited flow reduction during the 25-year storm, Low Impact Development implementation will not reduce pipe sizes for future storm drainage flows. However, benefits will be realized in reduction of stormwater runoff for typical annual flows and pollutant load reduction due to minimizing these flows.

WATER QUALITY ANALYSIS

Stormwater quality pollutants in the City include those typical of urban stormwater runoff such as bacteria, heavy metals, oil & grease, sediments, nutrients, and temperature. Recently, attention has been given to toxics (such as pesticides) and chemicals/contaminants of emerging concern such as pharmaceuticals. The sources of these pollutants are varied; some sources are human caused, and require action by

increasing habitat for wildlife, implementing projects with cost efficiency, and combining projects in the CIP with other projects (such as transportation projects). Projects were identified based on model results, City identified problem areas, and locations with good potential for water quality improvements and natural resource enhancements. These and other benefits were used for the prioritization of the list of projects in the CIP. Efforts were made to develop projects and choose locations that provided multiple benefits. The use of Low Impact Development practices is one method that meets multiple objectives for the City, including stormwater flow control, surface water quality enhancement, landscaping, and groundwater recharge, and provides for an integrated method of achieving the City's stormwater management goals.

PROJECT SELECTION AND PRIORITIZATION FOR THE CAPITAL IMPROVEMENT PROGRAM

Based on recommended projects, the CIP was developed to meet the goals and objectives identified by the City for this Master Plan. Recommended projects include detention, pipe upgrades and improvements, outfall rehabilitation, flood control, stream and wetland restoration, and Low Impact Development projects.

The projects in the CIP are sorted into three categories to meet the City's current and future needs: short-term, mid-term, and long-term. Short-term projects are scheduled to be implemented within 5 years; mid-term projects in 5 to 10 years, and long-term projects in 10 to 20 years. One additional category of unfunded projects has been included. These projects were identified to be a low priority and require additional information and study prior to incorporation into the funded CIP.

The prioritization process involved evaluating each project against significance criteria identified by the City to determine the importance and urgency of each project. A numerical value from 0 to 5, or 0 to 10 for selected benefits, was established for each project, based on the value of the benefit; the short-term projects are those with the highest total numerical value. Prioritization criteria fall into the following four categories:

- Site Issues
- Compliance
- Cost Efficiency
- Other (Livability)

Estimated total costs for all projects within the sets of short-, mid-, and long-term priority categories as well as unfunded projects are as follows:

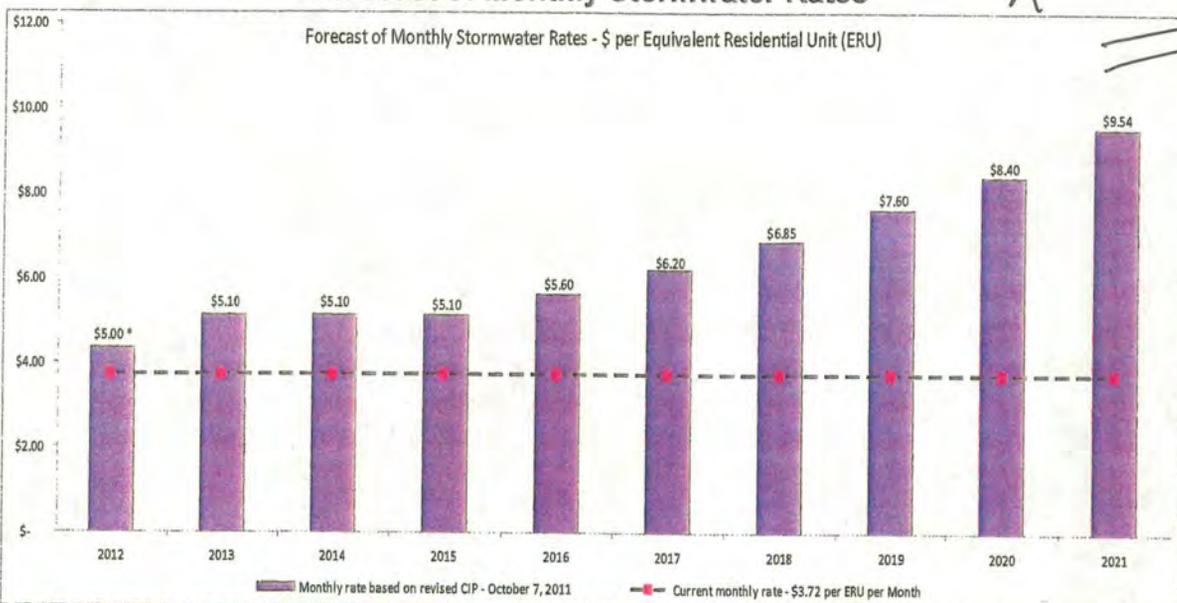
Short-term projects:	\$2,771,697
Mid-term projects:	\$10,129,961
Long-term projects:	\$10,087,602
Subtotal:	\$22,989,260
Unfunded projects:	\$12,832,926
Total:	\$ 35,822,186

FINANCIAL ANALYSIS

The financial study addresses the revenues required from stormwater fees and system development charges (SDC) to support the construction, operation and maintenance of the City's stormwater system. A key work product in this analysis has been development of a financial model for future use by City Staff. This model - constructed with input from City Staff - is the tool for quantifying the rate and SDC impacts of the capital, operations and maintenance programs under consideration by the City through the current master planning process. Historical and current budget data figures were obtained from the City and provide the foundation for the model framework and for developing forecasts. In addition, capital facilities identified in this Master Plan have been summarized in the model and are fully funded via the rate and SDC analyses contained in this report. Based on these factors, the rate analysis resulted in the following profile of percentage changes in the rate per equivalent residential unit (ERU) required to fund the utility and costs identified in this Master Plan:

Figure ES-2
Forecast of Monthly Stormwater Rates

X 2.71



While the City's current rate of \$3.72 per ERU provides the rate revenue necessary to fund the current program, the results of the master planning have identified significant capital requirements of \$23 million over the 20-year planning period. Coupled with these capital expenses are the increased operating costs related to maintaining these new facilities and costs related to additional and more stringent regulatory requirements. The combination of these factors results in the rate forecast shown in Figure ES-2. This forecast assumes the City will also use available resources within its Stormwater SDC and Operating Funds to support immediate capital needs and issue revenue bonds to pay for future stormwater capital needs. These projections and specifically the rate effects related to capital funding are also based on increasing the City's current

Executive Summary

Stormwater SDC of \$492 per ERU to \$1,356 per ERU. The proposed SDC is shown in Table ES-2.

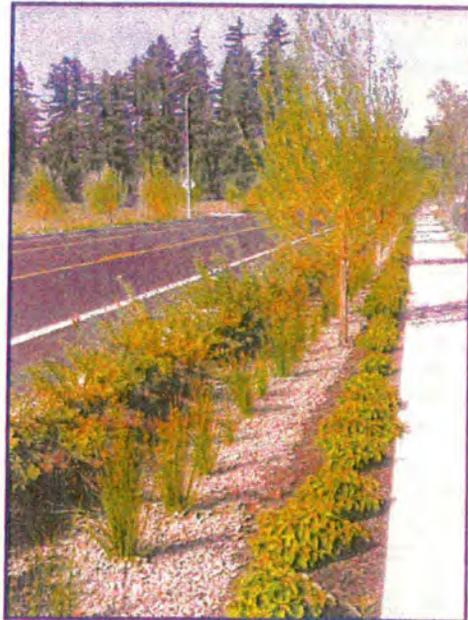
**Table ES-2
Proposed Stormwater SDC**

City of Wilsonville Stormwater - System Development Charge Analysis Summary of Fee Components		
Reimbursement fee		¢\$480
Improvement fee:		
Water quantity	827	
Water quality	49	
Total improvement fee	<u>876</u>	<u>876</u>
Total System Development Fee		<u>\$1,356</u>

X 2. 83

2.4 RECOMMENDED NEW POLICIES

As described in Section 2.1, new regulations and requirements for water quality, water quantity, and habitat have resulted in a need for additional policies to implement a fully integrated stormwater program in the City. The policy recommendations provided in this section were developed through discussions with City staff to identify existing issues that need to be addressed and new issues that have arisen out of regulatory requirements.



2.4.1 Low Impact Development

Low Impact Development techniques are an effective, integrated approach to stormwater treatment because they emphasize the mimicking of natural systems through infiltration, vegetative uptake, and extensions of flow paths, which provide opportunities for multiple benefits including aesthetics and wildlife habitat. Due to the nature of these treatment processes, there are limitations to Low Impact Development and these techniques will not be appropriate in every development. Potential limitations to implementing Low Impact Development techniques include:

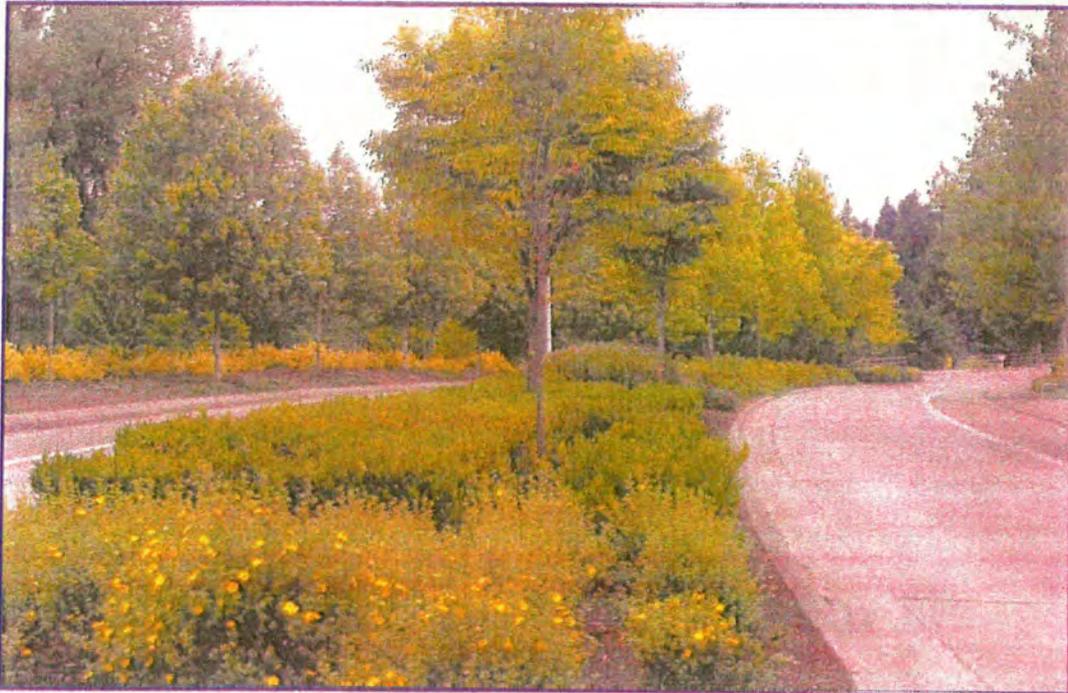
- site conditions, such as soils with inadequate infiltration capacity;
- insufficient space;
- topography;
- high ground water tables;
- location within a floodplain; and
- potential conflicts with Public Works Standards or other requirements.

The City believes that, in locations where they are appropriate, Low Impact Development techniques are the most effective means of meeting their water quality and quantity goals.

Policy LID-1: The City shall prioritize the implementation of Low Impact Development techniques and habitat-friendly development practices throughout the City for new development, redevelopment, and retrofitting existing development.

Implementation Measure LID-1a: The City shall create a list of approved Low Impact Development measures and implementation techniques to provide guidance to the development community for constructing Low Impact Development features on site. Objectives shall include elements of Metro's Title 13 approach and methods and other Low Impact Development techniques:

- Engineering and Design Approaches
 - Minimizing land disturbance for new development;
 - Locating impervious surfaces on poorly drained soils as much as possible;
 - Minimizing impervious surfaces;
 - Consider promoting shared driveways that connect two or more homes.
 - Reducing residential street width, with City approval.
 - Incorporating pervious materials, where feasible, particularly in parking and pedestrian areas;
 - Minimizing clearing and grading of sites;
 - Reducing parking requirements where bus or train service is available or developing shared parking arrangements; and
 - Using open channels for conveyance and treatment for street drainage;
- Landscaping Design
 - Minimizing soil compaction on new sites;
 - Requiring the use of soil amendments to improve the permeability of soils within landscaped areas;
 - Requiring the preservation and replacement of topsoil;
 - Maximizing the use of landscaping areas and traffic islands for stormwater treatment with rain gardens and filter strips.
- Stormwater Management Facility Design
 - Infiltrating stormwater on site for the water quality storm, where feasible;
 - Disconnecting impervious surfaces (minimizing effective impervious surfaces);
 - Integrating water quality and detention into natural features;
 - Mitigating impacts of impervious surfaces;
 - Encouraging all stormwater to be routed through vegetated areas prior to entering a storm drain;
- Building Design Solutions
 - Encourage the use of Green roofs (eco-roofs);
 - Disconnect downspouts where feasible as approved by the City's authorized representative;
 - Use rain barrel or cistern system; and
 - Encourage the use of a purple pipe system to reuse water.



Implementation Measure LID-1b: The City shall review and revise its Public Works Standards to prioritize the use of Low Impact Development practices prior to discharging stormwater into a conventional drainage system. The City's authorized representative shall review and approve Low Impact Development systems and verify their onsite use. Maintenance responsibilities shall be required for all owners of Low Impact Development improvements.

Implementation Measure LID-1c: The City shall incorporate Low Impact Development techniques into all new street and public works improvements as practicable.

Implementation Measure LID-1d: The City's Public Works Standards shall acknowledge the potential use of alternative paving materials. Clear and objective standards will be developed to provide guidance on when and how to use alternative paving materials. Alternatives may include pavers in parking stalls, for example.

Implementation Measure LID-1e: The City will amend its Public Works Standards to include exceptions or situational modifications to the existing standards that would allow for multi-function open drainage systems (including streets with curb cuts draining to a bioswale, rain garden, or other vegetated drainageway).

Policy LID-2: The City shall assist with implementation of Low Impact Development techniques as a water quality retrofit for existing development.

Implementation Measure LID-2a: The City shall develop incentives to encourage retrofits of Low Impact Development techniques in existing developments. Incentives may include partial funding of improvements, technical assistance, and reducing stormwater fees. Maintenance responsibilities shall be required for all owners of Low Impact Development improvements.

2.4.2 Water Quantity Control

The City's preferred method of managing stormwater runoff from new development and redevelopment is to limit runoff rates and maintain runoff volumes, as much as feasible, to those of predeveloped (refer to WQC-1d below) conditions and minimizing offsite impacts. New regulations by ODEQ require more stringent control of stormwater runoff. ODEQ regulations are implemented through the City's MS4 NPDES Permit that implements requirements of the CWA. The permit requires the City to manage, in part, the physical characteristics of stormwater, and the controls to limit the peak discharge rates and volume are in response to this requirement. The following policies address these proposed requirements and assist with encouraging the use of Low Impact Development.

Policy WQC-1: The City shall require new development and redevelopment to manage stormwater to match pre- and post-construction runoff rates and velocity, and to limit volume and increased duration of flow as much as feasible.

Implementation Measure WQC-1a: The City shall review and revise its Public Works Standards to require new development and redevelopment to manage stormwater onsite to match pre- and post-construction runoff rates and velocity for the 2-, 5-, 10-, and 25-year storm events and to limit volume and duration increases as much as feasible, or demonstrate why these limitations are not feasible. See WQC-1c for alternatives to on-site stormwater management.

Implementation Measure WQC-1b: The City shall revise its Public Works Standards to add the requirement to provide detention for runoff from a new or redevelopment onsite to a 50-year storm in the event there are existing problems or the potential for problems as a result of the proposed development. Existing problems may be the result of cumulative impacts of developments in the area, erosion, flooding, or other problems with the potential to negatively impact stormwater quality and quantity as identified by the City's authorized representative.

Implementation Measure WQC-1c: The City may allow new and redevelopment projects to either build a stormwater facility off-site or pay a fee in-lieu of onsite improvements when they are unable to meet the post-construction runoff requirements, as approved by the City's authorized representative.

Implementation Measure WQC-1d: The City shall review and revise its Public Works Standards to define pre-development as reflecting the historical

vegetation which existed in the different regions of the City prior to urban settlement.

Policy WQC-2: The City shall require all new development and redevelopment with new impervious areas greater than 5,000 square feet to manage their stormwater onsite, including using detention as necessary, as defined by the Public Works Standards.

Implementation Measure WQC-2a: The City shall review and revise its Public Works Standards to require detention of all areas within the City. The following may be exempt from detention requirements:

- Detention for properties or development draining directly to and within 300 feet of the Willamette River;
- Detention for properties or development draining directly to and within 300 feet of the Coffee Lake wetlands; or
- As determined by the City's authorized representative.

Implementation Measure WQC-2b: The City shall review and revise the Public Works Standards to disallow any transfer of stormwater to a different basin or subbasin from the natural site drainage. For existing out-of-basin transfers, new and redeveloped sites shall be encouraged to correct drainage to return to predevelopment drainage basins.

Policy WQC-3: The City of Wilsonville shall assure that all stormwater facilities receive adequate maintenance. This applies to both water quantity and water quality facilities.

Implementation Measures WQC-3a: Inspection and maintenance procedures and frequencies are described in the Public Works Standards and the City's NPDES Stormwater Management Plan.

2.4.3 Water Quality Treatment and Riparian and Wildlife Habitat

Water quality treatment for new impervious areas is required by the NPDES Phase I permit. Current City standards require a 70 percent reduction of total suspended solids (TSS) for new development and redevelopment within the City. Additional recommendations for water quality and riparian and habitat protection include:

Policy WQT-1: The City shall require the provision of effective water quality treatment for all new development and redevelopment and consider ease of maintenance. The overall, post-development water quality shall be equivalent to or better than the predevelopment water quality conditions.

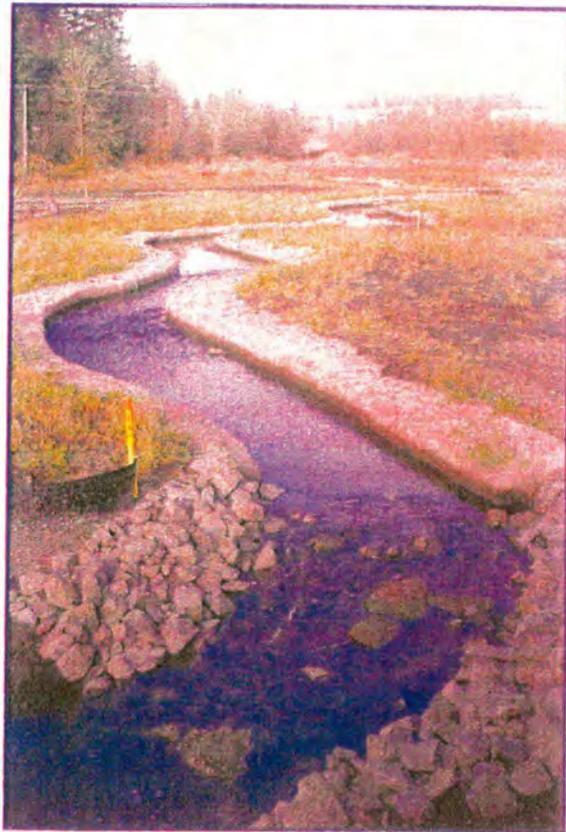
Implementation Measure WQT-1a: The City shall review and revise the Public Works Standards to strengthen water quality requirements as follows:

- The Public Works Standards are updated as necessary to implement evolving technology;
- Water quality treatment is required of all stormwater discharge resulting from the defined water quality storm before it leaves the site;
- Catch basins equipped with a down-turned elbow for control of oil and floatables are required on private property for all new development and redevelopment;
- All outfalls shall have an appropriately designed and constructed energy dissipation system to minimize downstream erosion and impacts to natural resources;
- Catch basins, area drains, and curb inlets shall include BMP Snout® or other approved system on all new public projects, reconstruction, or retrofits; and
- Unless there is an approved regional or sub-regional facility, the City has established a hierarchy of water quality facilities as follows:
 - Low Impact Development is the preferred option of onsite treatment;
 - Structural surface water quality facilities are the next preferred level of treatment;
 - A treatment train application (i.e., several Low Impact Development or structural surface water quality facilities (BMPs) inline); and
 - Underground treatment, such as buried precast settling tanks, is the least preferred form of treatment, and shall only be used when there are no other onsite alternatives.

Policy WQT-2: The City requires conservation of riparian areas, wetlands and streams consistent with the SROZ requirements.

Implementation Measure WQT-2a: The City shall continue to require that existing natural features, such as riparian, wetlands, and streams, be preserved and protected and, through public education, encourage enhancement and restoration of these resources. The City's authorized representative will review the plans to verify that disturbances to natural drainages are minimized.

Policy WQT-3: The City will rehabilitate outfalls identified in the Master Plan that are causing erosion.



Implementation Measure WQT-3a: The City shall evaluate and rehabilitate outfalls in Boeckman Creek to eliminate erosion with CIP funds dedicated for this purpose. Low Impact Development features and detention facilities will be constructed upstream to minimize flow to these outfalls.

Implementation Measure WQT-3b: The City will coordinate with private property owners and governmental agencies to evaluate and rehabilitate outfalls causing erosion outside of the City limits that are receiving water from within the City limits. Opportunities to provide Low Impact Development and additional detention measures will be analyzed and proposed for implementation within the City limits to reduce flows to these outfalls. The City may assist with the rehabilitation of these outfalls through technical assistance, partnership funding opportunities, or a combination of assistance and funding.

Policy WQT-4: The City will implement its TMDL Plan for temperature.

Implementation Measure WQT-4a: The City shall implement the TMDL Plan for temperature, which includes the following elements:

- Protect existing shade;
- Plant vegetation on public properties adjacent to streams for shade;
- Educate the public on benefits of shading streams and encourage planting on private properties;
- Evaluate ability to provide incentives for planting vegetation for shading purposes;
- Offer technical assistance for planting vegetation for shading purposes;
- Acquire training and write grants for tree planting projects;
- Encourage new developments to plant vegetation in buffer zones; and
- Seek partnership opportunities to assist with the funding of vegetation planting for shade on private properties.
- Encourage the use of pavement alternatives, such as concrete pavement instead of asphalt pavement to reduce thermal loading from roadway runoff.

Implementation Measure WQT-4b: The City of Wilsonville shall require shading of surface facilities in order to reduce water temperatures in new surface water facilities and encourage shading in existing facilities. The City shall not permit the use of unshaded, shallow (*less than 3 feet average depth*) surface water facilities where water would be ponded more than two days.

Implementation Measure WQT-4c: Within power line easements, trees and vegetation with shorter mature heights are required to avoid conflicts with power lines and power line maintenance. Other design features may be needed to shade ponded water in these areas.

Policy WQT-5: The City will improve habitat for fish and wildlife.

Implementation Measure WQT-5a: The City will develop incentives and public education materials to encourage the following:

- Use of native plants using the City of Portland's native plant list;
- Preservation and replacement of topsoil;
- Use of existing vegetation to serve as required landscaping;
- Restoration of stream corridors; and
- Educate the public about noxious and non-native invasive plant species.

Implementation Measure WQT-5b: The City shall update the fencing criteria to require wildlife-friendly design and installation of fencing to ensure safe and effective wildlife passage to wildlife corridors and away from roads for sites within the Significant Resource Overlay Zone.

2.4.4 Source Control

Stormwater management plans have been developed by the City to address pollution prevention as required by federal regulations for the NPDES Permit and the TMDL requirements. Prevention is the most effective and least expensive form of treatment. Policies that will assist the City with its source control efforts are listed below.

Policy SC-1: The City encourages reduction of pollutant sources to the maximum extent practicable (MEP). Water quality planning and implementation shall be consistent with the NPDES Phase I permit, the Willamette River TMDL, and the City's Sanitary Sewer requirements.

Implementation Measure SC-1a: The City shall develop a Stormwater Ordinance (City Code, Chapter 8) to address implementation of the Stormwater Program, including NPDES Phase I and TMDL requirements.

Implementation Measure SC-1b: The City shall, as part of its Stormwater Ordinance, specify source control strategies, including:

- Prohibit the discharge of chlorinated swimming pool water to a storm drain system;
- Use efficient irrigation systems, whether from city water system or private well, to minimize both water use and runoff potential of chlorinated water;
- Require spill protection plans or containment strategies for storage facilities or containers that have the ability to discharge pollutants into the storm drainage system, such as drums of oil and grease; and
- Continue to implement a public education program to inform businesses that the discharge of fats, oil, and grease (FOG) to the City's stormwater system is prohibited.

Implementation Measure SC-1c: On an annual basis, City staff will continue to monitor major storm sewer outfalls for compliance with water quality standards, as described in the City's NPDES Stormwater Management Plan.

Implementation Measure SC-1d: If monitoring detects noncompliance with water quality standards, staff will systematically begin sampling upstream in an

effort to identify the source of the illicit discharge. Enforcement procedures for the correction of an illicit discharge are performed under the legal authority of the Wilsonville Code, Section 6.202(1)(e).

Policy SC-2: The City of Wilsonville shall take steps to minimize erosion resulting from land use and development activities.

Implementation Measure SC-2a: The City shall continue to implement erosion control plan review, inspection, and enforcement as identified in the Public Works Standards.

REFERENCES:

City of Wilsonville MS4 NPDES Permit Renewal, September 2008.

SD4025 through SD4028 - Boberg Road Pipe Replacement

Project Location: Boberg Road from stream crossing to Boeckman Road

Existing Conditions: As mentioned in Section 6.6, the model predicted that the pipe network along Boberg Road north of Barber Street will flood during existing and future conditions. This is most likely due to the South Tributary to Coffee Lake Creek channel, which receives discharge from the pipe network.

Proposed Solution: The City plans to make future surface improvements to Boberg Road, and it is recommended that the pipe sections also be replaced with a more durable material in conjunction with road improvements. It is recommended that the three segments SD4025, SD4026, and SD4027 be upsized from 21-inch diameter pipe to 24-inch diameter pipe, and for the most upstream section, SD4028, to remain the same size at 18-inches in diameter.

Project Benefits: Alleviate flooding, improve durability of pipe

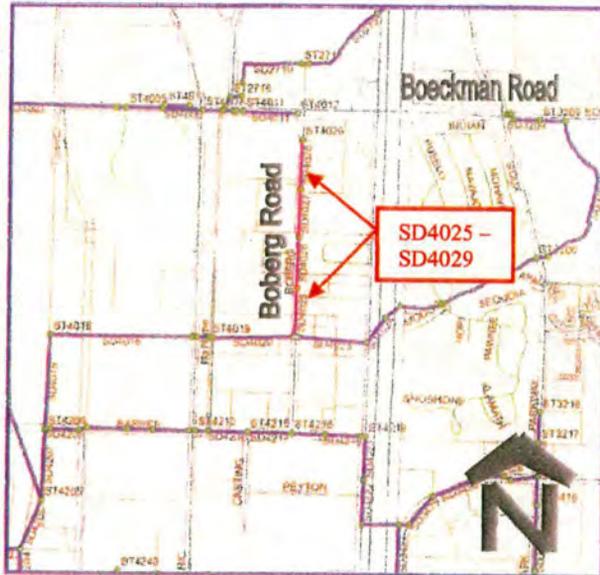
Cost estimate: \$733,590

Flow Comparison at Project Location:

Storm Event	Existing Condition Flow Rate (cfs)	Future Condition Flow Rate (cfs)
2-year	9.4	11.9
10-year	13.4	12.8
25-year ¹	8.30	12.5



Aerial view of Project SD4025 - 4028



Map view of Project SD4025 - 4028

¹ The model predicts 25-year flow within these pipes as less than the 2- and 10-year events because the downstream channel is shown to be overcapacity in the model, restricting flow from upstream conduits for the 25-year. This also applies to the future condition for the 10-year flow. This is most likely attributed to discrepancies in the geometry of the actual channel compared to the model input (See ST-3).

SD5707, SD5709, SD5714, and SD5719 - SW Parkway Pipes Replacement

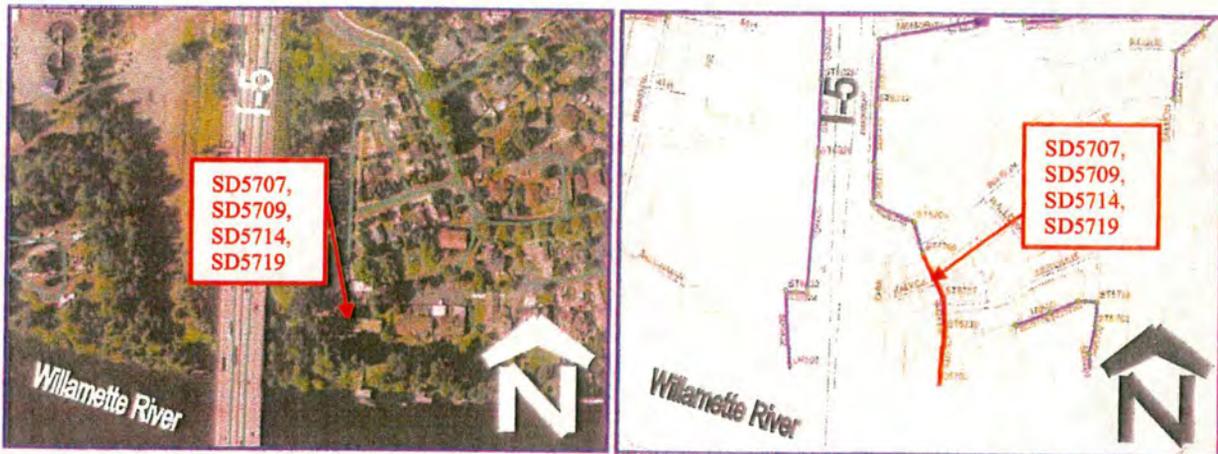
Project Location: SW Parkway from Wilson Street to Willamette River outfall

Existing Conditions: A pipe network runs along SW Parkway Avenue, with the main line beginning south of Memorial Drive and draining approximately 50 acres before discharging into the Willamette River. The pipe network begins with 48-inch diameter pipe, and tapers to 15 inches at the outfall, running very close to the foundation of at least two structures. Although steep slopes allow for smaller pipes, it is common practice to maintain the pipe size, and not decrease pipe diameters downstream. The model predicted flooding upstream of the pipe network during future and existing conditions, which would be addressed by implementing this CIP project.

Proposed Solution: There are several options for implementing this project, which include replacing pipe segments SD5707, SD5709, SD5714, and SD5719 with 48-inch diameter pipe, installing a parallel pipe to split flows, or a combination of both; or installing a detention pipe on Parkway Avenue

Project Benefits: Alleviate flooding

Cost estimate: \$497,405



Aerial view of Project SD5707, SD5709, SD5714 & SD5719

Map view of Project SD5707, SD5709, SD5714 & SD5719

BC-3 - Cascade Loop Detention Pipe Installation

Project Location: Cascade Loop II

Existing Conditions: An estimated 30 acres discharge to Boeckman Creek Canyon via the Gesellschaft Outfall, causing erosion in the canyon and its drainages.

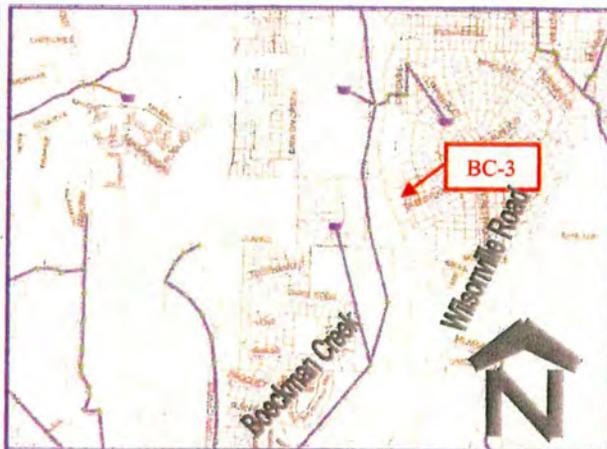
Proposed Solution: A detention pipe is proposed for installation in the right-of-way along Cascade Loop to reduce downstream flows. This project is expected to reduce erosion at the outfall by reducing velocities and peak flows from the 2-year through 25-year storm events.

Project Benefits: Reduce flooding, reduce erosion

Cost Estimate: \$810,109



Aerial view of Project BC-3



Map view of Project BC-3

BC-6 - Multiple Detention Pipe Installation

Project Location: Upstream of Outfall Projects identified in Project BC-2

Existing Conditions: Steep slopes and increasing discharges due to paving of areas draining to Boeckman Creek have resulted in severe erosion in several locations along the creek.

Proposed Solution: Install detention pipes upstream of four of the outfalls to be rehabilitated as part of CIP project BC-2. These projects are expected to reduce velocities and peak flows from the 2-year through 25-year storm events, preventing erosion near the rehabilitated outfalls. Refer to the graphic on page 8-11 for approximate locations of the detention pipes. The proposed locations and associated costs are as follows:

Project Location	Approximate Drainage Area Served	Cost Estimate
Cascade Loop I – northern portion of Cascade Loop	10.5 acres	\$325,295
Vlahos Court	15.0 acres	\$463,945
Meadows Loop	18.7 acres	\$577,708
Bridgecreek Apartments	25.6 acres	\$1,052,432

Project Benefits: Reduce erosion, enhance water quality

Cost Estimate: \$2,419,380

BC-1 – Wiedeman Road Regional Stormwater Detention/Stream Enhancement

Project Location: Within and adjacent to the Wiedeman Road right-of-way west of Canyon Creek Road and east of Parkway Avenue, along the western side of the Sysco facility.

Existing Conditions: The northern portion of the stream is a straightened, incised channel that flows due south along the western side of the Sysco facility. Just north of the Wiedeman Road right-of-way, the stream flows into a culvert under the right-of-way, and the channel turns due east, still within a straightened, incised channel.

Proposed Solution: Throughout, the channel will be widened and the banks sloped back, and to the extent that the private property can be used, the north-south channel will be realigned to form a meander path. Terraces will be created along the channel. Trees, shrubs, and herbaceous plants will be planted to improve water quality within the channel, to provide diverse habitat, and to create shade. This site may include a regional stormwater detention feature, with detention volumes to be determined by the City.

Project Benefits: Water quality; temperature TMDL; habitat restoration; flood control

Potential Constraints: The property on the west side of the north-south reach of the ditch is privately owned, and the area immediately east of the north-south reach is developed and offers limited space. If the regional detention facility is included in the project, regulatory agency permits would be required. A portion of the project may be located under the BPA power lines.

Cost Estimate: \$5,446,350



Aerial view of Project BC-1



Looking west at the potential site of a stormwater detention pond

CLC-6 – Coffee Lake Creek South Tributary Wetland Enlargement

Project Location: East of SW Parkway Avenue and north of SW Maxine Lane on the South Tributary to Coffee Lake Creek.

Existing Conditions: Small existing wetlands adjacent to creek.

Proposed Solution: Enhance existing wetlands and create wetlands adjacent to the existing stream and wetlands. The site is large enough to allow a mix of wetland and upland plant communities, which will enhance wildlife habitat. Depending on nature of the runoff entering the site, water quality features may be incorporated into the wetland design.

Project Benefits: Water quality; temperature TMDL; habitat restoration

Potential Constraints: The site is privately owned.

Cost Estimate: \$490,286

Flow Comparison at Project Location:

Storm Event	Existing Condition Flow Rate (cfs)	Future Condition Flow Rate (cfs)
2-year	34.5	35.1
10-year	42.7	43.6
25-year	46.9	48.0



Aerial view of Project CLC-6



Looking north at existing wetland

CLC-7 – Coffee Lake Creek South Tributary Stream Restoration

Project Location: South Tributary to Coffee Lake Creek, between Boberg Road and Coffee Lake Creek

Existing Conditions: The channel is incised and has been straightened, and the site slopes to the west and is covered with trees, shrubs, and blackberries.

Proposed Solution: Re-shape the channel between Boberg Road and the railroad tracks to create meanders and provide a more naturalistic flow path; widen the channel and re-contour the banks to a shallower slope; add large woody debris for wildlife habitat improvement; remove invasive plants throughout the entire east–west reach of the stream, and plant native trees and shrubs in the riparian area. Establish different vegetation communities to provide additional habitat diversity. The site has the potential for a spill control facility. This project could be done in conjunction with the culvert replacements described as projects SD4021 and SD4022.

Project Benefits: Water quality; temperature TMDL; habitat restoration.

Potential Constraints: Enhancement is limited to the area already within the Wilsonville Significant Resource Overlay Zone.

Cost Estimate: \$496,114

Flow Comparison at Project Location¹:

Storm Event	Existing Condition Flow Rate (cfs)	Future Condition Flow Rate (cfs)
2-year	56.5	80.5
10-year	73.6	82.0
25-year	73.2	81.8



Aerial view of Project CLC-7



Looking west along stream at Project CLC-7

¹ The model predicts flows for the existing 25-year condition and future conditions for all events are inhibited by downstream restrictions due to the geometry of the channel. The model will better be able to predict these flows once surveying of the channels has been conducted (see ST-3 in Section 8.1.4).

CLC-8 - Coffee Lake Creek Restoration

Project Location: Coffee Lake Creek (along Industrial Way between Wilsonville Road and Ore Pac Avenue)

Existing Conditions: The channel is incised, with bank elevations approximately 8 feet above the ordinary high water level. There are very few trees or shrubs of a size or density to provide shade to the stream, and invasive blackberries and reed canary grass are found throughout the entire project reach. Construction activities are planned in this area, including a field on the east side of the channel that is slated for development, and the removal of Industrial Way (when a new through-street is created within the development area east of the channel).

Proposed Solution: The City's 2003 Transportation Systems Plan recommends the removal of Industrial Way and connecting all properties south of Wilsonville Road to Kinsman Road. If Kinsman is extended to the south, realign the central portion of Coffee Lake Creek into a new channel to the west between Wilsonville Road and SW Ore Pac Avenue, upon the removal of Industrial Way. Convert Industrial Way into a pedestrian/bike trail beginning at Wilsonville Road and extending south. The area between the realigned stream channel and the future trail will be excavated to create a floodplain for Coffee Lake Creek.

Project Benefits: Water quality; temperature TMDL; habitat restoration; floodplain expansion; recreation.

Potential Constraints: The project cannot begin until Industrial Way is abandoned. The area east of Coffee Lake Creek is slated for development and is not available for expanding the floodplain. A portion of the project may be located under the BPA power lines.

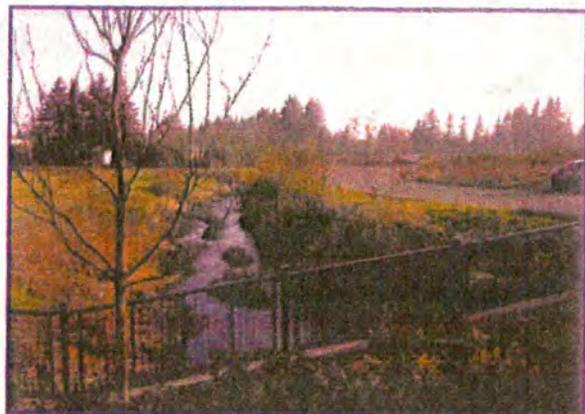
Flow Comparison at Project Location:

Storm Event	Existing Condition Flow Rate (cfs)	Future Condition Flow Rate (cfs)
2-year	577.1	600.4
10-year	593.0	602.9
25-year	649.4	687.2

Cost Estimate: \$486,877



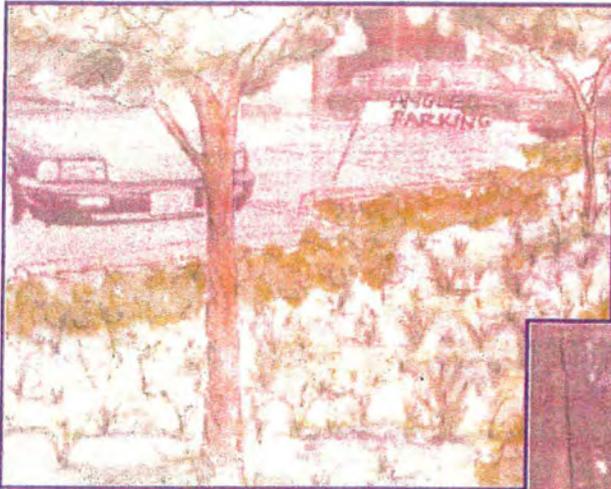
Aerial view of Project CLC-8



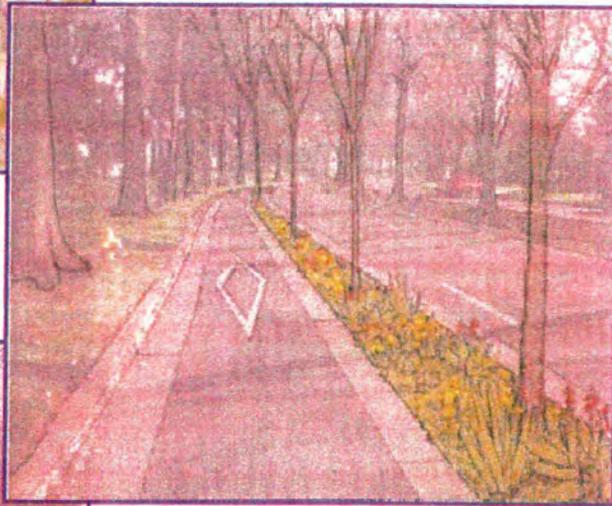
Looking south along Seely Ditch from Wilsonville Road

8.1.3 Low Impact Development Projects

The most effective treatment of stormwater for both quantity and water quality is to manage the water on site, as described in detail in Chapter 1. Low Impact Development techniques are an effective means of addressing stormwater on site. Eight Low Impact Development projects were identified for this Stormwater Master Plan. Brief descriptions of projects are provided in this Section. Additional details are located in Appendix F.



6,379,610
(4,587,000) FP
\$ 1,792,610



LID1 – Memorial Park Parking Lot Vegetated Swales (3)

Project Location: Memorial Park

Existing Conditions: This is a public parking lot that currently has several oversized travel/back-up aisles as well as a general inefficient use of asphalt space.

Proposed Solution: Reduce travel/back-up aisles and tighten the efficiency of the site. The remaining space can be converted into stormwater swales. Depending on how much space is available, another design option is to convert the angled parking into 90 degree head in parking which may yield additional parking spaces along with the stormwater improvements.

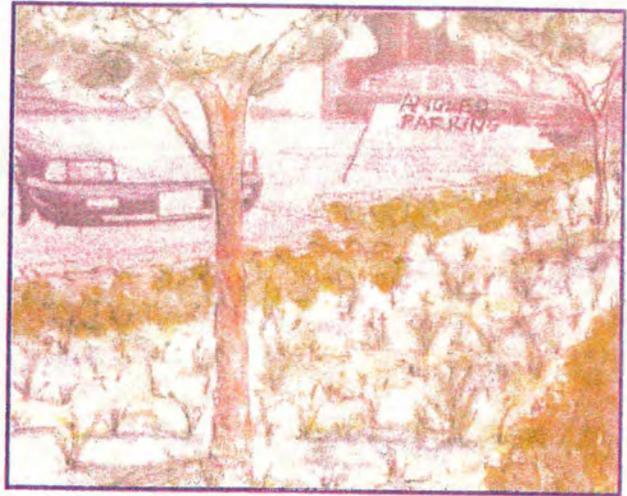
Project Benefits: Water quality, impervious area reduction, TMDL, flow reduction, volume reduction (depending on infiltration rates)

Potential Constraints: There are no constraints currently identified.

Cost Estimate: \$203,148



Existing Parking Lot Conditions



Proposed Retrofit Condition Concept Sketch

LID2 – SW Hillman Green Street Stormwater Curb Extensions

Project Location: SW Hillman Street

Existing Conditions: This is a relatively wide street with parking on only one side. The street currently drains towards the curbs, and stormwater is collected into the storm drain system. There is a curb tight sidewalk on the parking side of the street.

Proposed Solution: Two options are proposed:

- (1) Place a series of stormwater curb extensions within the parking zone of the street to capture runoff, allowing some on-street parking to remain; or
- (2) Install stormwater curb extensions on the parking zone of the street and install a continuous stormwater swale on the non-parking side of the street.

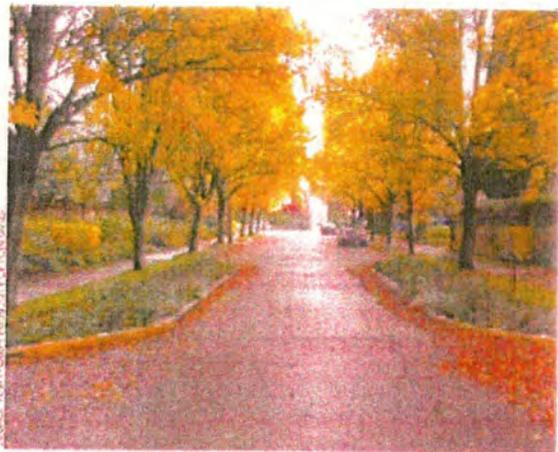
Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates).

Potential Constraints: Loss of parking and increased landscape maintenance.

Cost Estimate: \$236,938



Existing Street Conditions



Example of Curb Extensions

LID3 – SW Camelot Green Street Mid-Block Curb Extensions (20 Extensions)

Project Location: SW Camelot Street

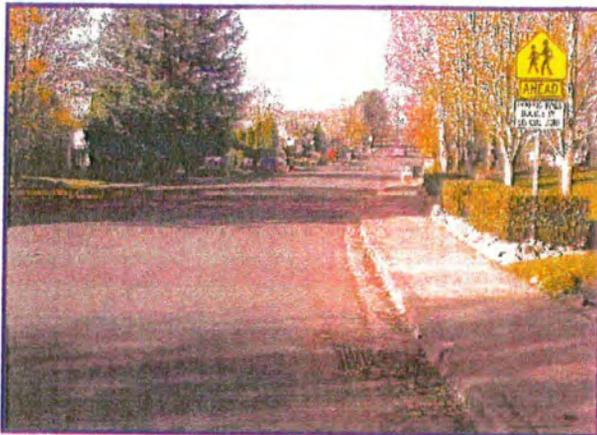
Existing Conditions: This is a relatively wide residential street in an established neighborhood. The street has on-street parking and curb-tight sidewalks on both sides of the street. The street currently drains to storm drain inlets along the existing curbs. Residents report that vehicles sometimes speed along this street.

Proposed Solution: Convert portions of the street's parking zone into mid-block stormwater curb extensions to capture stormwater runoff. It is also recommended that the curb extensions along the street be staggered to provide a traffic calming benefit.

Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates); reduced vehicle speed through the residential neighborhood.

Potential Constraints: Loss of parking and increased landscape maintenance.

Cost Estimate: \$584,820



Existing Street Conditions



Example of Mid-Block Curb Extension

LID4 – SW Costa Circle Vegetated Swale and Stormwater Curb Extension

Project Location: SW Costa Circle

Existing Conditions: Grass is currently planted on an existing 7-foot or wider landscape strip to the south of SW Costa Circle that has no street trees. Stormwater drainage is currently collected into catch basins located along the adjacent curb. The parking zone on the north side of the street is sparsely used.

Proposed Solution: Convert the lawn strip on the south side of the street into a stormwater swale. Re-grade and re-plant the landscape strip with appropriate plant species and introduce several curb cuts to allow water to flow into the new stormwater swale. On the north side, strategically place one or more stormwater curb extensions to capture runoff.

Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates).

Potential Constraints: This is a newly built street and there may be little incentive to undertake a street retrofit; loss of parking and increased landscape maintenance.

Cost Estimate: \$70,817



Existing Street Conditions



Example of Vegetated Swale along Street

LID5 – Wood Middle School Parking Lot Green Street

Project Location: North of SW Wilsonville Road, east of SW Willamette Way East

Existing Conditions: The parking bays in the parking lot are laid out inefficiently with overly long head-in parking and travel/backup aisles. Stormwater runoff currently drains to the center of the parking lot where it is collected by a series of catch basins.

Proposed Solution: Several retrofit options are available at this site. For both of the proposed options, the parking lot should reduce parking stall lengths to 15 feet long and travel aisles to 22 feet wide. The two options proposed are:

- (1) Redesign the site so that new stormwater planters are placed at the low points of the parking lot.
- (2) Redesign the parking lot layout to include a long rain garden at the center of the parking lot.

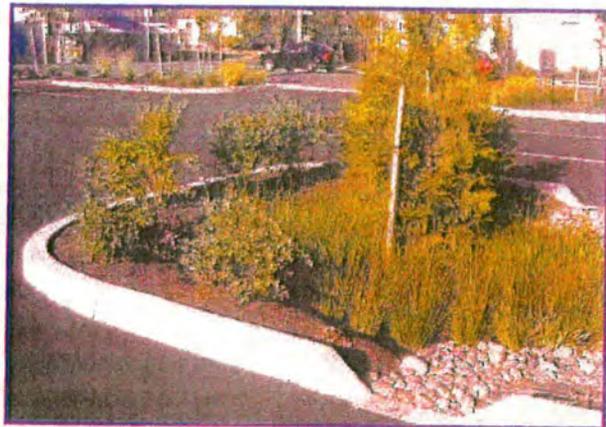
Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates); potential environmental education opportunity involving CREST.

Potential Constraints: School District property condition is difficult to fund and assure quality of future maintenance. Need to provide for adequate pedestrian/school bus circulation and increased landscape maintenance.

Cost Estimate: \$203,148



Existing Parking Lot Conditions



Example of Stormwater Planters in Parking Lot

LID6 –Boones Ferry Primary School Parking Lot Green Gutters and Pervious Paving

Project Location: North of SW Wilsonville Road, at SW Willamette Way East

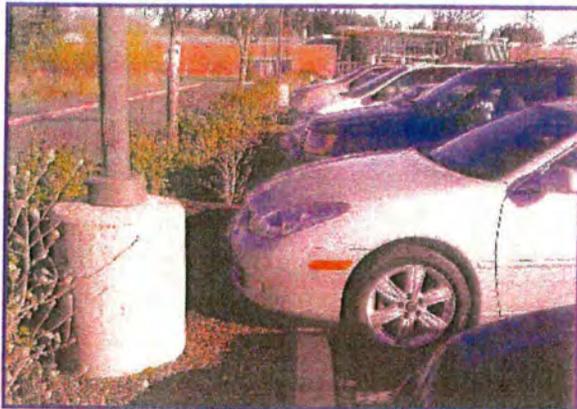
Existing Conditions: Currently several of the parking lot's stalls are inefficiently laid out with overly long head-in parking. Stormwater runoff currently drains to the edge of an existing landscaped area; however, the runoff is collected by catch basins along an existing curb edge.

Proposed Solution: Re-stripe the existing parking lot stalls so that they are 15 feet long. Allow the remainder of the space in the front of the parking stalls to be converted into a shallow green gutter that is 3 feet wide or wider. Further stormwater management can be achieved by introducing pervious paving on the uphill side of the parking lot's stalls.

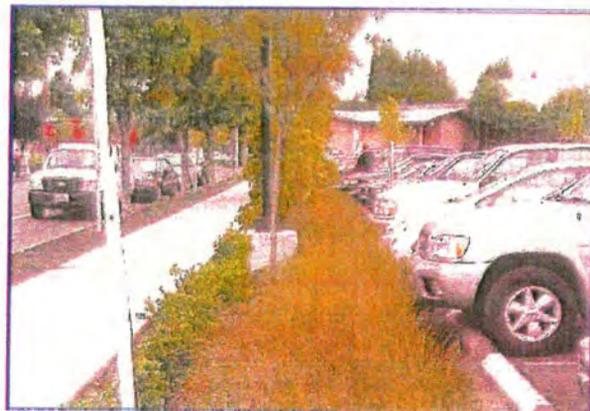
Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates); potential environmental education opportunity involving CREST.

Potential Constraints: School District property condition is difficult to fund and assure quality of future maintenance; need to provide for increased landscape maintenance.

Cost Estimate: \$130,945



Existing Parking Lot Conditions



Example of a Green Gutter in a Parking Lot

LID7 – SW Wilsonville Road Stormwater Planters

Project Location: SW Wilsonville Road on west side of City

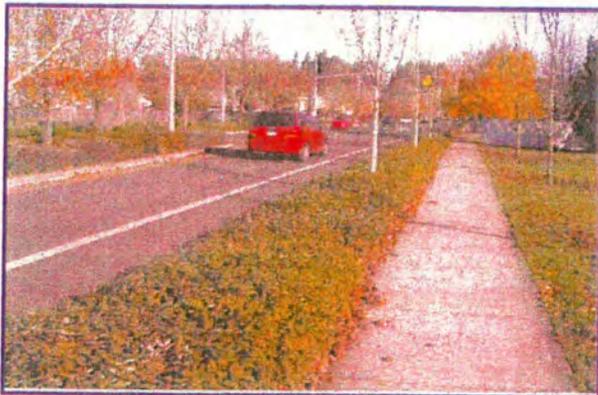
Existing Conditions: This arterial street is a two-lane road with a landscape strip 6 feet wide or wider that separates the bike lanes and sidewalk zone. Existing street trees are placed at a regular spacing within the landscape strip. Stormwater runoff from the roadway is collected in a series of catch basins along the street curb.

Proposed Solution: Install stormwater planters between the existing street trees to accept stormwater runoff from the roadway. Install wide curb cuts to allow water to freely enter and exit the stormwater planters. The spacing and number of stormwater planters can vary depending on the overall stormwater goal.

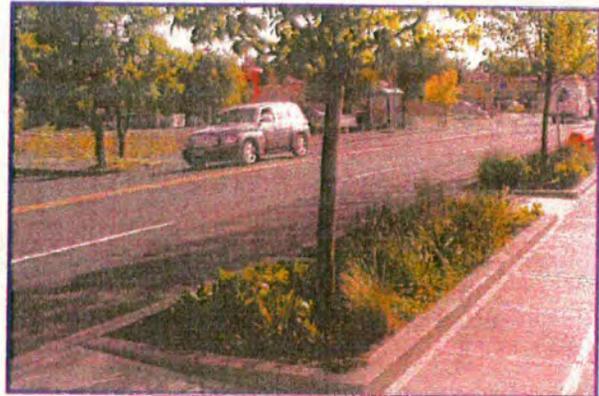
Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates).

Potential Constraints: The root zones of existing trees will need to be protected and there may be increased landscape maintenance.

Cost Estimate: \$362,794



Existing Street Conditions



Example of Stormwater Planters with Trees

32

LID8 – SW French Prairie Green Street

Project Location: SW French Prairie Road

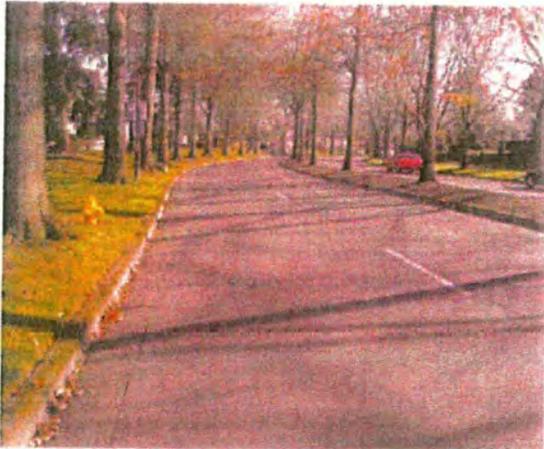
Existing Conditions: SW French Prairie Road is a long and winding tree-lined street with two travel lanes in each direction that are separated by a landscaped median. In some places, the street has a separated sidewalk, in others, it has no sidewalk. Stormwater is currently collected in a series of catch basins along the existing street curb at the outer edge of the roadway. The street has a relatively low volume of traffic; however, because the street appears wide with two travel lanes for each direction of travel, the City receives citizen complaints of drivers exceeding posted speed limits.

Proposed Solution: Consolidate the roadway to one travel lane in each direction. Convert the extra space into both a stormwater swale and separated bike/pedestrian/golf cart pathway. Stormwater runoff will sheet flow into the new landscaped area. Reducing the street to one travel lane in each direction and introducing the stormwater swale may help reduce speeding.

Project Benefits: Water quality; impervious area reduction; TMDL; flow reduction; volume reduction (depending on infiltration rates).

Potential Constraints: Neighbors may not be receptive to losing a travel lane. There will be increased landscape maintenance. The scope of the project is very large.

Cost Estimate: \$4,587,000



Existing Street Conditions



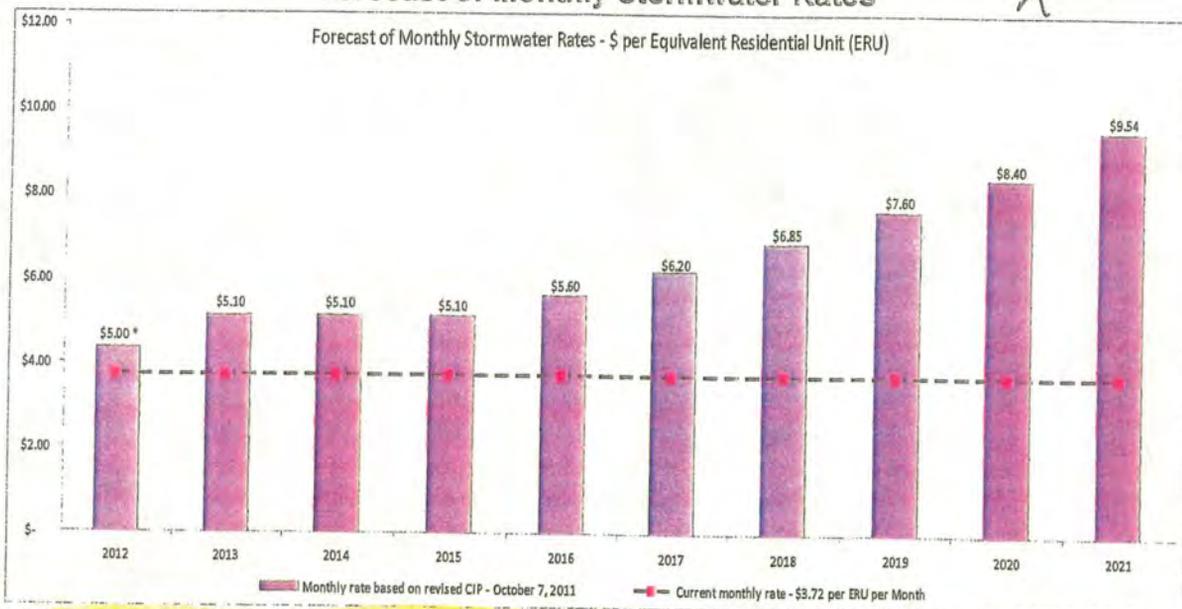
Proposed Retrofit Condition Concept Sketch

FINANCIAL ANALYSIS

The financial study addresses the revenues required from stormwater fees and system development charges (SDC) to support the construction, operation and maintenance of the City's stormwater system. A key work product in this analysis has been development of a financial model for future use by City Staff. This model - constructed with input from City Staff - is the tool for quantifying the rate and SDC impacts of the capital, operations and maintenance programs under consideration by the City through the current master planning process. Historical and current budget data figures were obtained from the City and provide the foundation for the model framework and for developing forecasts. In addition, capital facilities identified in this Master Plan have been summarized in the model and are fully funded via the rate and SDC analyses contained in this report. Based on these factors, the rate analysis resulted in the following profile of percentage changes in the rate per equivalent residential unit (ERU) required to fund the utility and costs identified in this Master Plan:

Figure ES-2
Forecast of Monthly Stormwater Rates

X 2.56



While the City's current rate of \$3.72 per ERU provides the rate revenue necessary to fund the current program, the results of the master planning have identified significant capital requirements of \$23 million over the 20-year planning period. Coupled with these capital expenses are the increased operating costs related to maintaining these new facilities and costs related to additional and more stringent regulatory requirements. The combination of these factors results in the rate forecast shown in Figure ES-2. This forecast assumes the City will also use available resources within its Stormwater SDC and Operating Funds to support immediate capital needs and issue revenue bonds to pay for future stormwater capital needs. These projections and specifically the rate effects related to capital funding are also based on increasing the City's current

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Executive Summary

Stormwater SDC of \$492 per ERU to \$1,356 per ERU. The proposed SDC is shown in Table ES-2.

Table ES-2
Proposed Stormwater SDC

City of Wilsonville Stormwater - System Development Charge Analysis Summary of Fee Components		
Reimbursement fee		\$ 480
Improvement fee:		
Water quantity	827	
Water quality	49	
Total improvement fee	<u>876</u>	<u>876</u>
Total System Development Fee		<u>\$1,356</u>

X 2.75

COUNCIL OPTIONS:

Staff is requesting that the City Council conduct the public hearing on the Master Plan, deliberate and consider the following steps:

1. Accept the Plan and do nothing more. Recognize that the Master Plan provides an effective framework for future development and capital improvements.
2. Reject the Plan (not recommended).

STAFF'S RECOMMENDATION:

- Staff respectfully requests that the City Council conduct a public hearing on the proposed Plan to determine the Council's preference for one or more of the above options.

ANALYSIS:

The Stormwater Master Plan combines planning, engineering, and public involvement to provide the City with the tools to implement the proposed capital improvement program (CIP) along with the policies necessary to establish a fully integrated stormwater program that combines water quality, water quantity, habitat and wildlife, and regulatory requirements. Low Impact Development, a major aspect of this Master Plan, is a stormwater treatment technique that combines several different goals by providing water quality, enhancing natural features, providing aesthetic value, and providing wildlife habitat.

A number of regional, state and federal regulations address the quality and quantity of stormwater that is discharged to surface waters and groundwater by municipalities, including the City of Wilsonville. The City is one of thirteen co-permittees on the Clackamas County NPDES permit, which requires the City to implement a Stormwater Management Program to address various sources of stormwater pollution. The permit requires the development and implementation of a Stormwater Management Plan, which includes specific categories of Best Management Practices (BMPs) to manage sources of stormwater pollutants and improve water quality.

The Stormwater Master Plan works in conjunction with the Stormwater Management Plan to provide an effective Stormwater Management Program. The Master Plan includes policies and capital improvement projects consistent with the permitting requirements. Whereas the Stormwater Master Plan addresses the stormwater impacts of existing development and future growth, the Stormwater Management Plan focuses on the operations, maintenance and monitoring of the stormwater system. Low Impact Development and retrofitting existing development to improve water quality are both

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