

PLANNING COMMISSION AGENDA
November 10, 2011
7 p.m. Regular Meeting
Newberg Public Safety Building
401 E. Third Street

- I. ROLL CALL**
- II. OPEN MEETING**
- III. CONSENT CALENDAR** (items are considered routine and are not discussed unless requested by the commissioners)
 - 1. Approval of October 13, 2011 Planning Commission Meeting Minutes
- IV. COMMUNICATIONS FROM THE FLOOR** (5 minute maximum per person)
 - 1. For items not listed on the agenda
- V. LEGISLATIVE PUBLIC HEARING** (complete registration form to give testimony - 5 minute maximum per person, unless otherwise set by majority motion of the Planning Commission)

APPLICANT: City of Newberg

REQUEST: Proposed Stormwater and Erosion Control codes to implement the Willamette River TMDL Plan. The Willamette River TMDL (Total Maximum Daily Load) Implementation Plan is an agreement between DEQ and the City to protect the Willamette River from illicit discharges and adverse effects from construction site stormwater and post-construction stormwater. The proposed stormwater and erosion control codes are intended to implement the plan and control the adverse effects of stormwater and erosion.

RESOLUTION NO.: 2011-296

- VI. ITEMS FROM STAFF**
 - 1. Update on Council items
 - 2. Other reports, letters, or correspondence
 - 3. Next Planning Commission Meeting: December 8, 2011
- VII. ITEMS FROM COMMISSIONERS**
- VIII. ADJOURN**

FOR QUESTIONS PLEASE STOP BY, OR CALL 537-1240, PLANNING & BUILDING DEPT. - P.O. BOX 970 - 414 E. FIRST STREET

ACCOMMODATION OF PHYSICAL IMPAIRMENTS:

In order to accommodate persons with physical impairments, please notify the City Recorder's office of any special physical accommodations you may need as far in advance of the meeting as possible and no later than 48 hours prior to the meeting. To request these arrangements, please contact the city recorder at (503) 537-1283. For TTY service please call (503) 554-7793.

PLANNING COMMISSION MINUTES
October 13, 2011
7 p.m. Regular Meeting
Newberg Public Safety Building
401 E. Third Street

TO BE APPROVED AT THE NOVEMBER 10, 2011 PLANNING COMMISSION MEETING

I. ROLL CALL:

Present:	Philip Smith, Chair	Thomas Barnes, Vice Chair
	Art Smith	Gary Bliss
	Cathy Stuhr	Allyn Edwards
	Kale Rogers, Student PC	

Absent: Lon Wall (excused)

Staff Present: Mayor Bob Andrews
Barton Brierley, Building & Planning Director
Steve Olson, Associate Planner
Sonja Johnson, Environmental Specialist
Alan Lee, Environmental Services Specialist
DawnKaren Bevill, Minutes Recorder

II. OPEN MEETING:

Chair Smith opened the meeting at 7:00 p.m. and asked for roll call.

III. CONSENT CALENDAR:

Vice Chair Smith entertained a motion to accept the minutes of the September 8, 2011 meeting.

MOTION#1: Barnes/Bliss approve the minutes from the Planning Commission Meeting of September 8, 2011 as amended. (6 Yes/ 0 No/ 1 Absent [Wall]) Motion carried.
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IV. COMMUNICATIONS FROM THE FLOOR:

No items were brought forward.

V. WORKSHOP: Proposed Stormwater and Erosion Control codes to implement the Willamette River TMDL Plan.

Barton Brierley introduced Sonja Johnson, Environmental Specialist and Allen Lee, Environmental Services Supervisor. Ms. Johnson began the PowerPoint presentation by explaining Willamette River TMDL (Total Maximum Daily Load) Implementation Plan is an agreement between DEQ and the City requiring municipal code language that protects the Willamette River from illicit discharges and adverse effects from construction site stormwater and post-construction stormwater. The workshop will provide information on the TMDL program in general and what is specifically required by the City's TMDL

Implementation Plan. The goal of the TMDL implementation Plan is to improve water quality of streams within Newberg in order to protect the water quality of the Willamette River.

In 1972, Congress passed the Clean Water Act which regulates water pollution and within the Clean Water Act is Title III which is standards and enforcement. This is where it was determined as unlawful to discharge any pollutant into rivers and streams. That section of the Clean Water Act primarily has to do with point sources which are end-of-pipe discharges from wastewater treatment plants, industrial plants, and manufacturing plants. It was determined that there were still some rivers and streams that were not up to the water quality standards and were coming from non-point sources which are difficult to regulate. Section 303(d) of Title III says that each state shall establish the total maximum daily load (TMDL) at a level necessary to implement the water quality standards within the rivers and streams. The US EPA, under the authority of the Clean Water Act, stated that the states had to determine which rivers and streams were not meeting water quality standards with point-source regulations alone. In the year 2000, the EPA created an agreement with the Department of Environmental Quality (DEQ) to determine which Oregon rivers and streams were water quality impaired and fell under section 303(d). In 2006 the DEQ sent what they considered the parameters that the Willamette River Basin was not meeting regarding water quality: temperature, bacteria, mercury, DDT, dissolved oxygen, dieldrin, and turbidity. DEQ then sent out a letter to the City of Newberg and all the cities affected by the Willamette River Basin. Newberg is considered to be in the Chehalem Mountain Basin which begins at Rex Hill and ends at Dundee. In 2006, the City of Newberg was directed to begin an implementation plan and in 2008, DEQ approved the City of Newberg TMDL plan. The parameters that were needed to be controlled were temperature, mercury, and bacteria.

The TMDL includes six measures that every implementation plan is required to do: public education, public participation, illicit discharge detection and elimination, construction site runoff, post construction runoff, and pollution prevention practices. Staff developed a code with participants from the following departments: Public Works Engineering, Maintenance, Building and Planning. Mayor Bob Andrews convened the Stormwater Ad-Hoc Committee in May, 2011 to review and refine the code which was done through public meetings which met every two weeks in the Public Safety Building. The committee was made up of seven members from five out of six districts and represented parks, university, developers, engineers, and citizens. The committee looked at illicit discharge, construction site runoff, and post construction runoff. Within those, the code affects the review of construction plans and inspection of construction sites, as well as review of construction plans for stormwater management, stormwater facilities, and the inspection of those facilities. The TMDL parameters that the City of Newberg needed to control were stream temperature, mercury and bacteria.

Illicit discharge (IDDE) is a discharge to a stormwater system that is not composed entirely of stormwater. Some examples include connecting a wastewater pipe to the stormwater system, leaking wastewater pipes infiltrating to stormwater system, and dumping wastes into catch basins or stormwater manholes. The TMDL requires the regulation of specific discharges, regulate other non-stormwater discharges, and exempt fire fighting discharges and discharges that are already complying with NPDES point-source permits. A conditional exemption has been done for the following specific discharges: water line flushing, discharges from potable water sources, dechlorinated swimming pool discharges, and street wash water. The other stormwater discharges that are covered in the code are illegal connections, streambanks, illegal dumping, spill response, and non-permitted commercial or industrial discharges.

Construction site runoff is discharging from a construction site. Pollution sources include oil, grease, chemicals, construction debris, litter, sanitary waste, and sediment.

Exemptions within the code include agricultural activities not creating a visible and measurable discharge to stormwater system activities complying with DEQ 401 Water Quality Certification, DSL permits, or USACE, emergency actions, and activities disturbing less than 500 square feet that are not located in a floodplain or the Newberg Stream Corridor Sub-District or discharging stormwater offsite that exceeds water-quality standards.

The TMDL plan requires the review of construction site plans, erosion and sediment controls regardless of the size of the construction site, to prevent or control construction-related waste, inspect construction sites, and consider managing the DEQ's 1200-C permit program (although the City has decided not to manage that due to City workloads). The City will review construction site plans for projects disturbing between 500 square feet and 1 acre of land and DEQ will review projects disturbing > 1 acre. The City will inspect construction sites disturbing 500 square feet and 1 acre of land and DEQ will inspect projects disturbing > 1 acre. Other requirements include proper storage and disposal of construction waste.

Post-construction runoff is from impervious areas such as driveways, streets and sidewalks, rooftops, and parking lots. The methods used to control these are through stormwater facilities; where stormwater congregates.

The TMDL plan asks the City of Newberg to require practices or facilities that maximize water quality and to require adequate long-term operations and maintenance of stormwater facilities. The way in which to maximize water quality is to decrease volume by decreasing impervious area and encouraging infiltration, and to decrease velocity by decreasing volume. The requirements were tiered in accordance to net-impervious area. If a project is 500 – 2,877 square feet of net impervious area, a project summary will be required with a scaled drawing and general stormwater flow direction. If a project is 2,877 square feet or more of net impervious area and < 1 acre of disturbed area, a project summary, design flow calculations, and proposed stormwater facilities will be required. If greater than 1 acre or more of land is disturbed, a project summary, design flow calculations, and stormwater facilities will be required.

Long term operations and maintenance requirements for stormwater facilities are as follows: require maintenance agreement to inform citizens of stormwater facility locations, require maintenance agreement to teach citizens how to maintain stormwater facilities, and require annual reports so the City knows the facilities are properly functioning.

The end results of the code and implementation plan concerning illicit discharge include proper disposal of hazardous and toxic material, timely spill cleanup, and decreased sediment and bacteria in streams. In regard to erosion control there will be decreased erosion and sediment in streams. Stormwater management will decrease erosion and sediment in streams, stream temperatures, emergency staff time, and will improve proper functioning of stormwater facilities.

The code has been sent to DEQ. They came back with very few comments, which have been incorporated into the code.

Comments & Questions:

Commissioner Edwards asked if any consideration was given regarding culverts or ditches with standing water under driveways and such. Sonja Johnson replied in the future people will be required to maintain facilities and will need to keep it clear. Commissioner Edwards asked if that should be included in the code. Ms. Johnson stated she will ask staff.

Commissioner Stuhr asked if the regulation will not apply to existing culverts or only to new or re-developed. Ms. Johnson replied if it is an existing culvert then no, but if a new culvert is put in it would need to be regulated.

Commissioner Edwards asked if there was any consideration regarding the traffic on construction sites and the mud on the streets. Ms. Johnson replied the code requires construction entrances be rocked or paved. Large sites have a requirement for wheel washes. One erosion control requirement is to clean up the dirt on the roadways at the end of the work day.

Commissioner Bliss asked if she is referring to private drainage facilities in regard to culverts. Ms. Johnson replied yes, private facilities would have an agreement. If a developer created a private facility then that would fall under the maintenance agreement. Commissioner Bliss asked how does staff plan on decreasing volume. Ms. Johnson replied by encouraging infiltration facilities.

Commissioner Stuhr referred to page 18 under Section 13.25.02 and asked if a permit is not required how the City will be aware of violations. Ms. Johnson stated that section will help the City to educate first and if they do not listen, this section will allow the Code Enforcement Officer to take enforcement action if needed. Agricultural activities are exempt from erosion controls unless the City determines there are water quality damages and impacts downstream. Commissioner Stuhr referred to page 23, Section 13.30.04 and asked about washing items other than a car. Ms. Johnson stated the TMDL specifically states car washing but the City can add more specifics. Commissioner Stuhr referred to street wash water which she believes should be more specifically defined. Also, charity carwashes were not covered in the proposed code as an exemption.

Commissioner Stuhr referred to pg 10, the first paragraph regarding construction site runoff and asked staff to review whether the word “all” is correct. Ms. Johnson believes the code says, “regardless of size.” Commissioner Stuhr asked for the language to be changed to the same. On page 11 under Post-Construction Runoff, she believes it needs to be emphasized that this is new and re-development.

Commissioner Bliss referred to page 20, Section 13.25.04 and stated parameters need to be defined regarding how far downstream. He also asked for clarification regarding Section 13.25.05 (B5). Barton Brierley explained the stream corridors are defined areas at the top of the streambanks that have specific limits on development. The stream corridors are intended to be kept natural and are actually mapped. Commissioner Bliss then referred to page 23, Section 13.30.06 (A) and stated that seems rather onerous. Ms. Johnson replied that language is also within the wastewater code. Commissioner Bliss stated this needs to be looked at in context. Ms. Johnson understands the concern but if there is something occurring that is in violation of water quality standards and it is allowed to continue, DEQ will not understand.

Commissioner Bliss asked what is the recourse on page 24, Section 13.30.06 (C). Ms. Johnson explained if you put in a pipe or connect the pipe from the sewer system which is not in the plans and affects the stormwater system; it will need to be corrected.

Commissioner Stuhr believes Section 13.30.07; Illegal Dumping has conflicts and needs to be rewritten in order for it to be enforceable. Chair Smith stated there are a number of ways to be in conflict.

Commissioner Edwards stated there are always exceptions. Commissioner Art Smith stated this section is far too long and inclusive. Chair Smith suggested Section 13.30.07 (A) could be re-written and shortened to speak to items that contribute to stormwater pollution. Commissioner Stuhr is concerned with language in regard to vegetation, which is difficult for someone to understand who does not know what excessive vegetation means or how to control it. Perhaps it will be good to express it to the public

in a way they can understand through education. She then referred to page 25 section 13.30.14 (A) and stated the language needs to be more specific regarding “discharge access to any facility or person...”

Commissioner Bliss referred to page 27, Sections 13.35.02 (B), 13.35.04 and 13.35.04 through (4B) and stated it is in conflict, especially 13.35.02 (B) which states projects on single lots that are zoned as single family residential are exempt and 13.35.04 (A3). Ms. Johnson explained the 2,877 square feet is the average impervious area of an average residential lot. If you have a single family residential lot, that exemption speaks to homeowner projects. Chair Smith stated it does not clarify that and a developer will read that believing a new single family home is exempt. Ms. Johnson asked how that should be worded. The purpose was to exempt homeowners from having to comply if they only want to do a simple project. Chair Smith suggested, “Projects on single lots that are zoned as single family residential and are adding less than “X “amount of impervious surface.” Commissioner Bliss believes the entire page needs to be reviewed due to conflict. Steve Olson stated one other potential confusion in the language is the “single family residential zone” which the City does not have; it would be clearer to refer to single family development and not use the word “zone.”

Commissioner Bliss referred to page 29 Section 13.35.08 (B 2–4) and stated how far down stream needs to be defined. Also (D) and how far down stream of the project and to what end and why 150% of the mitigation fee? Ms. Johnson explained the mitigation is one or more of the options. The intent was that if there is a variance when providing stormwater facilities due to site constraints, the City or neighbors will not have to deal with the stormwater produced by the project. Staff will change the language to, “one or more.” She would like to leave that up to the developer and the City in order to negotiate with the developer depending on the area affected and the size of the project. The 150% should be some kind of deterrent in asking for a variance. Commissioner Bliss suggested talking to the City Attorney on that percentage. Chair Smith stated this could become a legal case. He asked staff the procedure about a variance being granted. Barton Brierley explained this is not set up in the same way as a zoning variance would be. There would be no hearing or notice; the requirements are just to ask for the variance. There is a procedure about an appeal that does allow someone who does not like the decision to appeal that and that appeal would first go to the City Manager and then to City Council.

Chair Smith recessed for a six-minute break at 8:35 p.m.

Commissioner Barnes referred to page 28, Section 13.35.05 (B) and asked if private property catch basins will be inspected. Ms. Johnson replied if it is a private facility they are not maintained by the city. The current code is from the time of adoption on and does not pertain to existing facilities. Chair Smith stated if existing facilities never have to come up to code they can continue to contribute to stormwater pollution. Should this implementation of this reform try to fix problems that already exist? Ms. Johnson stated if the City can minimize what further development will do that is a positive thing. It would be nice to not have to grandfather in older stormwater facilities. Many cities are asking previously approved stormwater facilities to sign maintenance agreements but are not requiring them.

Commissioner Stuhr stated there are inconsistencies on capitalization throughout the code. Barton Brierley replied there is not much capitalization in the new municipal code.

VI. ITEMS FROM STAFF:

Update on Council items:

Barton Brierley stated the Lumberman’s site has been approved for a Goodwill store (just under 20,000 sq. ft.) on Portland Road and a new Jack in the Box Restaurant has been approved on

Springbrook Road and 99W. Also, the animal shelter construction will begin as soon as the contract is signed. It will develop over time as money becomes available.

The County Commissioners will be hearing population projections for the county on October 27, 2011 at 10:00 a.m. Mr. Brierley invited the Planning Commissioners to attend. That same morning, the sixth graders at Mountainview Middle School will be making a presentation on design projects on two Newberg sites. He asked for some of the Commissioners to attend from 8:00 – 9:45 a.m. and/or the second session is 11:30 a.m. – 1:15 p.m. Mayor Andrews will also be attending.

The City Council approved the City doing a bicycle route through Newberg from behind Safeway to the skate park. It is not a bike lane but arrows in the roadway telling drivers to watch for bicycles, and bicycles to go with the direction of traffic. They will be installed in the spring. A map of the bicycle routes in Newberg is available. The Cultural Center parking lot was approved and decided on impervious pavers as opposed to asphalt.

The next Planning Commission Meeting is scheduled on Thursday, November 10, 2011.

VII. ITEMS FROM COMMISSIONERS: None.

VIII. ADJOURN:

Chair Smith adjourned the meeting at 9:15 p.m.

Approved by the Planning Commission on this 10th day of November, 2011.

AYES:

NO:

ABSENT:

ABSTAIN:

Planning Recording Secretary

Planning Commission Chair

TYPE IV, LEGISLATIVE PUBLIC HEARING PROCEDURE

1. OPEN THE PUBLIC HEARING, ANNOUNCE THE PURPOSE, DISCUSS TESTIMONY PROCEDURE, AND TIME ALLOTMENTS¹
2. CALL FOR ABSTENTIONS, CONFLICTS OF INTEREST AND OBJECTIONS TO JURISDICTION
3. STAFF REPORT
 - A. PROJECT SUMMARY AND RECOMMENDATION BY STAFF
 - B. STAFF SUMMARY OF LATE CORRESPONDENCE SUBJECT TO PLANNING COMMISSION REQUEST²
4. PUBLIC TESTIMONY (SEE "HOW TO TESTIFY" FORM)^{3 4}
 - A. THE PLANNING COMMISSION CHAIR WILL CALL YOUR NAME WHEN IT'S YOUR TURN TO TESTIFY (NOTE: COMMISSIONERS MAY ASK QUESTIONS DURING THE TESTIMONY PERIOD, AT THE DISCRETION OF THE CHAIR)
5. STAFF SUMMARY OF WRITTEN TESTIMONY FROM REGISTRATION FORMS
6. CLOSE OF PUBLIC TESTIMONY PORTION OF HEARING (GAVEL)
7. FINAL COMMENTS FROM STAFF
8. DELIBERATION OF COMMISSION
9. ACTION BY THE PLANNING COMMISSION

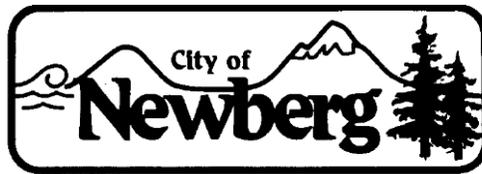
NOTE: No new public hearings will be started after 10:00 p.m. (except by majority vote of the Commission).

¹ The Chair of the Planning Commission may set time limits on the public testimony portion of the hearing.

² ORS 197.763(3)(j) allows the City to establish procedures for submittal of evidence. The Planning Commission has established a period of one week prior to hearing for submittal of written evidence in order to be considered at the hearing. Written testimony received late will only be considered at the discretion of the Planning Commission.

³ Questions by those wishing to testify should be directed to the Chair during the PUBLIC TESTIMONY (Step 4) portion of the public hearing.

⁴ Questions may be asked by the Commissioners thru the chair during the PUBLIC TESTIMONY (Step 4) portion of the public hearing.



PUBLIC WORKS DEPARTMENT

P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132 • 503.554.7705 • Fax 503.537.1277

Proposal: Review the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code and provide a recommendation to the City Council.

Summary: Staff is proposing new municipal code to address the requirements of the Willamette River TMDL Implementation Plan

Planning Commission Hearing Date: November 10, 2011

A. Process: In 2000, under the authority of Section 303(d) of the Clean Water Act, the USEPA ordered the Oregon Department of Environmental Quality (DEQ) to identify rivers and streams for which point source controls were not stringent enough to protect water quality. The DEQ was also required to establish the total maximum daily loads (TMDLs) that could be discharged into the 303(d)-listed watercourses and still maintain water quality standards.

In 2006, the USEPA approved the TMDLs proposed by the DEQ for the Willamette River basin. On October 17, 2006, the City of Newberg received a letter from DEQ stating that the City needed to determine procedures and methods to control stream temperatures of Hess Creek, Springbrook Creek, and Chehalem Creek and to limit bacteria and mercury discharges into the Willamette River.

The Willamette River TMDL Implementation Plan was approved by DEQ on October 17, 2008 and adopted by the City Council on December 1, 2008. The plan requires additional municipal code to meet methods for controlling construction site runoff, illicit discharges, and post-construction runoff. On September 7, 2010, staff presented municipal code to comply with the Willamette River TMDL Implementation Plan and on November 10, 2010 staff was asked to provide a workshop on the requirements of the Plan and to garner more public involvement. On May 16, 2011, the City Council convened the Stormwater Ad-Hoc Committee to review and refine municipal code developed by staff. The Stormwater Ad-Hoc Committee was composed of 7 members from 5 districts. The committee held meetings every 2 weeks from May 26 to October 6 that the public, through notices in the newspaper and the city's website, was encouraged to attend and provide comment to the committee. Using the requirements of the Willamette River TMDL Implementation Plan as a guide, the proposed municipal code were reviewed, refined, and approved by the Stormwater Ad-Hoc Committee. During the Planning Commission workshop held on October 13, 2011, the code was further reviewed and refined for the Planning Commission's November 10, 2011 public hearing.

B. Hearings and Public Meetings Schedule: The hearings and public meetings scheduled for acceptance of the proposed municipal code are as follows:

- ◆ On September 7, 2010, the City Council referred the proposed municipal code to the Planning Commission for their recommendation.

- ◆ On October 14, 2010, a hearing was held by the Newberg Planning Commission and the item was deferred to the November 10, 2010 hearing.
- ◆ On November 10, 2010, the Planning Commission asked staff to provide a workshop to explain the Willamette River TMDL Implementation Plan and requested more public involvement on the proposed municipal code.
- ◆ May 16, 2011 – City Council convened the Stormwater Ad-Hoc Committee to review and refine the proposed Erosion Control, Illicit Discharge and Stormwater Management Municipal Code.
- ◆ May 26, 2011 to September 15, 2011 – Stormwater Ad-Hoc Committee held public meetings to review and refine the proposed municipal code.
- ◆ October 6, 2011 – Stormwater Ad-Hoc Committee finished their review of the proposed municipal code.
- ◆ October 13, 2011 – Planning Commission held a workshop to learn the technical requirements of the Willamette River TMDL Implementation Plan and provide comments on the proposed municipal code.
- ◆ November 10, 2011 – Planning Commission hearing to consider and provide a recommendation to the City Council for adoption of the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code.
- ◆ City Council hearing date for adoption of the proposed municipal code is yet to be determined.

B. Background:

1. Summary of Proposed Municipal Code

a. Construction Site Runoff

The Willamette River TMDL Implementation Plan requires the City to review construction site plans; require erosion and sediment controls regardless of the construction site's size; prevent or control construction-related waste; inspect construction sites; and consider managing DEQ's 1200-C permit program.

The proposed municipal code requires basic erosion and sediment controls that protect public property, catch basins, and inlets from stormwater and soil coming from a project site. Basic erosion and sediment controls must be inspected weekly and after rain events to ensure that they are functioning properly. Projects are required to properly store and dispose of construction debris and minimize wind-blown soil from the site. Exemptions to this section of the proposed municipal code include agricultural or emergency activities, projects which are subject to Federal or State in-stream permits, and projects which disturb less than 500 square feet. Activities that discharge stormwater violating water-quality standards are not exempt from the code.

Projects requiring a city, state, or federal permit are required to submit an erosion control plan to the City. Sites required to have a DEQ 1200-C permit must submit a copy of the 1200-C permit documents to the City. The City is not managing DEQ's permit program.

Because every project and site are unique, the City reserves the right to require more stringent sediment and erosion controls based on how stormwater from the site will affect neighboring property and nearby streams.

b. Illicit Discharge Detection and Elimination (IDDE)

The Willamette River TMDL Implementation Plan requires the City to regulate non-stormwater discharges to the stormwater system and exempt firefighting activities or discharges that are complying with a NPDES permit. The Willamette River TMDL Implementation Plan requires the City to address specific discharges as either exempt or conditionally exempt. Discharges from hyper-chlorinated water flushing, fire hydrant flushing, pipeline hydrostatic testing, street wash water, swimming pool discharges, and spa discharges are exempt from the requirements of the proposed municipal code as long as the discharge has been de-chlorinated, pH-adjusted, and does not cause erosion. Discharges complying with NPDES permits are also conditionally exempt from the proposed municipal code.

Illicit connections and illegal dumping are prohibited as well as illicit discharges that are not covered by NPDES permits and which discharge directly to the stormwater system or watercourses in the city. Streamside debris and trash are prohibited when they cause pollution or blockages in watercourses or the stormwater system.

Facilities required by state or federal statute to develop a spill prevention plan must provide a copy of their plan to the City. Procedures for an accidental spill follow Oregon statute and are listed in the proposed municipal code for easier access.

c. Post-Construction Runoff

The Willamette River TMDL Implementation Plan requires the City to institute stormwater management practices and facilities that maximize water quality. It also requires the City to regulate the long-term operation and maintenance of stormwater facilities in order to ensure the proper functioning of the facilities and maximize the water quality of Hess Creek, Chehalem Creek, and Springbrook Creek.

The proposed municipal code provides tiered requirements (see Table 1) based on the amount of net impervious area created by a project. The proposed code applies to new construction and re-development however emergency measures and homeowner projects are exempt from the requirements as well as projects that create less than 500 square feet of additional impervious area.

Table 1. Net Impervious Area and Stormwater Management Requirements

	500 sq ft up to 2,877 sq ft of net impervious area	2,877 sq ft or more of net impervious area to 1 acre of disturbed area	1 acre and greater of disturbed area
Plan Submittal	Project Summary with general stormwater flow direction	Project summary, stormwater calculations, and proposed stormwater management technique	Project summary, stormwater calculations and other requirements of the Design Standards Manual
Stormwater Facility Requirements	May Not Require Facilities	Facilities are required but may not be complex	Facilities must conform to City’s Design Standards Manual

Net Impervious Area, sq ft = Post-construction impervious area minus pre-construction impervious area

To ensure long-term operation and maintenance of stormwater facilities, the owner or maintenance organization for a stormwater facility is required to maintain it and submit an annual report to the City.

d. Enforcement and Penalties

The Willamette River TMDL Implementation Plan requires the City to enforce the proposed municipal code. Enforcement can occur through public education, stop work orders, notices of violation, summary abatement, refusal to issue a certificate of occupancy, or by modifying, suspending, or revoking a city permit.

The proposed code allows for flexibility in penalties due to the wide range of covered activities. Penalties range from public education to monetary deterrents depending on the type of violation, the frequency with which the violation occurs, and whether it violates local, state, or federal laws. Acts that do not violate state or federal laws and which are categorized as a nuisance may incur penalties as low as public education or as high as \$500. Acts that violate municipal law and which are not categorized as nuisances may incur penalties ranging from \$500 to \$1,000. Acts that violate state or federal law incur a \$1,000 penalty.

2. Willamette River TMDL Implementation Plan Parameters and the Proposed Municipal Code

Bacteria and mercury primarily adhere to solid matter such as sediment. When sediment enters a stream, it can cause long-term changes in channel depth resulting in higher stream temperatures. By controlling sediment from construction sites, stream temperatures can be moderated and local streams will have reduced bacteria and mercury. The proposed municipal code for construction site runoff addresses the amount of sediment in stormwater discharging from construction projects in addition to requiring proper storage and disposal of construction waste.

The proposed municipal code also manages bacteria and mercury volumes by prohibiting illegal dumping and illicit connections. Spill prevention plans and procedures decrease the chance of an accident and require cleanup of accidental spills. Stream temperatures are moderated by requiring adequate streamside vegetation and prohibiting stream and stormwater system blockages.

The post-construction runoff code controls mercury and bacteria volumes by controlling the amount of sediment in stormwater. Because stormwater volume, velocity, and soil particle size determines how much sediment is discharged to local streams, the code's requirements are based on the amount of additional impervious area created by the project. Stream temperatures are moderated by reducing stormwater volume and streambank erosion.

The Willamette River TMDL Implementation Plan requires the City to address mercury and bacteria concentrations and temperatures in the streams under its jurisdiction. By controlling illicit discharges, stormwater volume, and erosion, the City will fulfill the requirements of the Willamette River TMDL Implementation Plan.

C. Staff Recommendation

Staff recommends adoption of Planning Commission Resolution 2011-296 which recommends that City Council adopt the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code.

ATTACHMENTS:

1. Planning Commission Resolution 2011-296 with
Exhibit A: Proposed Erosion Control, Illicit Discharge, and Stormwater Management
Municipal Code
2. Local and Comparable City Programs
3. Oregon Drainage Law
4. Newberg Stream Corridor Overlay
5. Willamette River TMDL Implementation Plan

PLANNING COMMISSION RESOLUTION NO. 2011-296

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF NEWBERG RECOMMENDING THAT THE CITY COUNCIL ADOPT THE PROPOSED EROSION CONTROL, ILLICIT DISCHARGE, AND STORMWATER MANAGEMENT MUNICIPAL CODE.

1. The Oregon Department of Environmental Quality (DEQ) ordered the City on October 17, 2006 to create a Willamette River Total Maximum Daily Loading (TMDL) Implementation Plan.
2. The Willamette River TMDL Implementation Plan was approved by DEQ on October 17, 2008 and adopted by the City Council on December 1, 2008.
3. The Willamette River TMDL Implementation Plan requires the City to enact municipal code which controls construction site runoff, illicit discharges, and post-construction runoff.
4. On September 7, 2010, the City Council referred the proposed municipal code to the Planning Commission for their recommendation.
5. On October 14, 2010, a hearing was held by the Newberg Planning Commission and the item was deferred to the November 10, 2010 hearing.
6. On November 10, 2010, the Planning Commission asked staff to provide a workshop to explain the Willamette River TMDL Implementation Plan and requested more public involvement on the proposed municipal code.
7. On May 16, 2011, the City Council convened the Stormwater Ad-Hoc Committee and, on May 26, 2011, the Stormwater Ad-Hoc Committee began to review and refine proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code.
8. On October 6, 2011, the Stormwater Ad-Hoc Committee gave final approval of the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code.
9. On October 13, 2011, the Planning Commission held a workshop to learn about the requirements of the Willamette River TMDL Implementation Plan and review the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code.
10. On October 21, 2011, notice of this hearing was sent to the Newberg Graphic to publish in the October 26th, 2011 issue.
11. Notice was published in the Newberg Graphic newspaper on October 26, 2011.

12. On November 10, 2011, a hearing was held by the Newberg Planning Commission.

NOW THEREFORE, BE IT RESOLVED by the Planning Commission of The City of Newberg that it recommends to the City Council adoption of the proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code as shown in Exhibit "A". Exhibit "A" is hereby adopted and by this reference incorporated. This recommendation is based on the staff report and testimony.

ADOPTED by the Planning Commission of the City of Newberg, Oregon, this 10th day of November, 2011.

AYES:

NAYS:

ABSTAIN:

ABSENT:

ATTEST:

Planning Commission Secretary

Planning Commission Chair

Exhibits:

A: Proposed Erosion Control, Illicit Discharge, and Stormwater Management Municipal Code

GENERAL PROVISIONS AND DEFINITIONS

13.20.01 INTERPRETATION, CONFLICT, AND SEVERABILITY.

A. Interpretation and Application.

The provisions of this code shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

B. Conflict with Public and Private Provisions.

1. Public Provisions. The regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. Where any provision of this code imposes restriction different from those imposed by any other provision of this code or any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher standards shall control.

2. Private Provision. This code is not intended to abrogate any easement, covenant, or any other private agreement or restriction provided that, where the provisions of this code are more restrictive or impose higher standards or regulations than such easement, covenant or other private agreement or restriction, the requirements of this code shall govern. Where the provisions of the easement, covenant, or private agreement or restriction impose duties and obligations more restrictive or of a higher standard than this code, and such private provisions are not inconsistent with this code or determinations thereunder, then such private provisions shall be operative and supplemental to this code and determinations made thereunder.

13.20.02 DEFINITION OF TERMS.

“**Applicant**” means the owner or authorized agent acting on behalf of the owner.

“**Channel Morphology**” means the stream channel type and the physical characteristics of the streambed.

“**City**” means the city of Newberg, Oregon.

“**Common Development Plan**” means all lands included within the boundary of a certified survey map or subdivision plat created for the purpose of development or sale of property where integrated, multiple, separate and distinct land developing activity may take place at different times by future owners.

“**Demolition**” means any act or process of wrecking or destroying a building or structure.

“**DEQ**” means the Oregon Department of Environmental Quality.

“**Design Standards Manual**” means the current version of the Newberg design standards manual.

“**Design Storm**” means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall.

“Development” means residential, commercial, industrial, or institutional construction, alteration, or other improvement which alters the hydrologic characteristics of a property or properties.

“Director” means the city of Newberg’s director of public works or their authorized representative.

“Easement” means areas located outside of dedicated right-of-way and which are granted to the city for special uses. Easements may also be granted to non-city entities such as franchise utility companies for their uses.

“Erosion” means the weathering of a surface as a result of the movement of wind, water, ice, snow, or land disturbance activities.

“Erosion and Sediment Control” means a structural or non-structural device that is implemented to prevent erosion and sedimentation.

“Erosion and Sediment Control (ESC) Plan” means a plan submitted to the city with scaled drawings, and the methods and types of devices to be implemented during the project to prevent erosion and sedimentation.

“Excavation” means an act by which soil or rock is cut, dug, quarried, uncovered, removed, displaced, or relocated.

“Fill” means a deposit of soil or other earth material placed by artificial means.

“Grading” means any act by which soil is cleared, stripped, stockpiled, excavated, scarified, filled, or any combination thereof.

“Ground-Disturbing Project” means a project that includes activities that have the potential to create soil erosion from wind, precipitation, or ice creating sediment deposits in watercourses or land within the city including, but not limited to, demolition, clearing and grubbing, grading, excavating, transporting, and filling of land.

“Hazardous Materials” means any material or combination of materials which due to its quantity, concentration, or physical, chemical, or infectious characteristics may cause or contribute to a substantial hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

“Illicit Discharge” means any direct or indirect non-stormwater discharge to the stormwater system except discharges regulated under a NPDES permit or exempted by this chapter.

“Illicit Connections” means any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the stormwater system.

“Immediate Threat” means a situation that the director determines would cause harm to the public, environment, or downstream stormwater facilities before the situation can be alleviated or repaired.

“Impervious” means the hard surface area that either prevents or greatly retards infiltration and causes water to run off the surface in greater quantities or at an increased rate of flow from that present in undeveloped conditions. Surfaces which would ordinarily be considered pervious are considered impervious if they do not allow natural infiltration of stormwater.

“Infiltration” means the passage or movement of water into the soil subsurface.

“Maintenance Agreement” means an agreement between the city and a maintenance organization for private stormwater facilities detailing the operation and maintenance requirements of the facilities.

“Maintenance Organization” means the person(s), company, or nonprofit organization(s) responsible for long-term operation and maintenance of stormwater facilities recorded in the maintenance agreement.

“National Pollutant Discharge Elimination System (NPDES)” means the general, group, and individual storm water discharge permits which regulate facilities defined in federal NPDES regulations and regulated through the Oregon Department of Environmental Quality.

“Net Impervious Area” means the increase in impervious area on a property after a project is completed.

“Non-Stormwater Discharge” means any discharge to the stormwater system that is not composed entirely of stormwater.

“Pollution” means a contamination or other degradation of the physical, chemical, or biological properties of a watercourse; or a discharge into a watercourse that could create a public nuisance or contaminate a watercourse such that its beneficial use, aquatic habitat, public health or public safety is at risk.

“Project” means an activity that creates impervious areas.

“Project Start” means the first ground-disturbing activity associated with a project including, but not limited to, preparatory activities such as clearing, grubbing, grading, excavating, and filling.

“Project Summary” means a narrative that includes the project description, location, emergency contacts, and other information determined by the public works director such that the project can be located and a determination made regarding methods of stormwater management.

“Responsible Party” means a person or entity holding fee title to a property, tenant, lessee, or a person or entity who is acting as an owner’s representative including any person, company,

nonprofit organization or other entity performing services that are contracted, subcontracted, or obligated by other agreement to meet the requirements of this code.

“Sediment” means soil or other surface material held in suspension in surface water or stormwater.

“Sedimentation” means the process or action of sediment being deposited as a result of decreased water volume or velocity.

“Sensitive Resources” means any area that, due to the natural resources or lack of filtering capacity present, is significantly more susceptible to the negative impacts of sedimentation, erosion and stormwater. Examples include direct hydrologic connections to lakes, streams, wetlands, springs, seeps, or other water resources; conservation areas; highly erodible soils and steep slopes; riparian buffers; high water tables; minimal depth to bedrock; infiltration areas, significant natural areas and environmental corridors; areas of historical importance; or areas inhabited by endangered species.

“Site” means any property or combination of properties where a project is being proposed or completed.

“Slope” means the increase in elevation of a ground surface expressed as a ratio of horizontal distance to vertical distance.

“Soil” means natural deposits overlying bedrock.

“Stabilize” means when vegetation or surfacing material is in place and well-established providing an area with maximum erosion protection.

“Stabilization” means the use of vegetative or structural techniques to prevent soil movement.

“Stockpile” means storage of any soil, sand, gravel, clay, mud, debris, refuse, or any other material, organic or inorganic, in a concentrated area.

“Stop Work Order” means an order issued by the director which requires all project activity, except those specifically stated in the stop work order, to cease on the site.

“Stormwater” means water that originates as precipitation on a particular site, basin, or watershed and flows over land or impervious surfaces without percolating into the ground.

“Stormwater Facility” means a location where stormwater collects to filter, retain, or detain stormwater for the purposes of water quality or quantity management. The facility may be structural or non-structural, has been designed and constructed according to city design standards, and has been required by the city.

“Stormwater Facility Operations and Maintenance Plan” means the required steps to be undertaken by an owner or maintenance organization to ensure proper functioning of a stormwater facility.

“Stormwater Management” means techniques or structures intentionally used to temporarily or permanently reduce or minimize the adverse effects of stormwater velocities, volumes, and water quality on receiving watercourses. A series of techniques or structures constitute a stormwater system or treatment train.

“Stormwater System” means the combination of both artificial and natural systems of drains, ditches, canals, culverts, detention ponds, retention ponds, dams, and other water control facilities used for collecting and transporting stormwater.

“Street Wash Water” means water used to wash streets after emergency personnel actions or when the organization or person has received prior city approval to discharge as long as the area is previously cleaned using dry methods such as a sweeper or broom and the discharge to the stormwater system does not exceed federal or state water quality standards

“Structure” means anything constructed or built, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

“TMDL” means Total Maximum Daily Load.

“Visible And Measurable Erosion” means the deposition of soil, sand, dirt, dust, mud, rock, gravel, refuse, or any other organic or inorganic material exceeding a volume of one-half cubic foot into a public right-of-way or public property, or any component of the city’s stormwater system either by direct deposit, dropping, discharge, or as a result of erosion; a flow of turbid or sediment-laden water beyond the property of origin or into the city’s stormwater system; or earth slides, mud flows, land slumping, slope failure, or other earth movement that leaves, or is likely to leave, the property of origin.

“Watercourse” means any natural or artificial stream, river, creek, ditch, channel, canal, conduit, culvert, drain, gully, ravine, swale, or wetlands in which water flows either continuously or intermittently. The width of the watercourse includes any adjacent area that is subject to inundation from overflow or floodwaters from the design storm.

“Wetlands” means transitional lands where the water table is usually at or near the land surface or the land is covered by shallow water. Wetlands:

1. Support, at least periodically, plants that thrive in saturated conditions;
2. Contain predominately undrained hydric soil; or
3. Are saturated or covered with shallow water at some time during the growing season of each year.

EROSION CONTROL

13.25.01 PURPOSE AND INTENT.

- A. The purpose of these regulations is to protect, maintain, and enhance public health, public safety, and public welfare by establishing minimum requirements and procedures to control sources of windborne and waterborne erosion and the effects associated with sediment that results from erosion. The application of this code and provisions expressed herein are minimum requirements.
- B. The intent is to:
 - 1. Minimize soil erosion;
 - 2. Minimize flooding, sedimentation, and erosion of local watercourses;
 - 3. Ensure proper maintenance and inspection of erosion and sediment controls;
 - 4. Ensure proper storage of construction materials and staging and proper storage of debris on-site; and
 - 5. Minimize effects of projects on downstream stormwater facilities and watercourses.

13.25.02 SCOPE.

- A. No person shall undertake a ground-disturbing project without having provided erosion and sediment controls that address erosion caused by wind or rain unless exempted by **NMC 13.25.03**. In addition to complying with the requirements of this code, each site shall comply with the Newberg comprehensive plan, the Newberg development code, and any other applicable city of Newberg codes or plans.
- B. These requirements apply to:
 - 1. The person undertaking a ground-disturbing project, the implementer of the project, and the person's successors in interest;
 - 2. Projects which require a permit; and
 - 3. Projects or activities not requiring a permit but which have the potential to generate discharges that are in violation of water quality standards.
- C. Projects which do not require a permit and which are not exempt from the requirements of these regulations shall:
 - 1. Notify the city when the project starts;
 - 2. Comply with erosion and sediment controls required by **NMC 13.25.04**;
 - 3. Comply with procedures required by **NMC 13.25.04**; and be
 - 4. Subject to the enforcement actions and penalties of these regulations.
- D. Projects which do not require a permit but which violate basic erosion and sediment control requirements shall be subject to the penalties section of this code.

13.25.03 EXEMPTIONS.

- A. Agricultural activities that do not create a discharge of visible and measureable erosion to the stormwater system are exempt from these regulations unless identified by the city as having the potential to cause water-quality violations.
- B. Activities that comply with the requirements of their DEQ 401 Water Quality Certificate are exempted from these regulations unless they are identified by the city as requiring special considerations as defined by the erosion and sediment control manual.

- C. Activities that comply with the requirements of permits issued by the Department of State Lands or the Army Corps of Engineers are exempted from these regulations unless they are identified by the city as requiring special considerations as defined by the erosion and sediment control manual.
- D. Emergency actions to alleviate an immediate threat to public health and safety or to public or private property are exempt from these regulations.
- E. Activities that do not disturb more than 500 square feet of land are exempt from these regulations provided that they:
 - 1. Are not located in either a floodplain or the Newberg stream corridor overlay sub-district; or
 - 2. Do not discharge stormwater offsite that exceeds the water-quality limits imposed by the city's Willamette River TMDL Implementation Plan, DEQ, or US Environmental Protection Agency.

13.25.04 EROSION AND SEDIMENT CONTROLS.

- A. Approval of erosion and sediment controls for a project does not, by itself, transfer responsibility from the responsible party to the city.
- B. The city shall be notified when the project starts as defined by this code.
- C. Types of erosion controls that are approved for projects within city limits are described in the erosion and sediment control manual.
- D. Prior to ground disturbance, the responsible party shall ensure that erosion and sediment controls are properly installed and functioning to:
 - 1. Minimize sediment transport from the site through the use of construction entrances and exits;
 - 2. Protect stormwater system inlets that are immediately downstream of the site;
 - 3. Ensure proper storage of construction materials and staging and proper storage of debris on-site;
 - 4. Minimize dust and other windborne erosion;
 - 5. Stabilize soil in disturbed areas; and
 - 6. Protect onsite and offsite soil stockpiles during rain events or when dust is raised by gusting winds;
- E. The responsible party shall ensure that the following basic procedures are followed:
 - 1. Use of dry methods, such as a shovel or broom, to remove soil or construction debris left or tracked into the public right-of-way by the end of the working day; and
 - 2. Inspect erosion and sediment controls weekly and after rain events.
- F. For projects requiring a city, state, or federal permit:
 - 1. The approved ESC plan shall be available onsite during active construction; and
 - 2. Erosion and sediment controls shall be installed in accordance with the approved ESC plan or 1200-C permit prior to ground disturbance.
- G. Additional erosion and sediment controls may be required by the city if the site has special hydrologic or topographic considerations such as:
 - 1. Slopes of 10% or more;
 - 2. Disturbances within 100 feet of sensitive resources, watercourses, or the Newberg stream corridor overlay sub-district;
 - 3. Disturbance of 10,000 square feet or more of land at any one time; or

4. Any other condition specified in the ESC manual as warranting special consideration;
- H. Additional erosion and sediment controls may be required by the city if the project:
 1. Is identified by the city as having easily erodible soil, current severe erosion, or could affect adjacent properties or watercourses due to stormwater quality, flooding, erosion, or sedimentation;
 2. Is identified by the city to potentially generate stormwater that would create a violation of DEQ water quality standards; or
 3. Is active between October 1 and April 30.

13.25.05 EROSION AND SEDIMENT CONTROL (ESC) PLANS.

- A. Applicants submitting permit applications or contract submittals shall, at the same time, submit either an ESC plan for review and approval by the city or a copy of the documents submitted to DEQ for their 1200-C permit program.
 1. No permits shall be issued until the ESC plan is approved by the city or the applicant has provided a copy of the 1200-C permit issued by the DEQ to the city.
 2. The ESC plan shall contain sufficient information to evaluate the proposed project's effect on adjacent and downstream public and private properties and on public health and safety.
- B. ESC plans shall include:
 1. Site location;
 2. Scaled drawing with north arrow;
 3. Legend defining any symbols and the scale used;
 4. Property lines and watercourses of the site;
 5. Areas that are defined as within the limits of the Newberg stream corridor overlay sub-district, as defined by the Newberg development code;
 6. Onsite structures including accessory structures such as sheds;
 7. Timeline for installing and removing erosion controls;
 8. Locations and types of erosion controls;
 9. Location of construction entrances and exits and concrete washouts;
 10. Soil stabilization methods and schedule for stockpiles;
 11. Location of riparian and sensitive resources within 100 feet of the site;
 12. Location of all trees with an 8-inch or larger DBH (diameter measured at breast height) within or adjacent to the project site.
 13. Grading plan showing the slope of the site before and after construction;
 14. Stormwater points of discharge;
 15. Methods for re-vegetating the site after construction;
 16. Storage area locations for construction debris and toxic or hazardous materials used during the project;
 17. Methods that will be used to dispose of construction debris and toxic or hazardous materials used during the project;
 18. Methods for removal of saw-cutting slurry or debris;
 19. Methods for implementing dust control on the project site;
 20. Spill prevention and response procedures;
 21. Inspection procedures and tentative schedule;

22. Name and 24-hour emergency contact information for the person responsible for maintaining and inspecting erosion and sediment controls; and
23. Any other provisions required by the erosion and sediment control manual.

13.25.06 EROSION AND SEDIMENT CONTROL PLAN REVISIONS

- A. The city may require a revision to the ESC plan due to a change in the site conditions and the ability of erosion and sediment measures to adequately control:
 1. Stormwater volume and velocity;
 2. Stormwater quality to receiving watercourses; or
 3. Additional loading that compromises the integrity of downstream stormwater facilities.
- B. The following situations, while not exhaustive, can trigger revisions to ESC plans:
 1. Improper functioning of approved erosion and sediment controls;
 2. A change in project schedules such that the project will be active more than 3 months later than originally scheduled;
 3. Changes in the assumptions used for the soil type, topography, hydrologic, or hydraulic conditions based on actual conditions discovered during inspections or construction that will affect the proper functioning of previously-approved erosion and sediment controls;
 4. Changes in location, excavation and fill volumes, or square footage of disturbed land that will affect the proper functioning of erosion and sediment controls onsite; or
 5. Changes in construction or maintenance materials or chemicals that affect the proper functioning of erosion and sediment controls.
- C. The person responsible for erosion and sediment controls on the project shall immediately install interim erosion controls and submit a revised ESC plan within three (3) working days of receiving a notice of violation.
- D. Revisions.
 1. Revised plans shall provide an attached narrative with detailed specifications of any changes or additions to the current or proposed erosion and sediment controls.
 2. The narrative accompanying the revised plan shall discuss the triggering situation, corrective action required, and a proposed solution that conforms to the requirements of the ESC manual.
- E. The revised plan and erosion and sediment controls shall be immediately implemented upon the city's approval of the plan.
- F. The city shall not be responsible for any additional costs resulting from a revision to the original ESC plan.

13.25.07 INSPECTIONS.

- A. City Inspections
 1. The city shall inspect the site for compliance with these regulations.
 2. The responsible party shall provide copies of all inspection records for a project within twenty-four (24) hours of a request by the city.
 3. During an emergency, the responsible party shall immediately provide the city with copies of all inspection records for a project.

4. The responsible party shall contact the city within 24 hours of placement of erosion and sediment controls.
- B. Responsible Party Inspections.
1. The responsible party shall keep a maintenance and inspection log documenting the time and date of the inspection and any repairs, adjustments, maintenance, or replacements completed on the erosion and sediment controls.
 2. During construction, inspections of erosion and sediment controls shall be conducted after a rain event or at least weekly during dry weather.
 3. If a site will be inactive for more than 14 days, inspections shall be conducted every 2 weeks.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

13.30.01. PURPOSE AND INTENT.

- A. The purpose of these regulations is to:
1. Ensure public health and safety;
 2. Enhance the water quality of watercourses; and
 3. Maintain and protect the stormwater system.
- B. The intent of these regulations is to:
1. Reduce pollution in stormwater discharges;
 2. Prohibit illicit and illegal discharges into the stormwater system including ditches and culverts;
 3. Prohibit illicit connections to the stormwater system; and
 4. Establish legal authority to inspect, monitor, and enforce compliance with these regulations.

13.30.02. SCOPE.

- A. These regulations apply to all discharges to the stormwater system or watercourses within the city limits that are not composed entirely of stormwater.
- B. These standards are minimum standards and the city neither intends nor implies that compliance by any person with these requirements will ensure no contamination or pollution of watercourses.

13.30.03. GENERAL.

- A. No person shall throw, drain, or otherwise discharge, cause or allow others under its control to throw, drain, or discharge any material other than stormwater into the city's stormwater system, watercourses, or groundwater.
- B. No person shall improperly store, handle, or apply any material that will cause or create, through its exposure to rainfall or stormwater, a discharge in violation of water-quality standards in the receiving watercourse.

13.30.04. EXEMPT DISCHARGES.

- A. The following discharges are allowed under this code unless the director determines that they are, were, or will be a significant source of pollution:
1. Diverted stream flows,
 2. Rising groundwater;

3. Uncontaminated groundwater infiltration as defined by 40 CFR 35.2005(20);
4. Uncontaminated pumped groundwater;
5. Foundation or footing drains;
6. Air conditioning condensate;
7. Springs;
8. Water from crawl space pumps;
9. Flows from riparian habitats and wetlands;
10. Discharges from fire-fighting activities.
11. Discharges from irrigation, lawns, and gardens that do not violate water-quality regulations; and
12. Non-foaming discharges from residential motorized vehicle washing by non-profit organizations for fund-raising events or by city residents.

13.30.05. CONDITIONAL EXEMPTIONS.

- A. The following discharges are allowed if they meet their respective restrictions and are not identified by the director as a significant pollution source:
 1. De-chlorinated, pH-adjusted, and controlled discharges from hyper-chlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic testing that do not pose a threat of erosion to the receiving watercourse;
 2. De-chlorinated, pH-adjusted, and controlled discharges from swimming pools, hot tubs, and spas that do not pose a threat of erosion to the receiving watercourse. This exemption does not include filter backwash;
 3. Non-stormwater discharges regulated by a NPDES permit so long as the discharge complies with the permit limits and written approval has been granted by the director; and
 4. Street wash water.

13.30.06. ILLICIT CONNECTIONS.

- A. The existence of illicit connections to the stormwater system is prohibited and a violation of this code.
- B. Illicit connections shall be disconnected from the stormwater system upon receipt of a written notice of violation.

13.30.07. ILLEGAL DUMPING.

- A. No person may cause or contribute to pollution of watercourses or the stormwater system.
- B. No person may cause or contribute to stormwater system or watercourse blockages.
- C. Materials deposited in proper waste receptacles for the purposes of collection are exempt from these requirements.

13.30.08. RIPARIAN DESTABILIZATION.

- A. Any person owning property with either a watercourse running through or bounding the property lines shall keep and maintain that part of the watercourse within the property reasonably free of man-made trash, debris, and other obstacles that would pollute, contaminate, or impede the flow of the watercourse.

- B. Any person with a watercourse bounding or running through their property shall maintain native streambank vegetation or provide other stabilization measures to protect the watercourse from erosion or degradation while, at the same time, not adversely affecting downstream properties or stormwater facilities.

13.30.09. DISCHARGES IN VIOLATION OF NPDES PERMIT.

- A. Any discharge that would result in or contribute to a violation of a NPDES permit either separately or in combination with other discharges is prohibited from discharge into the stormwater system or watercourses lying within the city limits.

13.30.10. COMMERCIAL AND INDUSTRIAL DISCHARGES.

- A. Commercial or industrial operations or businesses not covered by a NPDES permit shall follow proper disposal and spill prevention practices.
- B. Direct discharges or sheetflow to the stormwater system or watercourses within city limits is expressly prohibited unless listed as exempt or conditionally exempt in these requirements.

13.30.11. SPILL PREVENTION PLANS.

- A. Facilities that handle, store, or use hazardous or toxic substances in quantities that equal or exceed quantities listed in OAR Chapter 340-142-0050 or that are otherwise required by state or federal law to have a spill prevention plan shall provide a copy of the plan to the director.

13.30.12. SPILL NOTIFICATION.

- A. In the event of the release or the imminent threat of a release of a hazardous or toxic material, the person owning or having control over the material shall immediately implement the applicable spill plan or other contingency plan document prepared in compliance with these regulations.
- B. If a spill plan or contingency plan is not implemented for any reason, the person owning or having control over the material shall immediately take the following actions in the order listed:
 - 1. Activate alarms or otherwise warn persons in the immediate area;
 - 2. Undertake every reasonable method to stop the spill and contain the oil or hazardous material;
 - 3. Call 911 if there is a medical emergency or public safety hazard; and
 - 4. Arrange for properly trained and equipped personnel or contractor to stop any continuing release and manage the specific material spilled.
 - a. Immediately hire a qualified contractor to respond and manage the spill if the necessary actions are beyond the ability of the responsible person's representatives on-site or the responsible person's own response services will be delayed in arriving at the spill site.
 - b. If the person owning or having control over oil or hazardous material does not, or cannot, immediately arrange a response acceptable to the city, the city may dispatch a contractor and seek recovery of all costs incurred by the city resulting from this action.

C. Immediately report the spill or release as required by OAR 340-142-0040.

13.30.13. INSPECTION AUTHORITY.

- A. Whenever the city has a reason to believe that there exists or potentially exists, in or upon any premises, any condition which constitutes a violation of this chapter, the city shall be permitted access to the property or facility to determine compliance. If the premises are unoccupied, the city may enter the property without permission if immediate abatement is required.
- B. The city reserves the right to set up devices to conduct monitoring and sampling of discharges from the property or facility.

13.30.14. SUSPENSION OF DISCHARGE ACCESS.

- A. The city may suspend a facility's or person's ability to discharge into the stormwater system or watercourses when it is necessary to stop:
 - 1. An actual or threatened discharge that presents or threatens to present a violation of water quality standards.
 - 2. Repeated violations by a facility or person; or
 - 3. A facility or person from continuing illicit discharges after they have been notified to cease and desist.
- B. Resumption of a suspended discharge access without the prior approval of the director constitutes a separate and distinct violation of this code.

13.30.15. REMEDIATION.

- A. If the director determines that an illicit or illegal discharge or accidental spill has resulted in degradation or harm of the stormwater system or watercourses within the city limits, it reserves the right to require remediation of the degraded area, including watercourses, by the owner of the property or facility within a specified timeframe.

13.30.16. COMPENSATORY ACTION.

- A. In lieu of an enforcement proceeding authorized by these regulations, the director may require alternative compensatory action(s) in response to minimal and isolated occurrences of non-compliance by any person found to be in violation of these requirements. Such action may include, but is not limited to, participation in pollution prevention public education efforts or participating in stream restoration projects by qualified non-profit groups.

STORMWATER MANAGEMENT

13.35.01 PURPOSE AND INTENT.

- A. The purpose of these regulations is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the effects associated with increased stormwater from impervious areas in the city limits by requiring affected projects to control the volume and velocity of stormwater discharged from the site.
- B. The intent of these regulations is to:

1. Encourage the preservation and use of the natural topography for receiving and conveying stormwater from a site;
2. Minimize local flooding, sedimentation, and stream channel erosion;
3. Maintain optimum temperatures for native fish and riparian habitat;
4. Protect stormwater facilities already existing downstream; and
5. Ensure that stormwater facilities are properly maintained with accurate records.

13.35.02 SCOPE.

- A. These requirements apply to:
1. Projects or activities that ordinarily would be exempt but are part of a larger common development plan that meets the criteria. This is true even if the activities appear to be separate and distinct and take place at different times and on different schedules;
 2. Projects or activities that have the potential to discharge stormwater to watercourses which will degrade their beneficial use or cause a violation of water quality standards set by the city's Willamette River TMDL Implementation Plan; DEQ, or the US Environmental Protection Agency.
 3. Projects that create a net impervious area of 500 square feet or more; or
 4. Projects or activities that change the pre-project land contours such that 500 square feet or more of new drainage discharges into the stormwater system or watercourses within the city limits.
- B. These requirements do not apply to:
1. Projects on a single lot containing an existing single family residence as the primary use and which are contracted or completed by the resident of that lot; or
 2. Emergency measures taken to alleviate an immediate threat to the public, environment, or downstream stormwater facilities.

13.35.03 STORMWATER TREATMENT.

- A. Projects shall use techniques or create stormwater facilities that maintain the water quality and beneficial uses of the receiving watercourse.
- B. The discharge rate and stormwater volume leaving a site shall conform with the requirements of the design standards manual and:
1. Be within the capacity of downstream stormwater facilities;
 2. Not create or increase existing erosion or flooding problems of adjacent properties or areas downstream of the site; and
 3. Maintain historic drainage properties of adjacent properties and watercourses.
- C. Stormwater facilities that discharge to the city's wastewater system shall be considered an illegal discharge.

13.35.04 FACILITY DESIGN.

- A. Prior to receiving a permit for a project not exempted by this code, the director and applicant shall discuss the stormwater requirements of the project in sufficient detail to provide a foundation for the design of the stormwater facilities.
1. All projects which create 500 square feet or more of net impervious area that directly discharges to a watercourse or occur on properties with existing severe

erosion problems may be required to provide engineered stormwater facilities that meet the requirements of this code and the city's design standards manual.

2. Projects disturbing 1 acre or more of land shall have stormwater facilities that are designed by a professional civil engineer and meet all of the requirements of this code and the city's design standards manual.
 3. Projects disturbing less than 1 acre of land but creating 2,877 square feet or more of net impervious area shall provide a summary of the project, design flow calculations, and proposed methods for treating stormwater to the director in accordance with requirements specified in the city's design standards manual.
 - a. The submitted material shall be used by the director to determine whether the proposed stormwater facilities are subject to **NMC 13.35.04.A.2**.
 - b. 2,877 square feet is the current average impervious area on a lot in Newberg.
 4. Projects creating 500 square feet or more of net impervious area but less than 2,877 square feet of net impervious area shall provide a project summary and the general stormwater flow direction as specified in the city's design standards manual.
 - a. The material shall be used by the director to determine whether stormwater facilities are required for the project and subject to **NMC 13.35.04.A.3**.
 - b. 2,877 square feet is the current average impervious area on a lot in Newberg.
 5. Projects on properties lying partially or completely within the 100-year floodplain or the Newberg stream corridor overlay sub-district are subject to additional requirements as specified in the city's design standards manual.
- B. All stormwater facilities, structural and non-structural, shall have an emergency overflow or bypass that is designed to passively function and route excess floodwaters to an appropriate location that minimizes the effect of the overflow to adjacent properties.

13.35.05 FACILITY RESPONSIBILITY.

- A. The city shall operate and maintain public stormwater facilities.
- B. Privately-owned stormwater facilities shall be operated and maintained by the owner or maintenance organization.
 1. The city does not accept responsibility for the design, installation, operation, or maintenance of any stormwater facility unless an agreement specifying such responsibility is executed between the city and the owner or maintenance organization.
 2. Approval of stormwater facilities, a project, or a maintenance agreement does not, by itself, transfer responsibility from the owner or maintenance organization to the city.
 3. Failure to properly operate or maintain private stormwater facilities shall constitute a violation of this code.

13.35.06 MAINTENANCE.

- A. The owner or maintenance organization shall enter into a maintenance agreement with the city that shall be binding on the owner or maintenance organization and all subsequent owners of the properties served by the stormwater facilities.
- B. The maintenance agreement shall be recorded in the deed records of Yamhill County, Oregon.
- C. A facility operations and maintenance plan previously approved by the city shall be provided by the applicant to the maintenance organization, if different from the applicant, at project completion.
- D. Privately-owned stormwater facilities shall be inspected and maintained in accordance with the facility operations and maintenance plan.
- E. Annual reports shall be submitted to the city by the maintenance organization attesting to the proper functioning, maintenance, and safety of the stormwater facilities.
- F. Annual reports shall include current 24-hour emergency contact information. When emergency contact information changes midyear, the director shall be notified by letter within fifteen (15) business days.
- G. Stormwater facilities shall remain functionally unaltered unless prior approval has been obtained from the director.
- H. The director may authorize the immediate repair of any stormwater facility that poses an immediate threat to public health and safety; public or private property adjacent to or downstream of the stormwater facility; or the water quality, riparian habitat, or channel morphology of the receiving watercourse.

13.35.07 INSPECTIONS.

- A. Authorized city representatives may inspect stormwater facilities to determine compliance with the requirements of this code.
- B. The maintenance organization shall allow authorized city representatives access to the stormwater facility for the purpose of inspection, sampling, records examination, or in the performance of any duty required to ensure compliance with this code.
- C. The maintenance organization shall provide copies of records, reports, or other maintenance or operating documents requested by an authorized city representative during their inspection.
- D. Entry shall be made during normal operating or business hours unless an emergency situation exists as determined by the director.
- E. Authorized city representatives shall present appropriate credentials at the time of entry. If the property or facility is unoccupied, the authorized city representative shall make a reasonable effort to locate the owner or emergency contact on the maintenance agreement.

13.35.08 VARIANCES.

- A. The director may grant a variance from any requirement of this chapter if there are exceptional circumstances such that adherence will not fulfill the intent of this code.
- B. A written request for a variance shall be provided to the director which states the specific variance sought and reasons for granting the request.

- C. In a variance request, the applicant shall include design flow calculations showing the effects, if any, that the variance will have on the:
 - 1. Adjacent property drainage patterns;
 - 2. Local flooding, sedimentation, and stream channel erosion;
 - 3. Beneficial uses or water quality of the receiving watercourse; and
 - 4. Proper functioning of downstream stormwater facilities, culverts, bridges, dams, and other structures.
- D. No variance granted by the director shall be construed as providing precedence for future projects or facilities by any applicant.
- E. When the director grants a variance, the applicant shall satisfy the requirements of this code through one or more of the following options as determined by the city and which are commensurate with the volume and velocity of stormwater expected by the project:
 - 1. Upgrading improperly functioning stormwater facilities downstream of the project;
 - 2. Providing new stormwater facilities downstream of the project;
 - 3. Providing the city with a conservation easement within the watershed of the receiving watercourse; and
 - 4. Payment of a mitigation fee due before the construction start date and based on 150% of the cost of providing stormwater volume and water quality control expected by the project.

ENFORCEMENT AND PENALTIES

13.40.01 GENERAL.

- A. The city may, for enforcement purposes, use any one of the following actions, a combination of them, or any other legal action depending on the severity of the violation:
 - 1. Notice of violation;
 - 2. Stop work order;
 - 3. Summary abatement;
 - 4. Refuse to issue a certificate of occupancy;
 - 5. Modify, suspend, revoke, or withhold final approval of a city permit; or
 - 6. Refer the issue to legal action.
- B. Communication to one responsible party shall be regarded as communication to each responsible party for the purposes of this code.
- C. In addition to any other sanctions, civil action or criminal prosecution may be brought against any person, company, or organization in violation of this code.

13.40.02. CONCEALMENT.

- A. Causing, permitting, aiding, abetting, or concealing a violation of any provision of these requirements shall constitute a violation of these regulations.

13.40.03. NOTICE OF VIOLATION.

- A. The city may issue a notice of violation if a responsible party has violated or failed to meet a requirement of this chapter.

- B. Failure to comply with a notice of violation is a separate violation of this chapter.
- C. Failure to complete the actions required in the notice of violation within the deadline may result in a summary abatement action by the city.

13.40.04 STOP WORK ORDER.

- A. The city may issue a stop work order to allow proper remedial action or to deflect an immediate threat to public health or safety or the water quality of receiving watercourses.
- B. The stop work order shall list the conditions under which work may resume. The responsible party shall contact the city for an inspection when the conditions for resuming work have been fulfilled.
- C. It is a violation of these regulations for any person to remove, obscure, mutilate or otherwise damage a stop work order or prevent the city from posting one.

13.40.05. SUMMARY ABATEMENT.

- A. If the responsible party fails to fulfill the steps required in an enforcement action within the deadline prescribed by the city, the actions will be completed by the city and the owner shall be responsible for reimbursing the city for 150% of the cost of the investigation, repair, and remediation of the situation including labor, material, administrative, and legal expenses.
- B. If the owner does not remit payment within 45 days of notification, the debt shall be declared as a special assessment against the property and shall constitute a lien by the city against the subject property.
- C. Any relief obtained under this section shall not prevent the city from seeking other relief as allowed by law.

13.40.06. APPEAL PROCEDURE.

- A. Any person aggrieved by a decision or action of the director under this chapter may file a written request with the city manager for reconsideration within ten (10) calendar days of notification of the decision or action. The request for reconsideration shall clearly describe the:
 - 1. Decision or action being appealed including the date of the decision or action;
 - 2. Property location;
 - 3. Facts and arguments supporting the request for reconsideration; and the
 - 4. Specific grounds on which the appeal is filed.
- B. The city manager may establish such procedures as may be deemed necessary or proper to conduct the reconsideration process and shall make a determination regarding the appeal within ten (10) business days of the receipt of the request for reconsideration. The filing of a request for reconsideration by the city manager shall be a condition precedent to the right to appeal to the city council. The filing of an appeal shall not stay enforcement of an action by the director in emergency situations as previously defined in this chapter.
- C. Any person aggrieved by the city manager's determination under this chapter may appeal to the city council within ten (10) days of notification of the city manager's decision. Written notification of the appeal shall be filed with the city council and the city manager along with a payment of fifty dollars (\$50.00). The filing of a

request for reconsideration by the city council shall set forth in reasonable detail the decision or action being appealed and the facts and arguments supporting the request for reversal or modification.

- D. The city council shall conduct a hearing on the appeal according to established council procedures. The hearing shall be conducted at the earliest possible regularly scheduled city council meeting with final city council action being taken on the appeal within sixty (60) days after its initial filing.

13.40.07 PENALTIES.

A. General.

1. Tampering with or knowingly rendering nonfunctional any sediment or erosion control, monitoring device, or stormwater facility required under these regulations constitutes a separate and distinct violation of this code.
2. The following shall constitute a separate and distinct violation of this code:
 - a. Notice of violation;
 - b. Disregarding or interfering with a stop work order;
 - c. Failure to remediate or failure to abate;
 - d. Failure or refusal to reimburse the city for expenses incurred as a result of summary abatement; and
 - e. Each day of continued violation.
3. Any relief obtained under this section shall not prevent the city from seeking other relief as allowed by law.

B. Falsifying Information.

1. Any person making false statements, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to this code shall be in violation of this code.
2. In addition, the responsible party or their agent shall be subject to the provisions of 18 U.S.C. 1001 relating to fraud and false statements; and the provisions of Section 309(c) of the Clean Water Act, as amended, governing false statements, representation, or certification and responsible corporate officers.

C. Any person, firm, or corporation or any agent or employee of these entities violating the provisions of this code that pertain to federal or state law shall have committed a class 1 civil infraction.

D. Any person, firm, or corporation or any agent or employee of these entities violating the provisions of this code that pertain to municipal law and whose violations are not deemed a nuisance shall have committed a class 2 civil infraction or class 1 civil infraction.

E. Any person, firm, or corporation or any agent or employee of these entities violating the provisions of this code that pertain to municipal law and whose violations are deemed a nuisance shall be punishable as class 4, class 3, or class 2 civil infractions.

F. Any violation of this code shall be processed in accordance with the procedures set forth in the "Uniform Civil Infraction Procedure Ordinance," of the Newberg municipal code.

LOCAL AND COMPARABLE CITY PROGRAMS

Research was completed on cities in the area with populations similar to Newberg. Whether a city had municipal codes in place for construction site runoff, illicit discharges, and post-construction runoff depended on whether the city was being required to adopt regulations through NPDES permits and TMDL Implementation Plans.

EROSION CONTROL

Local Program

Currently, the City does not have erosion control regulations in place. Inspectors and code enforcement officers use public education on projects less than 1 acre to address erosion and sediment controls. Contractors submit erosion control sheets with other construction plan submittals to the Building and Public Works-Engineering Divisions. The Building Division does not comment on erosion control sheets for private projects however projects that disturb 1 acre or more are required to submit their 1200-C permit documents. Public Works-Engineering Division comments on erosion control sheets that affect existing public facilities or are proposed to be used on projects with public facilities such as streets and curbs. Neither Building nor the Public Works-Engineering Division conduct official erosion control inspections.

Comparable City Programs

Most cities with municipal code in place for construction site runoff use the same erosion and sediment control (ESC) manual. The manual, finished in 2008, was a collaborative effort between Gladstone, Happy Valley, Lake Oswego, Milwaukie, Oregon City, West Linn, Wilsonville, Oak Lodge Sanitary District, Water Environment Services and Clean Water Services.

Regulatory triggers in municipal code in the area include the area that a project will disturb, site slope, amount of excavation or fill, and vegetated buffers to protect waterways and other sensitive areas. The median triggers are 500 square feet of disturbed area, site slopes of 10 to 12%, and 20 cubic yards of fill or excavation. The median buffer was 100 feet.

Basic practices such as inlet protection, minimizing dust, stabilizing soil, protecting stockpiles, disposing of construction waste properly, and construction entrances were common requirements in the area. Tualatin stipulates that no agricultural runoff enter the Tualatin River and Sherwood prohibits erosion into “waters of the state” while West Linn and Oregon City allow a maximum increase of 10% in turbidity downstream from a construction site.

Daily inspections during the wet weather season and active construction are explicitly required in Lake Oswego, Keizer, and Canby. In Milwaukie, all projects must have an ESC plan however homeowners are not required to produce engineered drawings. Many cities require immediate installation of interim controls with ESC plan revisions within 1 to 3 business days of receiving a notice of violation.

Almost all of the comparable cities require fees to pay for plan review and site inspections. While fees vary from city to city, they tend to be lower for certified plans or smaller project sites. A performance bond or other suitable surety is required for projects in Oregon City, Milwaukie,

and Sherwood. Amounts vary from the cost of installing erosion and sediment controls to a percentage of the project's cost.

Four cities used stop work orders to ensure compliance with municipal code for construction site runoff. Penalties range from \$300 to \$1,000 however most codes cite the type of infraction such as a public nuisance or civil infraction rather than stating a specific amount.

State Program: 1200-C Permits

DEQ 1200-C permits are required when projects disturb more than 1 acre of land, are part of a larger common plan of development that will ultimately disturb more than 1 acre, or are less than 1 acre but have the potential to significantly affect water quality. An ESC plan and land use compatibility statement showing how the proposed project is compatible with a city's comprehensive plan is required by the 1200-C permit. Site inspections must be completed by a designated inspector with contact information available on the ESC plan. Inspection reports must be kept onsite during active construction.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

Local Program

The City does not have municipal code that prohibits illicit discharges and connections to the stormwater system. Citizens are instructed to call Code Enforcement or the Public Works Maintenance Division if they see anyone dumping illicit or illegal material into the stormwater system. Citizens can use [SeeClickFix](#) to report a problem from the city website or a smartphone.

Comparable City Programs

Municipal code in comparable cities tends to follow the requirements of their NPDES permit and TMDL Implementation Plan and exempt specific types of discharges. The codes tend to cover illicit connections, illicit discharges, and illegal dumping. Keizer's municipal code allows the city to recoup any costs from actions to contain spills or discharges that impact water quality in emergency or nonperformance situations. Penalties range from \$1,000 to \$5,000.

STORMWATER MANAGEMENT

Local Program

The City discusses whether stormwater detention and treatment is required for a project at the pre-application conference. Plan review is focused on the system's configuration and conformance with the design standards. Long-term maintenance is addressed through required maintenance provisions in homeowner's association covenants or maintenance agreements between property owners served by the facilities. There is no enforcement mechanism for these provisions.

The city allows a reduction of a property owner's stormwater fee if the property owner submits an annual application to Public Works-Engineering Division that documents specific stormwater management methods.

Comparable City Programs

Privately-owned stormwater facilities are allowed in all of the comparable cities with stormwater regulations. Milwaukie requires private facilities to be designed, installed, and maintained to

their public works standards. Lake Oswego requires infiltration techniques and stormwater velocities that do not increase beyond undeveloped rates. Oregon City exempts stormwater facilities which do not discharge to the public stormwater system however the discharges cannot increase streambank erosion, stream temperatures, exceed 50% of the predevelopment peak runoff rate, or overload existing downstream facilities and conveyance systems. Stormwater discharges in Tualatin must not decrease the water quality of the receiving stream for ¼ mile downstream and/or to the point at which the stormwater volume is less than 10% of the stream volume. In addition, facilities in Tualatin must not increase stormwater velocities and volumes from pre-development rates without a permit.

Many cities require maintenance agreements and annual maintenance reports to ensure properly functioning private stormwater facilities. Canby conducts summary abatement for non-functioning facilities and bills the owner for the expenses. Sherwood and West Linn send out annual notification letters asking owners to confirm proper functioning of their stormwater facilities. Forest Grove requires owners to keep a logbook of inspections and repairs. West Linn requires notification whenever changes are made to a previously approved system and requires certified cleaning of private parking lots and streets. In addition to maintenance agreements and annual reports, many cities have an inspection program to ensure that facilities are properly maintained and functioning.

Maintenance and performance bonds are required by many cities for the construction of stormwater facilities. Performance bonds range from 100% to 150% of the cost to construct the stormwater facilities. Tualatin requires a minimum bond of \$25,000. Maintenance bonds are generally held for 2 years to allow vegetation to become established at a stormwater facility. In Oregon City, developers post a 2-year maintenance bond and also pay the city 15% of the 2-year maintenance cost for a facility. West Linn requires an 18-month bond of 125% of the cost to build the facilities. Sherwood and Tualatin require a maintenance bond of 100%.

SUMMARY

Research was completed on cities in the area with populations similar to Newberg. Most cities use the same erosion and sediment control manual for projects within their jurisdiction. Basic requirements such as inlet protection, dust control, soil stabilization, protection of stockpiles, disposal of construction waste, and construction entrances were common in the region. Most cities require performance bonds and permit fees to pay for plan review and site inspections.

Municipal code for illicit discharges tends to prohibit illicit connections, illicit discharges, and illegal dumping while exempting specific discharges. Keizer includes a summary abatement clause that allows the city to recoup any costs from actions to contain spills or discharges that impact water quality in emergency or nonperformance situations.

Most cities regulate stormwater volume or velocity in order to address erosion. Maintenance agreements, annual reports, and city inspections are used to ensure that private stormwater facilities are functioning properly. Performance and maintenance bonds ensure that stormwater facilities are properly constructed and have established vegetation.

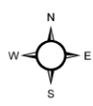
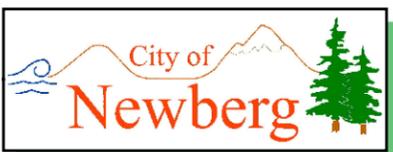
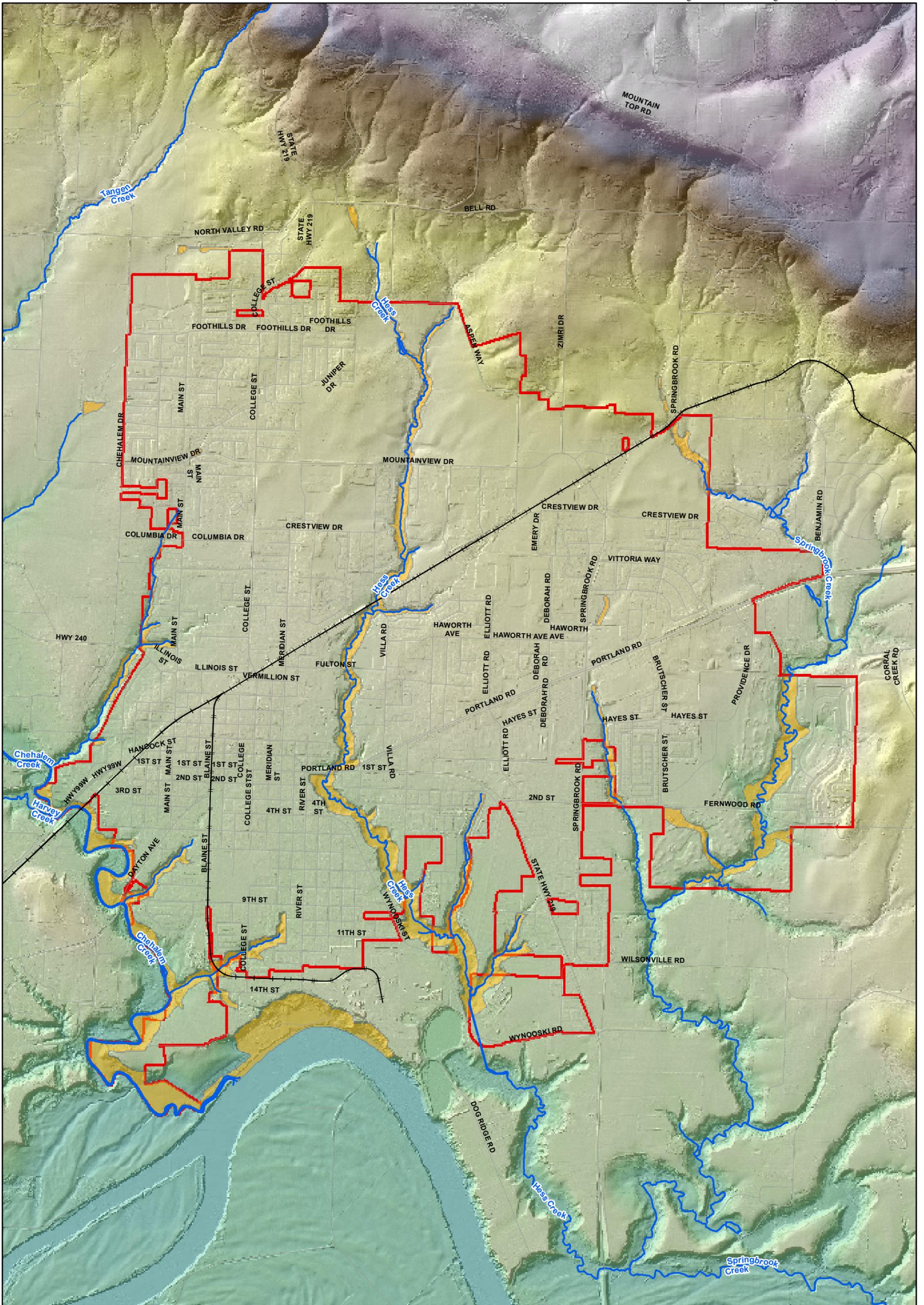
Oregon Drainage Law

Oregon has adopted the civil law doctrine of drainage. Under this doctrine, adjoining landowners are entitled to have the normal course of natural drainage maintained. The lower owner must accept water which naturally comes to his land from above, but he is entitled not to have the normal drainage changed or substantially increased. The lower landowner may not obstruct the run-off from the upper land, if the upper landowner is properly discharging the water.

For a landowner to drain water onto lands of another in the State of Oregon, two conditions must be satisfied initially: 1) the lands must contain a natural drainage course; and 2) the landowner must have acquired the right of drainage supported by consideration. In addition, because Oregon has adopted the civil law doctrine of drainage, three basic elements must be followed:

1. A landowner may not divert water onto adjoining land that would not otherwise have flowed there. It includes but is not necessarily limited to:
 - a. Water diverted from one drainage area to another; and
 - b. Water collected and discharged which normally would infiltrate into the ground, pond, and/or evaporate.
2. The upper landowner may not change the place where the water flows onto the lower owner's land (Most of the diversions not in compliance with this element result from grading and paving work and/or improvements to water collection systems).
3. The upper landowner may not accumulate large quantities of water and then release it, greatly accelerating the flow onto the lower owner's land. This does not mean that the upper landowner cannot accelerate the flow of water at all; experience has found drainage to be improper only when acceleration and concentration of the water were substantially increased.

Source: www.odot.state.or.us

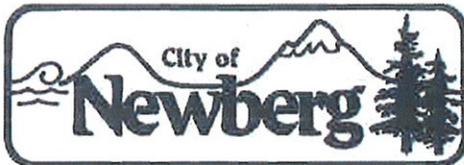


Legend

-  Newberg City Limits
-  Stream Corridor
-  Streams
-  Railroad

Newberg Stream Corridor Overlay

Newberg City Hall
(503) 537-1240
www.ci.newberg.or.us



Public Works Department
Engineering Division
(503) 537-1273

PUBLIC WORKS DEPARTMENT

P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132 • (503) 537-1273 • Fax (503) 537-1277

March 31, 2008

Ms. Nancy Gramlich
DEQ Western Region – Salem Office
750 Front Street NE, Suite 120
Salem, OR 97301-1039

Re: Willamette River TMDL Implementation Plan for the City of Newberg

Dear Nancy,

Enclosed is the TMDL Implementation Plan for the City of Newberg. This fulfills requirements as identified under the Oregon Administrative Rule (OAR) 340-042-0080(3).

Please contact Jason Wuertz at 503-554-1631 if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Danicic", is written over a horizontal line.

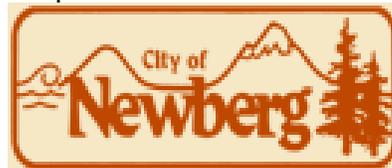
Dan Danicic, PE
Public Works Director
City of Newberg

Willamette TMDL Implementation Plan

City of Newberg, Oregon

March 2008

Prepared for:



414 E First St
PO Box 970
Newberg, OR 97132

Prepared by:

URS

111 S.W. Columbia, Suite 1500
Portland, Oregon 97201-5814
25696460

City of Newberg

Willamette River TMDL Implementation Report

We, the undersigned, hereby submit this TMDL Implementation Report, in accordance with Oregon Administrative Rule (OAR) 340-042-0080(3). We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Dan Danicic, PE
Public Works Director
City of Newberg

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A	Oregon Department of Environmental Quality Notification Letter
B	BMP Implementation Schedule

**Table 1-1
 Acronyms and Abbreviations**

1200-C	DEQ Erosion Control Permit for Construction Activities
ACWA	Oregon Association of Clean Water Agencies
BLM	Bureau of Land Management
BMP	Best Management Practice
CFR	Code of Federal Regulations
CS	Construction Site Standards
CWA	Federal Clean Water Act
CWR	Cold Water Refugia
DMA	Designated Management Agency
DS	Development Standards
EDU	Equivalent Dwelling Unit
ESA	Endangered Species Act
FTE	Full Time Equivalent
ID	Illicit Discharges
IDDE	Illicit Discharge Detection and Elimination
MEP	Maximum Extent Practicable
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
ODOT	Oregon Department of Transportation
OM	Operations and Maintenance
PE	Public Education
PF	Program Funding
PI	Public Involvement
QA/QC	Quality Assurance and Quality Control
RR	Record Keeping and Reporting
SRF	State Revolving Fund
SWMF	Stormwater Management Fee
SWMP	Stormwater Management Program
TMDL	Total Maximum Daily Load
UA	Urbanized Area
UIC	Underground Injection Control
URS	URS Corporation (consultant hired to complete Newberg SWMP)
USEPA	United States Environmental Protection Agency
WPCF	Water Pollution Control Facilities
WQMP	Water Quality Management Plan
YBC	Yamhill Basin Council

1.0 Introduction and Background

1.1 Total Maximum Daily Loads

The Oregon Department of Environmental Quality (ODEQ) has set Total Maximum Daily Loads (TMDLs) for water bodies located in the Willamette Basin. Any agency or municipality that has legal authority over activities or areas that are sources of pollutants that impact water quality are known as Designated Management Agencies (DMAs). DMAs that are responsible for areas draining to a water body with a TMDL must develop an Implementation Plan describing activities or Best Management Practices (BMPs) to be undertaken to address TMDLs (ODEQ 2006). The City of Newberg, located in the Middle Willamette watershed, must comply with this requirement. ODEQ issued a letter to the City of Newberg in October 2006 notifying the City of the requirement (Appendix A). This document serves as the TMDL Implementation Plan for the City of Newberg, specifically addressing Willamette River TMDLs of temperature, bacteria, and mercury.

This document is arranged in three sections. This first section introduces the TMDL Implementation Plan and provides background on the Willamette TMDL, an overview of the TMDL plan, background information on the City of Newberg and Middle Willamette Reach, goals of this TMDL Implementation Plan, and an overview and requirements of the Middle Willamette TMDL Implementation Plan set by ODEQ. The second section covers bacteria and mercury, which is further broken down into subsections covering pollutant information, plans of the City to address the TMDL issues, how and when the strategies will be implemented, and how the implementation will be monitored and measured. The third and final section covers temperature, with similar subsections and implementation details. Unlike bacteria and mercury, temperature is not linked directly with stormwater runoff and is therefore discussed in a separate section.

The Federal Clean Water Act (CWA) of 1977 gave authorization to the U.S. Environmental Protection Agency (EPA) to restore and maintain water quality in all water bodies within the United States. In response to the CWA, the EPA designated certain state agencies, ODEQ for the State of Oregon, to develop water quality standards, perform water quality monitoring to understand current conditions, determine sources of pollution, and develop TMDLs as a tool to improve water quality and restore the beneficial uses of surface waters. When a water body is found not to meet water quality standards, it is first placed on the 303(d) list as an impaired water body, followed by the development of a TMDL.

TMDLs define the amount of each regulated pollutant that can be present in a water body without causing water quality criteria to be exceeded, alternatively described as the loading capacity of a water body. Extensive water quality monitoring and modeling is done to establish the difference between the loading capacity and the current pollutant load which is translated into a percent or numeric pollution reduction goal, or excess load. TMDLs are then set to meet the water quality standards for the water body. Implementation plans are a DMA's response to the TMDL describing management strategies that they will implement and monitor to mitigate excess loading of TMDL pollutants (ODEQ 2006).

In September 2006, DEQ issued a TMDL for nine of the 12 subbasins within the Willamette River Basin in an effort to protect and restore the beneficial uses of the Willamette River. This TMDL is the largest TMDL undertaken by the DEQ thus far. Mercury, bacteria, and temperature have been identified as problematic constituents for the Willamette River. Additional pollutants have been identified as problematic for specific tributaries and portions of the mainstem Willamette River; these pollutants are dissolved oxygen, turbidity, and toxics and are not covered under the scope of this plan as they are not listed of concern in areas covered by Newberg (DEQ 2006).

The Willamette TMDL addresses pollutant loadings from point sources, such as wastewater treatment plants and industrial dischargers, as well as for non-point sources. Stormwater is considered both a point source when flowing through a conveyance system and a non-point source when flowing overland to creeks and rivers. Industrial dischargers are addressed by DEQ through 1200Z permits. TMDL requirements for wastewater discharges will be implemented through the Wastewater NDPEs permits at the time of renewal of the permits. The City of Newberg has an NPDES Permit for their Wastewater Treatment Plant. The City also has a 200-J Permit for discharge of filter backwash water from their Water Treatment Plant. This discharge is not used often since the City recycles most of their backwash filter water. This document only addresses management strategies associated with point and non-point source stormwater runoff and temperature requirements for creeks within the City of Newberg.

1.2 Willamette River and Middle Willamette Reach

The Willamette River watershed is home to 70% of Oregon's population, which equates to over 2 million people (ODEQ 2006). The Willamette River and its tributaries are an important resource for residents of the watershed, providing beneficial uses such as private and public drinking water supply, industrial water supply, irrigation, recreation, aesthetic quality, natural habitat, and other functions.

The Middle Willamette Subbasin includes the Willamette River from Willamette Falls at River Mile 26.6 to River Mile 108. From the east, the Middle Willamette Subbasin drains a portion of the Cascade foothills and the Coast Range from the west. The subbasin stretches from the North near Oregon City and West Linn to the south several miles past Salem. The subbasin is comprised of 698 square miles and is further divided into the following four smaller watersheds: Abernethy Creek Watershed, Mill Creek Watershed, Rickreal Creek Watershed, and Willamette River tributaries/Chehalem Creek Watershed. Portions of five different counties and 15 cities have political jurisdictions within the Subbasin. Although there are small areas of public land strewn throughout the subbasin, it is comprised primarily of private land. Chief land uses include agriculture, forestry, and urban activities (ODEQ 2006).

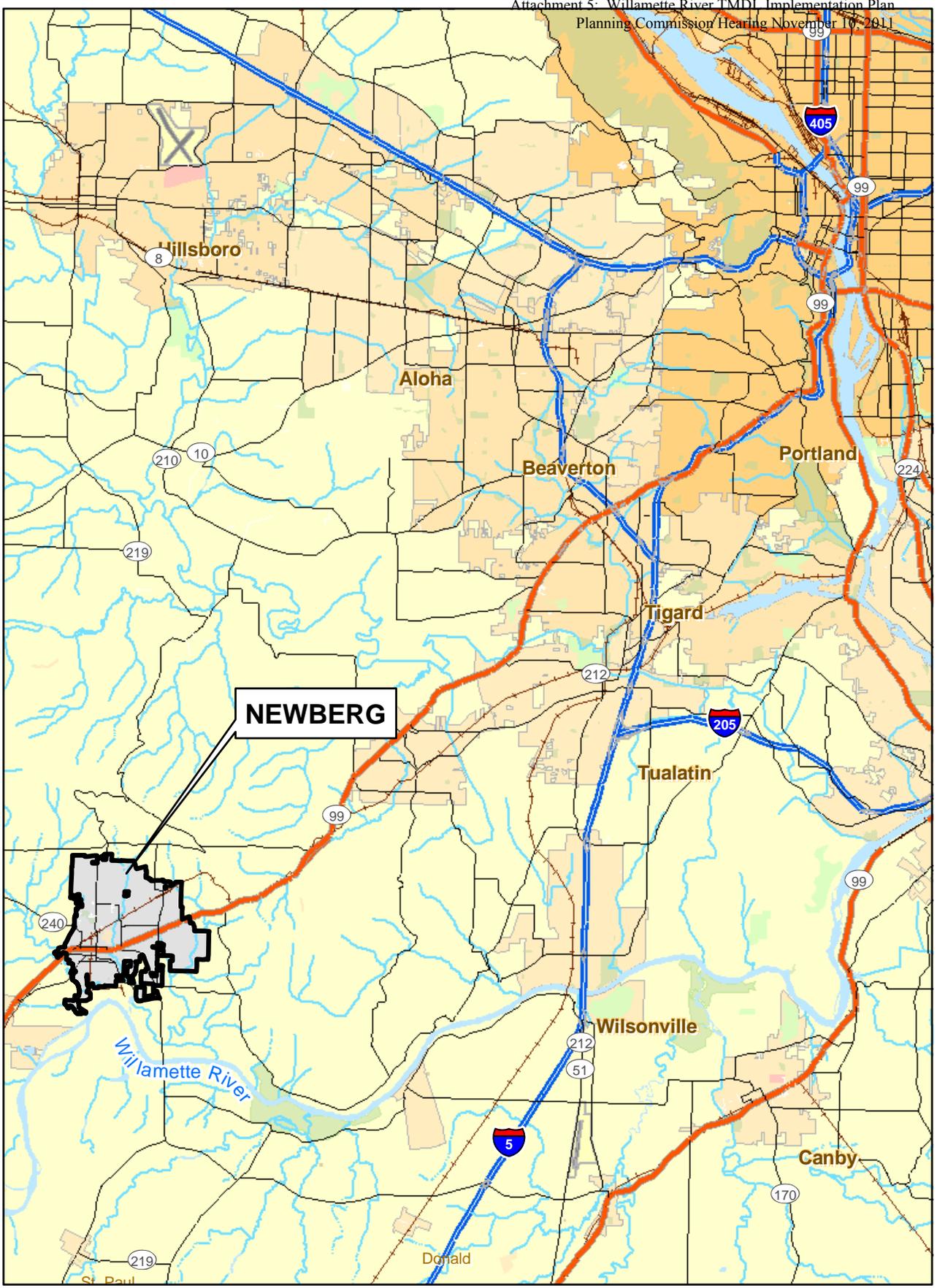
1.3 City of Newberg Background

The City of Newberg is located in northeast Yamhill County, at River Mile 50.2, approximately 25 miles southwest of the City of Portland, see Figure 1-1: Vicinity Map. The area within the urban growth boundary (UGB) is currently 3,984 acres. The current population of the City of

Newberg is 21,675 resident; by the year 2020 the City expects to have close to 34,000 residents according to the City planning department. The City is primarily comprised of single and multi-



1:180,000



0 2.5 5 Miles

VICINITY MAP

CITY OF NEWBERG, OREGON
WILLAMETTE RIVER TMDL IMPLEMENTATION PLAN

FIGURE 1-1

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March 2008

family residential land use with commercial uses primarily isolated to the corridor along Highway 99W. Some industrial land is located in the northeastern portion of the City along the Union Pacific Railroad and in the southern area of the City. It should be noted that the state highways 99W, 219, and 240 are under Oregon Department of Transportation (ODOT) jurisdiction and this TMDL Implementation Plan does not cover those areas.

1.3.1 Organizational Structure

The City of Newberg’s Department of Public Works is responsible for coordinating and implementing a stormwater program and meeting regulatory requirements. Public Works includes three major divisions: Engineering, Operations, and Maintenance. The Department of Planning and Building will be involved in a number of activities particularly as they relate to new development. Figure 1-2 identifies the City of Newberg’s Organizational Structure.

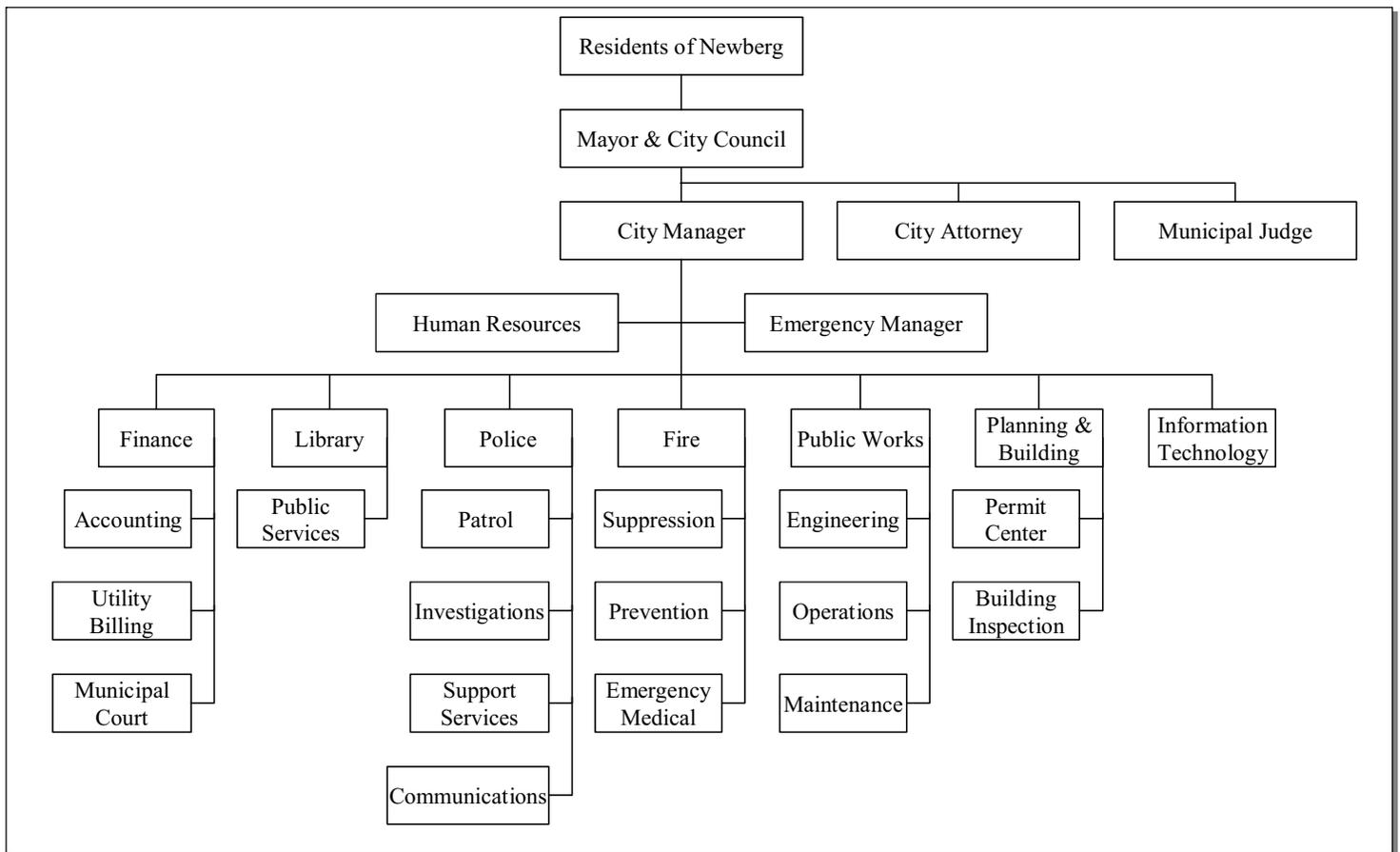


Figure 1-2: City of Newberg Organizational Structure

1.3.2 Primary Watersheds

The City of Newberg has three major drainage ways as shown in Figure 1-3: Springbrook Creek, Hess Creek, and Chehalem Creek. All drainages and creeks are tributaries to the Willamette River, which runs along the southern City boundary. The watershed boundaries of all drainage ways extend outside the UGB into the upland areas. Springbrook Creek flows south along the eastern portion of the City UGB from the Chehalem Mountains northeast of the city boundary. Hess Creek also originates in the Chehalem Mountains, flowing south through the middle of the City where it combines with Springbrook Creek just south of the city boundary. Chehalem Creek flows southeasterly along the southwestern portion of the City UGB. The headwaters of Chehalem Creek are also in the Chehalem Mountains northwest of the city boundary. These waterbodies and their watersheds are part of the Middle Willamette Subbasin.

1.4 Project Goals

The primary goal of this TMDL Implementation Plan is to develop a management plan, consisting of a series of BMPs, that will minimize contributions to surface waters for heat energy (temperature), mercury, and bacteria from areas within the City of Newberg jurisdiction and to meet the TMDLs set forth by ODEQ. Exceeding acceptable levels of these pollutants is a concern because waterways that are too warm will not support healthy salmon and trout; bacteria-contaminated water can cause illness in humans; and elevated levels of mercury in Willamette Basin fish have resulted in health advisories to limit the amount of fish that can be safely consumed.

Municipal Separate Storm Sewer System (MS4) NPDES Phase II permits, addressing stormwater activities within a City, are required of municipalities that have populations larger than 10,000 residents, or a density of greater than 12,000 residents per square mile. With a threshold initially set at 50,000 population, Newberg was not included in the list of cities required to apply for a Phase II permit. However, with the lower population threshold, it is expected that Newberg will be required to apply and implement a Phase II permit in the future when ODEQ updates their list of Phase II permittees. Although the exact timing is unknown, this may occur in 5 to 10 years. As such, both the City and ODEQ are interested in developing the TMDL in a format that uses the six minimum measures for managing stormwater runoff from urban areas required of Phase II permittees. As described in Section 2, the City developed a stormwater management plan (SWMP) in anticipation of the Phase II permit when it is required.

1.5 TMDL Implementation Plan Requirements

The Willamette River TMDL is for the parameters bacteria, mercury, and temperature. ODEQ created a Water Quality Management Plan (WQMP) for the Willamette Basin TMDL in 2006 that is meant to provide the framework for the management strategies to attain and maintain water quality standards within the Willamette Basin (OAR 340-042-0040-(4)). Per the WQMP, these strategies are to be submitted by DMAs to the ODEQ as a TMDL Implementation Plan as per OAR 340-042-0080(3). The TMDL Implementation Plans needs to identify activities that the City is currently conducting, or planning to implement, to address the TMDL parameters and minimize their effects on receiving water quality.



1:32,000



0 0.5 1 Miles

PERENNIAL STREAMS OF NEWBERG

CITY OF NEWBERG, OREGON
WILLAMETTE RIVER TMDL IMPLEMENTATION PLAN



51101-0001 **FIGURE 1-3**

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For the Willamette Basin, specifically, the DMAs are to develop and submit these plans to the ODEQ within 18 months after the release of the final TMDLs as an Order. The final TMDLs were released on September 21, 2006; consequently the TMDL Implementation Plans by the DMAs are due by March 31, 2008.

Oregon Administrative Rule (OAR) 340-042-0080 requires the TMDL Implementation Plan to cover the following five components:

1. Management strategies that will be used to achieve load allocations
2. A timeline and schedule to achieve measurable milestones
3. A plan for periodic review and revision of the implementation plan
4. Evidence of compliance with applicable statewide land use requirements
5. Any other analyses or information as specified in the Water Quality Management Plan

As the first and second requirements are specific to each pollutant, they will be addressed in Sections 2 and 3.

With respect to the third requirement, every TMDL Implementation Plan is required to have a plan for periodic review and revision. Newberg will collect data and record it in the "Status Column" of the TMDL Implementation Matrix (See table 2-3) and provide it to ODEQ. This report will be submitted annually, beginning one year from the date this TMDL plan is submitted and will provide ODEQ with information regarding the status of the management strategies with regards to pollutant allocation and reductions for TMDL implementation. Included in this report will be any incremental steps the City has taken towards meeting the larger goals the City has established. The City may consult ODEQ for determining the format of this annual report.

In addition to the annual reports, the plan will go through a more extensive evaluation every five years to determine how well the plan is working and to identify necessary changes. A report will be submitted to ODEQ every five years from the date this TMDL plan is submitted, documenting the implementation activities, the documented results and any proposed improvements or adjustments. Any changes that were made to the plan based on the annual reviews will be included as well as accomplishments or changes within the jurisdiction that could affect water quality. If the City was unable to meet any of the management strategy deadlines, this will also be reported along with an explanation of why the goals were not met. A summary of goals, performance measures, water quality trends, and any other relevant data will be incorporated in the comprehensive report. The TMDL process is iterative, and thus, ODEQ will review and modify TMDLs as needed based on new scientific information.

ODEQ will re-evaluate the TMDL on a five year cycle. Any revisions to the TMDL resulting from this reevaluation may require DMAs to review and revise their TMDL implementation plan as necessary.

As a means for DMAs to adapt their TMDL plans and ODEQ to adapt the TMDL appropriately, ODEQ has included a monitoring and evaluation element to the TMDL. Per the WQMP, the intent of this element is to “demonstrate long-term recovery, better understand natural variability, track management strategy and BMP effectiveness, and determine whether implementation of TMDL load allocations are achieving water quality standards”. ODEQ has outlined three basic components that should be covered in order to evaluate the progress of the plan. These components and Newberg’s proposed actions, are:

1. *Monitor the implementation of the TMDL Implementation Plan and activities.*
For bacteria and mercury the City will record its progress in implementing the management strategies in the “status” column of Table 2.3 (In section 2). The City will also report this status to ODEQ in its annual report. Any incremental steps towards larger goals will be tracked and reported in the annual report. Progress in meeting the temperature TMDL will be provided in the annual report. The report will specify the Management Strategies implemented and success toward planting effective shade for creeks and streams.
2. *Evaluate the effectiveness of management practices*
The City will track the effectiveness of the BMPs through the performance measures set for specific BMPs. The City will track these quantities in the “status column” of Table 2.3 in order to evaluate the effectiveness of their program. Section 3 provides performance measures for the City to track to evaluate progress in implementing the temperature component of the TMDL.
3. *Track water quality trends to ensure TMDL load and wasteload allocations are being achieved and water quality criteria are being met.*
Newberg is primarily concerned with TMDL load allocations, as wasteloads pertain to NPDES permittees, which does not apply to the City of Newberg. The City will be monitoring the implementation of the BMPs outlined in this plan, tracking activities, and noting improvements. Trends will be monitored through visual inspections at outfalls and tracking public comments and complaints. The City will record results from these monitoring efforts in the “status” column of Table 2.3. The City will coordinate with other agencies to share data on applicable monitoring. As an active member of the Oregon Association of Clean Water Agencies (ACWA), Newberg has access to a network of agencies and local, state, and national information.

These three components will be used to identify areas for continuous improvement and adaptation of this TMDL Implementation Plan.

The fourth requirement is evidence of compliance with applicable statewide land use requirements, indicating that this plan is in conformance with the City’s land use goals and comprehensive plan. This is located in Section 4.

The fifth requirement addresses additional items identified in the TMDL specific to both this TMDL and the DMA. The additional items applicable to the City of Newberg include:

- Determine appropriate legal authority for implementing the proposed TMDL implementation plan.
- Determine sufficient funding for implementing proposed TMDL implementation plan.
- Evaluate opportunities to preserve cold water refugia along Willamette River within Newberg's jurisdiction.
- Provide for public involvement in implementation of proposed TMDL Implementation Plan.

1.5.1 Legal Authority

The City has existing ordinances that provide for implementation of portions of the TMDL Implementation Plan (see Section 1.7). However, as discussed in Section 2, ordinances for illicit discharges, erosion control, and post-construction site runoff, are necessary to implement the six minimum measures addressed in Section 2 and will be developed as part of implementing this plan. Adoption of new development standards will provide guidance to new developers for stormwater standards. The City currently implements a Stream Corridor Overlay District through Part 15 its development code. The implementation of this overlay district limits development and disruption of riparian areas and gives the City legal authority to protect existing riparian vegetation within the District. More information on this overlay district is provided in Section 3. Additionally, an ordinance requiring planting of appropriate shade will be developed to implement part of the temperature strategy discussed in Section 3.

1.5.2 Funding

The City currently charges a stormwater fee that pays for operation and maintenance of the existing system, in addition to all other existing BMPs currently implemented as shown in Table 2-3 with the exception of street sweeping. Street sweeping is currently being funded equally by both the stormwater fee and transportation funding. Additional staff are required to implement the components described in this plan. The City will present this information to their Rate Review Committee in March of 2008, to discuss raising the stormwater rates to enable the hiring of staff for TMDL implementation efforts.

1.5.3 Cold Water Refugia

Evaluation of cold water refugia is required for all DMAs located downstream of River Mile 50. Cold water refugia is discussed in Section 3, Temperature. Evaluation of cold water refugia is intended to preserve existing areas and to identify opportunities for restoring historic areas of cold water inputs to the Willamette River.

1.5.4 Public Involvement

Public involvement is required for development of the TMDL Implementation Plan as well as during implementation of the plan. Specific public involvement activities are described in Sections 2 and 3. Public involvement is also a part of the plan preparation process. The City will announce the availability of the plan for review on their website and post the document for public review. The draft document will also be available from the City when requested. Public

review will take place for a minimum of 30 calendar days. All comments will be responded to and appropriate comments will be incorporated into the final document.

1.5.5 Adaptive Management

As discussed above, the City will review their program on an annual basis during the development of the annual report to be submitted to ODEQ. A thorough evaluation of the program will be conducted every five years. During the annual review, the City will, wherever possible, evaluate the success of the stormwater management strategies and BMPs, based on the results that are tracked throughout the year. Successful strategies will continue to be implemented. Adaptive management processes of adjusting BMPs that are not meeting goals set forth in this plan will be implemented. The strategies will be re-evaluated and either adjusted or eliminated. As mentioned in Section 1.5, DMAs may be required to review and revise their TMDL implementation plan as needed following ODEQ's reevaluation or revision of the TMDL as part of the adaptive management process.

1.6 Regional Collaboration

The City is committed to implementing the strategies outlined in this plan to improve water quality in the Middle Willamette Reach. There are, however, many DMAs and third parties within the Middle Willamette Basin that share an interest and responsibility for the health of the watershed and its water bodies. The City is encouraged to collaborate with these parties to reach these goals. Some of these organizations include:

- Yamhill Basin Council
- City of Dundee
- ODOT
- Yamhill County
- Yamhill Soil and Water Conservation District
- Chehalem Parks and Recreation District

The City will continue to support and stay involved with the Yamhill Basin Council (YBC). With the support of an Oregon Watershed Enhancement Board (OWEB) grant, the YBC developed the Chehalem Watershed Assessment, a document used for background information in this TMDL Implementation Plan.

1.7 Management Strategies

Section 2 describes basic information and characteristics, the current loads, potential sources, and management strategies for both bacteria and mercury. Management strategies are provided in the framework of the six minimum measures required of Phase II permittees. Also discussed are record keeping and monitoring strategies.

Section 3 discusses details of the temperature TMDL, background, surrogate measures, and management strategies for implementation. Record keeping and monitoring are also discussed.

2.0 Bacteria and Mercury TMDLs

2.1 Section Overview

This section provides background information on the bacteria and mercury TMDL followed by a SWMP, TMDL Implementation Matrix and a TMDL Implementation Schedule. Six minimum measures required of Phase II permittees was used to develop the SWMP for the City. BMPs focused on measures that would be effective for bacteria and mercury. A TMDL Implementation Matrix was prepared to show in tabular form, and in a summary format, the current and proposed BMPs, the pollutant source, goals and performance measures, along with pollutants expected to be addressed by the BMP. The Implementation Schedule provides a comprehensive view of when the BMPs are expected to be implemented.

2.2 Background

The Willamette Basin TMDL for bacteria was created to protect the beneficial use of water contact recreation. Typical sources for bacteria in urban and residential areas are: stormwater runoff, erosion, domestic animal waste, failing septic systems, municipal sewer overflows, and streambank erosion. Based on table 2.8 in the Willamette Basin TMDL, the allocated bacteria percentage reductions for waterbodies in the Middle Willamette Subbasin are between 84% - 90%. This applies to the urban land use, as the agricultural land use falls outside of City jurisdiction.

The Willamette Basin TMDL for mercury was created to protect the beneficial use of fishing for the Willamette River. There have been numerous fish consumption advisories for the Willamette River issued by the Department of Human Services (DHS) to protect human health. These advisories indicate the beneficial use of fishing is currently not being met for the Willamette River.

Mercury is a naturally occurring element and can be found in trees and fossil fuels such as coal, natural gas, diesel fuel, and heating oil. Upon combustion, mercury in fuel sources can be released to the atmosphere and transported great distances and then deposited back to land. It also is found in many commercially available products such as fluorescent lights, thermometers, automobile switches, and dental amalgam. The City of Newberg currently offers a free hazardous waste program twice per year, providing residents an opportunity to safely dispose of hazardous products, including those containing mercury. It can take different forms which makes it difficult to understand and monitor. Mercury is present in some native soils at low levels but can be released in large amounts if there is extreme soil erosion. Mercury can also be released if sediment is re-suspended after being deposited for a long period of time.

Table 2-1: Potential Pollutant Sources on the following page provides a generic list of pollutant sources for bacteria and mercury. Table 2-3, presented later in Section 2, describes the pollutant sources that the City of Newberg plans to address through this TMDL implementation plan.

**Table 2-1
 Potential Pollutant Sources**

<u>Bacteria:</u>	<u>Mercury:</u>
Stormwater Runoff	Spills
Pet Waste	Illicit discharges
Illegal Dumping	Illegal Dumping
Street Debris	Atmospheric Deposition
Wastewater overflows	Stormwater Runoff
Failing Septic System	Soil Erosion
	Construction site runoff, erosion

ODEQ acknowledges the current limited understanding of the fate, transport, bioaccumulation, loading and sources of Mercury in the Willamette Basin. Because of the limited understanding of this pollutant within the Basin, no numeric water quality based effluent limits have been established. The current strategy is for DMAs to minimize mercury releases where possible, with the overall goal of removing the fish consumption advisories (ODEQ 2006). The six control measures the City is currently implementing or plans to implement in the future for mercury reduction are discussed in Section 2.3.

The City manages a wastewater treatment plant that is permitted through the wastewater NPDES permit program. The wastewater NPDES permit is expected to adequately address bacteria and mercury. As those permits are renewed they will be updated to address bacteria and mercury. This report does not include wastewater discharges.

In addition, the City is currently collaborating with four care facilities in town to implement a drug take-back program. There are two parallel programs; one for controlled and one for non-controlled substances. The controlled substances are picked up and disposed of by the Newberg Police Department while the non-controlled substances are picked up and disposed of by Newberg Garbage. The program is a preventative measure to keep potentially harmful pharmaceuticals out of surface and groundwater.

2.3 Management Strategies

The SWMP described in Section 2.4 covers the six minimum measures that are required by an NPDES Phase II for managing stormwater pollution. BMPs focus on strategies to address sources of bacteria and mercury within the framework of the measures. A brief summary of strategies is provided below followed by details in Section 2.4. Six minimum control measures include:

1. Public education and outreach on stormwater impacts.
2. Public involvement/participation.

3. Illicit discharge detection and elimination.
4. Construction site stormwater runoff control.
5. Post-construction stormwater management for new development and redevelopment.
6. Pollution prevention in municipal operations.

Public Education and Outreach on Stormwater Impacts

Public education and outreach strategies proposed in the SWMP promote understanding of the cause and effect of stormwater quality issues. The City is currently engaging in public education such as community nights at the local library.

Public Involvement/Participation

Public Involvement and Participation will be encouraged through several strategies. The strategies include continuing to solicit input from the community for the stormwater fee and City ordinances, and placing relevant stormwater information on the City website. Additionally, this plan underwent a 30-day review period for public comment.

Illicit Discharge Detection and Elimination

The City currently manages illicit discharges, on a complaint-driven basis, through existing City ordinances for both illicit discharges and spills. Additional efforts include mapping existing outfalls, and developing and implementing an Illicit Discharge Detection and Elimination (IDDE) Plan.

Construction Site Stormwater Control

Construction site stormwater control is also referenced as erosion control. The City expects to implement a program to reduce pollutants in any runoff that can drain to the City's storm drain system from construction activities. The City currently implements erosion control techniques on public projects.

Post-construction Stormwater Management for New Development and Redevelopment

With growth projections that could double the population of Newberg by 2020, strategies to address runoff from new construction will be an important component of the City's plan. As more natural and pervious land and vegetation is converted to impervious surfaces such as rooftops and pavement, development tends to have an adverse effect on water quality. The result is the loss of infiltration capacity and evapotranspiration, which in turn increases site runoff sending higher stormwater flows to the receiving waters. As populations tend to grow, pollution tends to follow a similar pattern.

Pollution Prevention in Municipal Operations

The City will make sure its employees take special precautions regarding stormwater pollution prevention while performing their daily operations. The SWMP outlines several strategies to attain this such as continuing the developing of a water quality sensitive operations and maintenance (OM) program that has already started, and training the City employees on the revised program.

2.4 Stormwater Management Plan

Specific BMPs were developed for each minimum control measure to work toward the goal of reducing discharges of pollutants associated with stormwater through the MS4 system and overland flow to the extent practicable. Table 2-2 provides a summary of the selected BMPs. In the pages following Table 2-2, a summary sheet is provided for each minimum control measure. Each summary sheet includes the specific minimum measure requirement, a list of the selected BMPs and the rationale for their selection. Each summary sheet is followed by a set of fact sheets, one sheet for each of the selected BMPs. The BMP fact sheets provide a list of the responsible parties for BMP implementation, existing conditions, a description of the BMP and proposed SWMP activities, measurable goals, and an implementation schedule.

The Stormwater Management Plan described herein requires the hiring of several new staff to manage and implement the program. Newberg will first work on acquiring additional funds, as described in BMP PI-1 and discussed below. Existing tasks are expected to continue and be revisited in the fifth year for evaluation and continuation if deemed effective. However, expanding the existing program to include new BMPs will not occur until the stormwater program is funded to allow the addition of stormwater staff. The City began work to acquire additional funds in March 2008, with plans to begin expansion of their current stormwater program in March 2009 if funds are acquired. If funds necessary to implement the proposed new BMPs are not procured, the City of Newberg will proceed with the following options:

- Continue to educate the public to secure additional funds;
- Maximize efforts with existing budget, and
- Meet with ODEQ to discuss alternatives, such as grant funding.

The SWMP also describes methods for record keeping and reporting.

Table 2-2
Summary of Newberg SWMP BMPs for Each Minimum Measure

BMP #	BMP Title
Minimum Measure #1 – Public Education & Outreach	
PE-1	Implement Stormwater Educational Activities
PE-2	Participate in the Yamhill Basin Council
PE-3	Continue environmental marking of Storm Drains
Minimum Measure #2 – Public Involvement/Participation	
PI-1	Continue with Public Participation in Reviewing the Stormwater Management Fee
PI-2	Public Participation in Ordinance and Program Development
PI-3	Use the City’s Website for Education and Reporting of Stormwater Concerns
PI-4	Establish Hotline to Receive Complaints from the Public
Minimum Measure #3 – Illicit Discharge Detection and Elimination (IDDE)	
ID-1	Develop IDDE Plan
ID-2	Train City Employees to Implement the IDDE Plan
ID-3	Implement IDDE Plan
ID-4	Hazardous Waste Collection
Minimum Measure #4 - Construction Site Runoff Control	
CS-1	Develop Ordinance to Control Construction Site Runoff
CS-2	Train City Employees Regarding Construction Site Controls
CS-3	Conduct Plan Reviews, Inspections, Enforcement for Construction Sites
Minimum Measure #5 – Development Standards (Post-construction Runoff Control)	
DS-1	Develop Ordinance to Control Runoff from New and Redevelopment
DS-2	Train City Employees Regarding New Development Standards
DS-3	Conduct Plan Reviews, Inspections, Enforcement for New Development
Minimum Measure #6 – Operations and Maintenance (OM) (Pollution Prevention/Good Housekeeping)	
OM-1	Develop a Water Quality Sensitive OM Program
OM-2	Train City Employees Regarding Revised O& M Practices
OM-3	Conduct Catch Basin Cleaning
OM-4	Conduct Street Sweeping

2.4.1 Minimum Measure #1 - Public Education

Requirement:

According to the Willamette River TMDL and TMDL Implementation Guidelines (per ODEQ), the DMA must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies. The DMA must identify steps that the public can take to reduce pollutants in stormwater runoff.

Applicable City of Newberg BMPs:

PE-1: Implement Stormwater Educational Activities

PE-2: Participate in the Yamhill Basin Council

PE-3: Continue Environmental marking of Storm Drains

Rationale:

The three BMPs listed above were selected in order to cover a wide range of audiences and provide means to experiment with different methods for educating residents and businesses.

- PE-1 represents the major component of this minimum measure. This BMP includes continuing with current public educational activities as well as taking on new educational efforts. New efforts will include the distribution of an educational insert in an annual mailing to all City households. Additional efforts may focus on students and other educational media (e.g., fact sheets, newspaper ads).
- PE-2 involves continued participation with the local basin council, developing materials and strategies that will ensure that stormwater quality issues are addressed and considered.
- PE-3 involves the continued environmental marking of existing and new catch basins to promote public education and prevention of pollutant discharges to receiving waters.

BMP PE-1

BMP Name: Implement Stormwater Educational Activities

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, total suspended solids (TSS), mercury, and temperature.

Existing Conditions: Although there are limited resources, the City currently implements public education activities through open houses at the library and at city hall, participation with the Chamber of Commerce, and public education during Community Nights, meetings City Councilors' hold with the public to share information and an opportunity for the public to ask questions.

BMP Description and Proposed Activities: New public education activities to be initiated in 2009 will include the development and distribution of an educational insert in an annual mailing to all City households, in addition to making information available at City Hall. The insert will address stormwater issues and provide tips for the public regarding stormwater pollution prevention. The City will also update their website to include public information regarding water quality, pollutant prevention associated with stormwater, and water conservation (see PI-3). In following years, other educational activities will be considered for implementation including: school education programs, periodic news releases, and stormwater fact sheets for counter displays.

Measurable Goals: The City will mail educational inserts in water bills to approximately 80% of residences. During following years, measurable goals will depend on the educational activity that is selected. However, measurable goals will focus on effectively reaching the most people and/or businesses and providing them with the most relevant educational messages in terms of potential activities that would reduce pollutant sources.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
	Prepare an educational insert for an annual mailing. Update City website to include water quality tips and information.	Identify and implement an educational activity.	Identify and implement an educational activity.	Identify and implement an educational activity.

BMP PE-2
BMP Name: Participate in the Yamhill Basin Council

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: A City staff member currently attends the Yamhill Basin Council meetings. The Yamhill Basin Council (YBC) was developed to improve watershed conditions and promote awareness and understanding of watershed health issues in the Yamhill Basin. Watersheds of interest to the YBC include Springbrook, Hess, Chehalem, and Harvey Creeks.

The YBC includes representatives from the cities of McMinnville and Newberg, public agencies (Bureau of Land Management and Soil Water Conservation District), local agriculture, local utilities, environmental groups, residents, and students.

BMP Description and Proposed Activities: The City will continue to attend YBC meetings. Where appropriate, the City will proactively provide information related to the City’s stormwater quality management program and objectives and ensure watershed projects consider stormwater quality issues. The City will also make monetary donations to the council in the amount of \$1,000 per year, as funds are available. Additionally, the City will seek opportunities for collaboration with the council.

Measurable Goals: The City will continue to attend and proactively participate in Council meetings. Donations to the YBC will be tracked as well as projects the City is collaborating with the Council on.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
Attend and participate in YBC meetings. Ensure stormwater quality issues are considered and addressed when relevant.	Continue attending meetings and collaboration. Donate \$1,000/year to council, as funds are available.	Continue attending meetings and collaboration. Donate \$1,000/year to council, as funds are available.	Continue attending meetings and collaboration. Donate \$1,000/year to council, as funds are available.	Continue attending meetings and collaboration. Donate \$1,000/year to council, as funds are available.

BMP PE-3
BMP Name: Storm Drain Environmental Marking

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: The City currently practices environmental marking of catch basins on an as needed basis as staff is available.

BMP Description and Proposed Activities: The City will continue to conduct storm drain environmental marking with messages such as “No Dumping Flows to Creek”. The coverage of marking activities will be documented for future planning efforts. The City will explore the idea and feasibility of adding environmental marking to the City’s catch basin standard detail so all new catch basins would be marked.

Measurable Goals: The goal will be to continue to mark catch basins where there are water quality problems with goal of marking about fifty catch basins a year.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
Continue to implement storm drain environmental marking program on an annual basis.				

2.4.2 Minimum Measure #2 - Public Involvement

Requirement:

According to the Willamette River TMDL and TMDL Implementation Guidelines (per ODEQ), the DMA must at a minimum, comply with State, Tribal, and local public notice requirements when implementing a public involvement/participation program.

Applicable City of Newberg BMPs:

PI-1: Continue Public Participation in Reviewing the Stormwater Management Fee

PI-2: Public Participation in Ordinance and Program Development

PI-3: Use the City's Website for Reporting Stormwater Concerns

PI-4: Establish Hotline to Receive Complaints from the Public

Rationale:

The five BMPs listed above describe how the public is currently involved in decision-making activities within the City and how the public is able to communicate with the City in voicing concerns.

- PI-1 involves continued public participation in updating and reviewing the stormwater management fee.
- PI-2 involves continued public participation with ordinance and program development activities.
- PI-3 involves the use of the City website for reporting of stormwater quality concerns.
- PI-4 involves the use of a hotline for reporting of stormwater quality concerns.

BMP PI-1

BMP Name: Continue Public Participation in Reviewing the Stormwater Management Fee

Responsible Parties: Department of Public Works, City Council

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: The City currently charges a stormwater management fee (SWMF) for revenue to conduct operation and maintenance on existing stormwater systems. The SWMF is a fixed amount associated with impervious surface area. The units for impervious surface area are called equivalent dwelling units or EDUs. An EDU is equal to the typical impervious area of a single-family residential property and defined as 2,877 square feet. In fiscal year 2007 (July 1, 2006 – June 30, 2007) the City of Newberg generated \$450,000 through collection of the SWMF.

The stormwater fund was created by the Citizens’ Rate Review Committee; a committee comprised of local citizens that reviews funding needs for the City. The rate is reevaluated and updated every two years. Although a funding mechanism is in place, review and refinements to the process used to reevaluate the rates and the methods of allocating the income may be required, based on the proposed BMPs described in this SWMP. The Rate Review Committee must first agree to change the fee; then the change goes to the City Council for final approval.

BMP Description and Proposed Activities: The City will continue to use the existing rate review committee to evaluate and update the current funding mechanism. Implementation of this SWMP and associated BMPs to meet requirements of the TMDL implementation plan may require adjustments to the current funding allocations.

Measurable Goals: The City’s goal is to review and refine the current funding review process in March and April of 2008, with a review every two years.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
Review and refine current funding mechanism.		Review and adjust stormwater rates, as appropriate.		Review and adjust stormwater rates, as appropriate.

BMP PI-2
BMP Name: Public Participation in Ordinance and Program Development

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: Currently, if modifications to the City’s ordinances are necessary, a public hearing is held to promote public participation in the review of ordinances at Council meetings, prior to Council approval.

BMP Description and Proposed Activities: The City will either use existing citizen committee members (see BMP PI-1) or solicit the input of other citizens (via City Council, etc) to assist in developing new City ordinance language necessary for the IDDE plan (BMP ID-1) and construction and post-construction site runoff control programs (BMPs CS-1 and DS-1). The City will coordinate and facilitate the committee meetings and provide opportunities for public comments. The City provided a 30-day public review and comment period for this TMDL plan in March 2008. Comments were received, considered, and responded to.

Measurable Goals: The City’s goal is to use public input in the establishment of ordinances for the illicit discharge detection and elimination and construction site runoff control programs in 2009 and for new development standards in 2010.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
Provide 30-day public review and comment period. Review, consider, and respond to all public comments received during review period.	Obtain public input regarding the establishment of an ordinance for the IDDE and construction site runoff control programs.	Obtain public input regarding the establishment of an ordinance for stormwater quality-related standards for new development.	Obtain public input regarding establishment of additional ordinances.	Obtain public input regarding establishment of additional ordinances.

BMP PI-3
BMP Name: Use the City’s Website for Education and Reporting of Stormwater Concerns

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: Newberg currently has a website for the City that describes the City’s history, charter, services, etc. Specific information related to water quality or stormwater management is not currently provided.

BMP Description and Proposed Activities: The City will utilize their website to distribute information about Newberg’s storm drainage system and water quality issues to the public (see PE-1). In addition, the City’s website will be modified to include both information and a method for citizens to report stormwater concerns and to ask questions related to the City’s stormwater management program.

Measurable Goals: The City will include stormwater-related educational information and a method for citizens to report stormwater concerns on the City’s website by 2009. Information on the website will be updated as needed. City staff in charge of responding to incoming calls will be identified and trained.

Development/Implementation Schedule:

2008	2009	2010	2011	2012+
	Add stormwater-related information and a method for reporting concerns on the City’s website. Identify and train staff.	Updates as needed.	Updates as needed.	Updates as needed.

BMP PI-4
BMP Name: Establish Hotline to Receive Complaints from the Public

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: The City currently responds to public complaints about clogged storm drain catch basins, pipes, and construction site erosion and runoff. No single, specific number exists for the public to call regarding these issues. Generally complaints are received by individuals working in the City Hall, and complaints are typically directed to the maintenance department. Response to drainage complaints may include conducting a site inspection, assessing the problem for City action, taking action or determining that no action is needed, and conducting a follow-up call to the complainant to discuss the action.

BMP Description and Proposed Activities: Establish a hotline for receiving storm system related complaints from the public. The City also will develop a process for documenting calls and making determinations regarding follow-up actions. The hotline will be advertised on the City website and the number will be included on the utility bill where the stormwater management fee is incorporated.

Measurable Goals: Establish and begin operation of a hotline by the end of 2009.

Implementation Schedule:

2008	2009	2010	2011	2012+
	Establish and begin operation of hotline. Develop process for documenting calls. Document calls. Advertise hotline on City website and utility bill.	Operate the hotline and follow up on calls as necessary. Continue documentation and advertising of hot line.	Continue operation of hot line, including documentation and advertising.	Continue operation of hot line, including documentation and advertising.

2.4.3 Minimum Measure #3 – Illicit Discharge Detection and Elimination

Requirement(s):

According to the Willamette River TMDL and TMDL Implementation Guidelines (per DEQ), the DMA must:

1. Develop, implement and enforce a program to detect and eliminate illicit discharges [as defined in 40 CFR §122.26(b)(2)] into the storm drain system.
2. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States and/or the State of Oregon that receive discharges from those outfalls.
3. To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the DMA's storm sewer system and implement appropriate enforcement procedures and actions. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.
4. Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the DMA's system.
5. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.
6. Address the following categories of non-stormwater discharges or flows (illicit discharges) if the DMA identifies them as substantial contributors of pollutants to the DMA's MS4: water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration (as defined at 40 CFR §35.2005(20)), uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as substantial sources of pollutants to waters of the United States and the State of Oregon.
7. The DMA must also develop a list of other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes) that will not be addressed as illicit discharges. These non-stormwater discharges must not be reasonably expected (based on information available to the DMAs) to be substantial sources of pollutants to the MS4, either because of the nature of the discharges or conditions the DMA have established for allowing these discharges to the DMA's MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs on the wash water). The DMA must document in the DMA's SWMP any local controls or conditions placed on the discharges. The DMA must include a provision prohibiting any individual non-stormwater

discharge that is determined to be contributing substantial amounts of pollutants to the DMA's MS4.

8. The DMA must develop a process to respond to and document complaints relating to illicit discharges.

Applicable City of Newberg BMPs:

ID-1: Develop IDDE Program

ID-2: Train City Employees to Implement IDDE Plan

ID-3: Implement IDDE Plan

ID-4: Hazardous Waste Collection

Rationale:

The above three BMPs address the requirements listed above with the exception of requirements 5 and 8. Item 5 requires the City to inform the public of hazards associated with illegal discharges and improper disposal of waste. This requirement will be met under the education and public involvement minimum measures; specifically BMPs PE-1 (implement stormwater educational activities) and PE-3 (storm drain environmental marking). Item 8 requires the City to develop a process to respond to and document complaints relating to illicit discharges. This requirement will be met under the public involvement minimum measure; specifically BMP PI-3 and PI-4.

BMP ID-1
BMP Name: Develop IDDE Program

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: The City has developed a map of its stormwater outfalls. Approximately 20 are identified as part of this exercise, see Figure 2-1: Storm Drainage System. Currently, the City responds to public complaints of illicit discharges, but does not have a program to prevent them or investigate them thoroughly.

BMP Description and Proposed Activities: The City will conduct any field reconnaissance activities necessary to update the City’s outfall inventory and map. The City will also develop an IDDE ordinance to meet ODEQ and CWA requirements. A plan will be developed to investigate outfalls for flows during dry weather. The City may consider referencing or using other local jurisdiction’s IDDE Plans. City employees that will be responsible for implementing the newly created ordinance will be involved in the process of developing the ordinance. The IDDE plan includes methods for tracking flows to their source, sampling flows, and for documenting investigations (e.g., inspection forms, etc.) and follow-up activities to eliminate flows. Worksheets will be developed for recording inspection results.

As part of the IDDE plan, the City will review and address the categories of non-stormwater discharges as specified under Requirements 6 and 7.

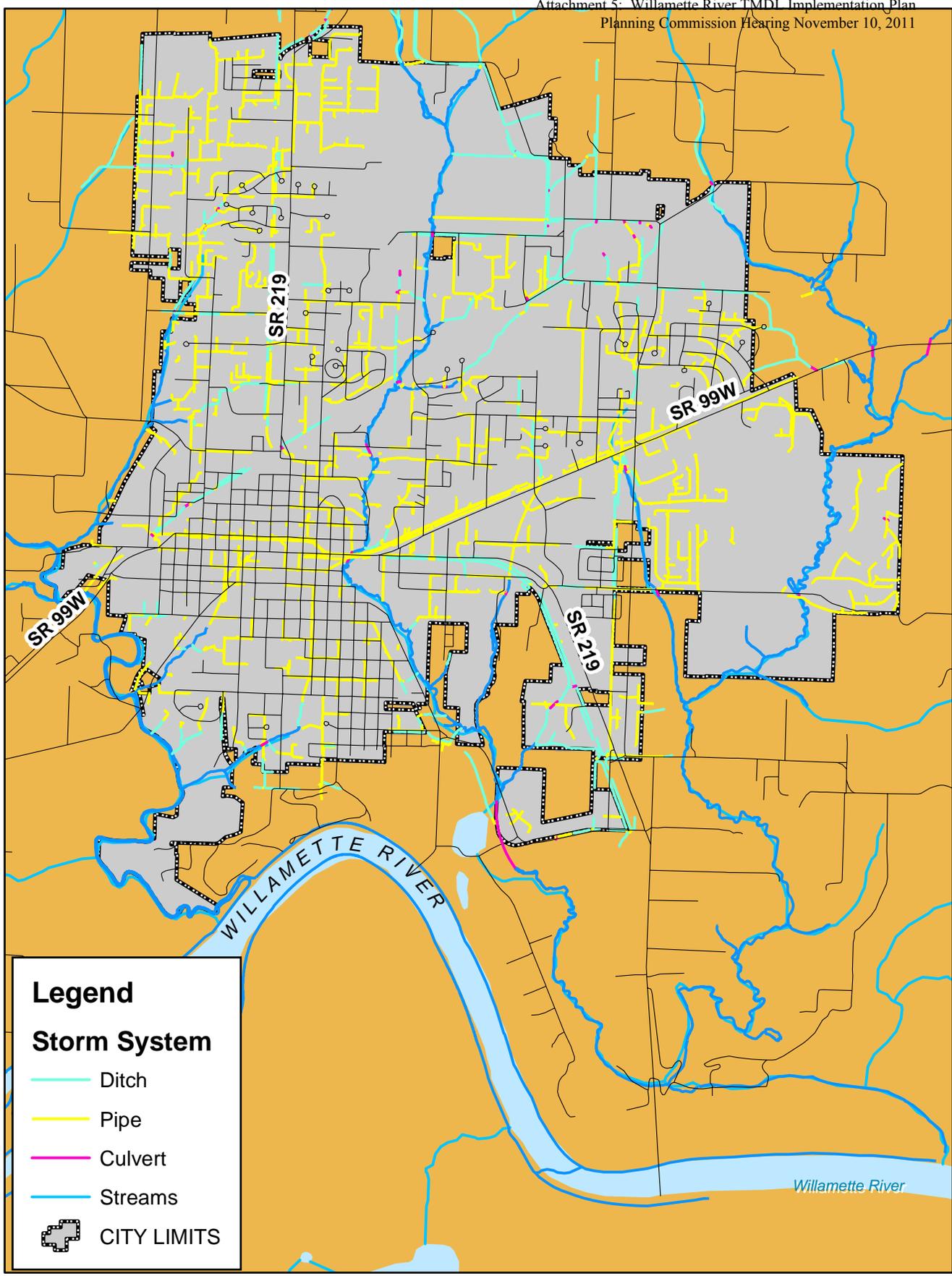
Measurable Goals: Develop an IDDE Ordinance and Plan by the end of 2009.

Implementation Schedule:

2008	2009	2010	2011	2012+
	Develop an IDDE Ordinance and Plan for implementation. Finalize the outfalls inventory and map.	Develop monitoring plan for illicit discharges and plan to address discharges. Develop field inspection worksheets.		



1:32,000



Legend

Storm System

- Ditch
- Pipe
- Culvert
- Streams
- CITY LIMITS

0 0.5 1 Miles

STORM DRAINAGE SYSTEM

CITY OF NEWBERG, OREGON
WILLAMETTE RIVER TMDL IMPLEMENTATION PLAN

FIGURE 2-1

FILEPATH: O:\25696460 Newberg TMDL Implementation Plan\5000 Technical\GIS_Maps_and Plots\ MXD



Print Date: December 17, 2007

BMP ID-2
BMP Name: Train City Employees to Implement the IDDE Plan

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: The City does not currently have an IDDE Plan.

BMP Description and Proposed Activities: The City will conduct training for employees responsible for implementation of the illicit discharges detection and elimination plan. Training will include investigation, investigative sampling, and documentation/reporting methods. The City will also seek out free stormwater webcasts related to illicit discharges and schedule ‘Lunch and Learn’ sessions for employees interested in attending the webcasts.

Measurable Goals: In 2010, conduct one training session for appropriate City employees on methods for implementation of the IDDE plan. Additionally, annual refresher courses will be conducted as well as training for new employees upon hire. Beginning in 2009 the City will begin seeking out webcast opportunities for City employees. The City will seek out relevant webcasts for several different stormwater related topics, with a goal of a minimum of one webcast per year.

Implementation Schedule:

2008	2009	2010	2011	2012+
Seek opportunities for free stormwater related webcasts.	Seek opportunities for free stormwater related webcasts.	Develop training material and train employees to implement the IDDE Plan. Seek opportunities for free stormwater related webcasts.	Seek opportunities for free stormwater related webcasts. Conduct annual IDDE refresher course.	Seek opportunities for free stormwater related webcasts. Conduct annual IDDE refresher course.

BMP ID-3
BMP Name: Implement and Evaluate the IDDE Plan

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: As stated in BMP ID-1, the City currently addresses illicit discharges to the system on a complaint-driven basis.

BMP Description and Proposed Activities: The City will implement the IDDE Plan as prepared under BMP ID-1 as well as evaluate it continually, refining it as needed.

Measurable Goals: Investigate all City stormwater outfalls for illicit discharges by 2011 through visual inspections. In association with these investigations, the City will document the number of outfalls having flows, the identification of the source of these flows, any sampling results that apply, and actions taken to eliminate the flows. This documentation will help to evaluate and refine the program for continued future implementation and future goal setting.

Implementation Schedule:

2008	2009	2010	2011	2012+
		Implement the IDDE Plan. Evaluate the plan and refine as needed.	Implement the IDDE Plan. Evaluate the plan and refine as needed.	Implement the IDDE Plan. Evaluate the plan and refine as needed.

BMP ID-4
BMP Name: Hazardous Waste Collection Program

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: Currently free hazardous waste collection occurs twice per year for City residents through the garbage collection service operated through a franchise. This provides residents the opportunity to safely dispose of hazardous waste, such as waste containing mercury, and prevents it from reaching surface waters.

BMP Description and Proposed Activities: The City will continue to implement its hazardous waste collection program.

Measurable Goals: Offer free hazardous waste collection service twice per year to City residents.

Implementation Schedule:

2008	2009	2010	2011	2012+
Implement hazardous waste collection program.				

2.4.4 Minimum Measure #4 – Construction Site Stormwater Runoff Control

Requirement(s):

According to the Willamette River TMDL and TMDL Implementation Guidelines (per ODEQ), the DMA must develop, implement, and enforce a program to reduce pollutants in any runoff that can drain to the DMA's MS4 drainage system or directly to surface waters via overland flow from construction activities. The DMA's program must include the development and implementation of, at a minimum:

1. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law.
2. Requirements for construction site operators to implement appropriate erosion and sediment control best management practices.
3. Requirements for construction site operators to prevent or control waste that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site.
4. Procedures for site plan review that incorporate measures to prevent or control potential water quality impacts.
5. Procedures for receipt and consideration of information submitted by the public.
6. Procedures for site inspection and enforcement of control measures.

Applicable City of Newberg BMPs:

CS-1: Develop Ordinance to Control Construction Site Runoff

CS-2: Train City Employees Regarding Construction Site Controls

CS-3: Conduct Plan Reviews, Inspections, and Enforcement for Construction Sites

Rationale:

The above three BMPs address all of the requirements except number 5 listed above. BMPs PI-3 and PI-4 are related to the establishment of methods for allowing the public to report on activities that would affect stormwater quality and would address requirement number 5.

BMP CS-1
BMP Name: Develop Ordinance to Control Construction Site Runoff

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: Although not regulated by the City, owners of construction sites that are larger than one acre are currently required to obtain an NPDES 1200-C permit from ODEQ. This permit requires an erosion prevention and sediment control plan to be developed and implemented. When issuing building permits for new construction, the City currently reviews the application for compliance with LUCS requirements as well as 1200-C permits for construction sites larger than 1 acre in size. If applicants have not obtained a 1200-C permit and are required to do so they are denied a building permit from the City until the applicant can show they have acquired the 1200-C permit. The City does not currently have its own ordinance to require sediment and erosion control for all project sizes. Construction site runoff problems need to be corrected more immediately because pollutants could be washed into the system and ultimate receiving water body during the enforcement process and the damage would already be done by the time a resolution is reached.

BMP Description and Proposed Activities: The City will develop a municipal ordinance that includes the following:

- requirements for erosion prevention and sediment controls regardless of construction site size,
- requirements for the prevention or control of other construction-related waste that could impact water quality
- enforcement mechanisms/sanctions to ensure compliance, and
- consider working with DEQ to take over management and issuance of 1200-C permits within the City of Newberg.

The City will establish and work with a citizen’s committee to assist in the development of this ordinance, as described in BMP PI-2. In association with development of the ordinance, the City will review existing erosion control guidance manuals from other regional jurisdictions and select a manual that will be most appropriate for Newberg with minimal modifications.

Measurable Goals: Develop an ordinance to support a construction site runoff control program by the end of 2009.

Implementation Schedule:

2008	2009	2010	2011	2012+
	Develop construction site runoff control ordinance. Select a guidance manual to implement ordinance.	Enforce ordinance.	Enforce ordinance.	Enforce ordinance.

BMP CS-2
BMP Name: Train City Employees Regarding Construction Site Controls

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: The City does not currently have a construction site runoff control program, and therefore, does not conduct inspections of construction sites to evaluate runoff issues. The City’s code enforcement responds to public complaints related to construction site erosion and sediment discharge.

BMP Description and Proposed Activities: The City will conduct training for employees who are responsible for implementation of the construction site runoff control program. Training will include review of requirements, review of applicable best management practices (i.e., the selected guidance manual) and appropriate implementation methods, plan review procedures, inspection procedures, and documentation/reporting procedures. The City will also seek out free stormwater webcasts related to construction site controls and schedule lunch and learn sessions for employees interested in attending the webcasts.

Measurable Goals: In 2011, conduct one training session for appropriate City employees regarding the procedures and activities necessary to adequately implement the City’s construction site runoff control program. Conduct training updates or refresher sessions as needed during the following years. Beginning in 2009, the City will begin seeking out webcast opportunities for City employees. The City will seek out relevant webcasts for several different stormwater related topics, with a goal of a minimum of one webcast per year.

Implementation Schedule:

2008	2009	2010	2011	2012+
Seek opportunities for free stormwater related webcasts.	Seek opportunities for free stormwater related webcasts.	Develop Training materials for staff. Seek opportunities for free stormwater related webcasts.	Train City employees regarding implementation of the construction site runoff control program. Seek opportunities for free stormwater related webcasts.	Conduct training updates or refresher sessions as needed. Seek opportunities for free stormwater related webcasts.

BMP CS-3

BMP Name: Conduct Plan Reviews, Inspections, and
Enforcement for Construction Sites

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: Currently, developers, owners and engineers attend a pre-application conference with members of both the City of Newberg Planning and the Public Works Departments. These conferences typically include a discussion of stormwater issues but they do not specifically address construction-related BMPs since the City does not currently have an ordinance requiring construction site runoff controls. Generally, the stormwater discussion is specific to whether detention would be required and what, if any type of treatment should be installed by the developer.

Final construction drawings are required and reviewed, but do not always include an erosion and sediment control sheet. For public (not private) development projects, a pre-construction meeting is held prior to site activity. The City conducts intermittent site inspections during the construction process, but inspections are not focused on erosion control activities.

BMP Description and Proposed Activities: Per the new ordinance developed under BMP CS-1, erosion and sediment control would be discussed at the pre-application meeting and pre-construction meetings. Site plan reviews will include review of erosion and sediment control sheets to ensure that the planned use of BMPs is appropriate, given site conditions and planned construction activities. Once construction commences, the City will conduct inspections to ensure that appropriate BMPs are properly implemented. Inspections by the City will be routine and carried out on a regular basis. Inspections will also be conducted based on complaints received from the public (see BMP PI-3 and PI-4). As will be specified in the City's new ordinance, enforcement activities will be conducted as necessary.

Measurable Goals: Beginning in 2011, conduct plan review, inspection, and enforcement actions necessary to implement the ordinance developed under BMP CS-1. At a minimum, the City's goal will be to conduct plan reviews and at least one inspection for all construction sites.

Implementation Schedule:

2008	2009	2010	2011	2012+
Continue requiring developers to obtain 1200-C permits prior to issuing building permits, when necessary.	Continue requiring developers to obtain 1200-C permits prior to issuing building permits, when necessary.	Continue requiring developers to obtain 1200-C permits prior to issuing building permits, when necessary.	Continue requiring developers to obtain 1200-C permits prior to issuing building permits, when necessary. Implement the construction site runoff control program and conduct plan reviews, inspections, and enforcement activities as specified in the ordinance developed under BMP CS-1.	

2.4.5 Minimum Measure #5 – Post-Construction Stormwater Runoff Control

Requirement(s):

According to the Willamette River TMDL and TMDL Implementation Guidelines (per ODEQ), the DMA must:

1. Develop, implement, and enforce a program to ensure reduction of pollutants in stormwater runoff to the extent practicable from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development or sale, and if they discharge into the DMA's MS4 drainage system. The DMA's program must ensure that controls are in place that would prevent or minimize water quality impacts.
2. Develop and implement strategies that include a combination of structural and/or non-structural BMPs appropriate for the DMA's community, and
 - a. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
 - b. Ensure adequate long-term operation and maintenance of BMPs; and
 - c. Ensure adequate enforcement of ordinance or alternative regulatory program.

Applicable City of Newberg BMPs:

DS-1: Develop Ordinance to Control Runoff from New and Re-Development

DS-2: Train City Employees Regarding New Development Standards

DS-3: Conduct Plan Reviews, Inspections, Enforcement for New Development

Rationale:

The above three BMPs address all of the requirements listed above.

BMP DS-1

BMP Name: Develop Ordinance to Control Runoff from New and Re-Development

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: Currently, developers, owners and engineers attend a pre-application conference with members of both the City of Newberg Planning and the Public Works Departments. These conferences typically include a discussion of stormwater issues but they do not specifically address post-construction water quality requirements since the City does not currently have an ordinance requiring post-construction stormwater runoff control or formal new development standards for water quality. Generally, the stormwater discussion is specific to whether detention would be required and what, if any type of treatment should the developer install. Stormwater controls for water quality are minimally addressed in the City Development Code. At this meeting, the conditions for approval are established and permit applications are submitted.

Review of the final construction plans includes a review of the drainage sheet, but as there are no new development standards for water quality treatment, usually this review is focused more on conveyance system configuration and design and detention, if required.

The City currently provides incentives for residents and businesses to be proactive in managing stormwater runoff onsite. Incentives include discounts on stormwater fee for managing runoff onsite for different levels of storm events, implementing BMPs for paved surfaces and stormwater quality protection for site runoff, and administering ongoing educational programs for water quality and quantity protection.

BMP Description and Proposed Activities: As specifically stated in the DEQ's requirements, for new and re-development projects that disturb one acre or more, the City will develop an ordinance that will include the following:

- requirements for implementation of BMPs that prevent or minimize water quality impacts,
- requirements for adequate long-term operation and maintenance of the BMPs,
- and enforcement mechanisms/sanctions to ensure compliance.

The City will establish and work with a citizen's committee to assist in the development of this ordinance as described in BMP PI-2. The committee will also consider the need for and potential methods of addressing impacts from new and redevelopment projects that are smaller than one acre. In association with development of an ordinance, the City will review existing new development standards and water quality guidance manuals from other regional jurisdictions and select a manual that will be most appropriate for Newberg with minimal modifications. In addition, the City will evaluate retrofit opportunities and regional facility opportunities for stormwater control and treatment.

Measurable Goals: Develop an ordinance to prevent or minimize pollutants in runoff from new and re-development by the end of 2010.

Implementation Schedule:

2008	2009	2010	2011	2012+
		Develop ordinance to prevent or minimize pollutants from new and re-development projects. Evaluate opportunities for regional stormwater control and treatment facilities.	Evaluate new and retrofit sites for regional stormwater control and treatment facilities.	Evaluate new and retrofit sites for regional stormwater control and treatment facilities.

BMP DS-2
BMP Name: Train City Employees Regarding New Development Standards

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: As described in BMP DS-1, the City Planning and Public Works Departments meets with developers, owners and engineers for a pre-application conference, and this meeting typically includes a discussion of stormwater issues. Although stormwater treatment to control water quality is encouraged during the pre-application meeting, there are no current water quality treatment requirements aside from the use of a water quality manhole.

BMP Description and Proposed Activities: The City will conduct training for new development review requirements for employees who are responsible for implementation of the program requiring water quality standards for new and re-development projects. Training will include review of new requirements, review of applicable best management practices (i.e., the selected guidance manual) and appropriate implementation methods, plan review procedures, inspection procedures, and documentation/reporting procedures. The City will also seek out free stormwater webcasts related to stormwater management for new development and schedule ‘Lunch and Learn’ sessions for employees interested in attending the webcasts.

Measurable Goals: In 2010, conduct one training session for appropriate City employees regarding the procedures and activities necessary to adequately implement the City’s program that requires water quality standards for new and redevelopment projects. Conduct training updates or refresher sessions as needed during future years. Beginning in 2009, the City will begin seeking out webcast opportunities for City employees. The City will seek out relevant webcasts for several different stormwater related topics, with a goal of a minimum of one webcast per year.

Implementation Schedule:

2008	2009	2010	2011	2012+
	Seek opportunities for free stormwater related webcasts.	Train City employees regarding implementation of the water quality development standards program. Inform development community of new requirements.	Conduct training updates or refresher sessions as needed.	

BMP DS-3
BMP Name: Conduct Plan Reviews, Inspections, Enforcement for New Development

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: As described in BMP DS-1, the City Planning and Public Works Departments meet with developers, owners and engineers for a pre-application conference and these conferences typically include a discussion of stormwater issues. Stormwater treatment to control water quality is currently limited to requiring water quality manholes.

Review of the final construction plans includes a review of the drainage sheet, but as there are no new development standards for water quality treatment, usually this review is focused more on conveyance system configuration and design and detention, if required. The property owner is responsible for maintenance of any water quality or detention structure on their property.

Pre-construction meetings are conducted prior to the start of any new public development project. Inspections are conducted intermittently for all projects during construction by City staff.

BMP Description and Proposed Activities: Conduct site plan review for construction sites that are regulated by the new ordinance and new development standards developed under BMP DS-1. Site plan reviews will be conducted to ensure that the planned use of BMPs is appropriate. During and post-construction, inspections will be conducted to ensure that appropriate BMPs are properly installed, operational and maintained.

Measurable Goals: Beginning in 2011, the City will conduct plan review, inspection, and enforcement actions necessary to implement the ordinance developed under BMP DS-1. At a minimum, the City’s goal will be to conduct plan reviews and at least one inspection for all new and re-development projects that disturb more than one acre.

Implementation Schedule:

2008	2009	2010	2011	2012+
			Implement the water quality standards for new and re-development and conduct plan reviews, inspections, and enforcement activities as specified in the ordinance developed under BMP DS-1.	

2.4.6 Minimum Measure #6 – Pollution Prevention in Municipal Operations

Requirement(s):

According to the Willamette River TMDL and TMDL Implementation Guidelines (per ODEQ), the DMA must develop and implement an operations and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. In addition, using training materials that are available from the ODEQ, EPA, or other organizations, the DMA's program must include employee training to prevent and reduce stormwater pollution from activities including, but not limited to, park and open space maintenance, fleet and building maintenance, new municipal facility construction and related land disturbances, design and construction of street and storm drain systems, and stormwater system maintenance.

Applicable City of Newberg BMPs:

OM-1: Develop a Water Quality Sensitive OM Program

OM-2: Train City Employees Regarding Revised OM Practices

OM-3: Conduct Catch Basin Cleaning

OM-4: Conduct Street Sweeping

Rationale:

The above four BMPs address all of the requirements listed above.

BMP OM-1
BMP Name: Develop a Water Quality Sensitive Operations and Maintenance Program

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: The City does not currently have funding or staff available to complete regularly scheduled maintenance on the storm drainage system. Stormwater conveyance system maintenance including maintenance of the stormwater pipe, catch basin, and manhole cleaning occurs on an as needed basis, as problems arise. The City maintains one public detention facility and installs trash racks over most major inlets. The City also performs street sweeping, road surface maintenance, drinking water system operation and maintenance, and limited sanitary sewer utility system operation and maintenance. Other public works operations and maintenance activities are contracted out, such as roadside vegetation control.

BMP Description and Proposed Activities: The City will review and evaluate its existing public works operations and maintenance practices to look for opportunities to revise the practices to ensure that they are performed in ways that will minimize contamination of stormwater discharges. In reviewing existing practices, consideration will be given to modifying activities, schedules, inspection procedures, documentation procedures, and disposal methods for waste generated by municipal maintenance activities. Consideration will also be given to implementing additional non-structural BMPs to reduce pollutants in runoff from areas such as roads, parking lots, maintenance facilities, and storage yards.

Measurable Goals: Complete review and evaluation of the City’s current operations and maintenance program by the end of 2008. Develop a new maintenance manual by 2009 to be implemented by 2010.

Implementation Schedule:

2008	2009	2010	2011	2012+
Review the current municipal operations and maintenance program to determine whether modifications can be made.	Develop a manual of existing practices, modifications, and new practices from other programs.	Implement manual. Review and analyze results for annual report to ODEQ.	Implement manual. Review and analyze results for annual report to ODEQ	Implement manual. Review and analyze results for annual report to ODEQ

BMP OM-2
BMP Name: Train City Employees Regarding Revised OM Practices

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, mercury, and temperature.

Existing Conditions: Operations and maintenance staff are currently trained in accordance with current protocol.

BMP Description and Proposed Activities: The City will conduct training for employees who are responsible for implementation of the modified operations and maintenance practices developed under BMP OM-1. Training will include review of revised practices, schedules, inspection procedures, documentation procedures, and waste disposal methods. The City will address any identified problems with the OM practices during the annual refresher courses, or in the interim if necessary. The City will also seek out free stormwater webcasts related to stormwater management OM practices and schedule ‘Lunch and Learn’ sessions for employees interested in attending the webcasts.

Measurable Goals: By the end of 2010, conduct one training session for appropriate City employees regarding the procedures and activities that are necessary to adequately implement the revised operations and maintenance practices. Conduct training updates or refresher sessions as needed during future years. Beginning in 2009, the City will begin seeking out webcast opportunities for City employees. The City will seek out relevant webcasts for several different stormwater related topics, with a goal of a minimum of one webcast per year.

Implementation Schedule:

2008	2009	2010	2011	2012+
Seek opportunities for free stormwater related webcasts.	Seek opportunities for free stormwater related webcasts.	Train City employees regarding implementation of revised operations and maintenance practices. Seek opportunities for free stormwater related webcasts.	Conduct training updates or refresher sessions as needed. Seek opportunities for free stormwater related webcasts.	

BMP OM-3
BMP Name: Conduct Catch Basin Cleaning

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: The City does not currently have funding, equipment or staff available to complete regularly scheduled maintenance on the storm drainage system. City maintenance of the storm drainage system including catch basins is conducted on an as-needed basis.

BMP Description and Proposed Activities: Establish a program for routine catch basin cleaning. Initially, the City will attempt to clean all catch basins by the end of 2012. Based on the experience gained during this cleaning program, some areas may be prioritized for more frequent cleaning and others may need less frequent cleaning. The focus of the cleaning program will be to prevent accumulated debris from discharging into the storm drain system and to dispose of the debris properly.

Measurable Goals: Develop a routine catch basin cleaning program by 2009 to clean a minimum of one-quarter of the catch basins in Newberg per year. Implement program in 2010.

Implementation Schedule:

2008	2009	2010	2011	2012+
	Develop a routine catch basin cleaning program.	Implement catch basin cleaning program.	Implement catch basin cleaning program.	Implement catch basin cleaning program.

BMP OM-4
BMP Name: Conduct Street Sweeping

Responsible Parties: Department of Public Works

Target Pollutants: This BMP addresses nutrients, bacteria, TSS, and mercury.

Existing Conditions: All curbed City streets are currently swept once every four to six weeks for aesthetic purposes.

BMP Description and Proposed Activities: The City will continue the existing program and evaluate the program for optimization of water quality benefits. After evaluation, the City will develop a new street sweeping program to optimize water quality benefits.

Measurable Goals: Continue to sweep all curbed City streets every four to six weeks. Develop and implement new optimized program by 2009.

Implementation Schedule:

2008	2009	2010	2011	2012+
Continue to conduct street sweeping for all City streets.	Evaluate existing street sweeping program. Develop and implement new program to optimize water quality benefits.	Continue to implement new street sweeping program to optimize water quality benefits.		

2.4.7 Record Keeping, Reporting, and Additional Efforts

Minimum Monitoring Requirements

According to the TMDL Implementation Guidance Document per ODEQ, the TMDL Implementation Plan must address two types of performance monitoring: 1) implementation monitoring and 2) effectiveness monitoring. Implementation monitoring requires tracking of the progress and accomplishments of each activity. Per this SWMP, each BMP would be evaluated per the stated implementation schedule to ensure that the City is conducting activities in conjunction with what is documented. Effectiveness monitoring would require evaluating how well each activity is reducing pollutant loads into the storm system. Per this SWMP, effectiveness monitoring would require some monitoring of how well each BMP is removing pollutants, either qualitatively or quantitatively. As discussed in Section 1.5, as a member of ACWA, Newberg plans to coordinate with other agencies to share data and resources on applicable monitoring for this TMDL.

Record Keeping and Reporting

The TMDL Guidance Document also requires the DMA to submit two types of reports to DEQ on a regular basis: 1) progress report and 2) an implementation plan review report. Both require that records be kept on the activities conducted both on part of the SWMP and the TMDL Implementation Plan as a whole. The progress report would provide the results of implementation and effectiveness monitoring, as described above. The BMP Implementation Schedule in Appendix B provides a clear timeline for implementation. The implementation plan review report would use existing data and other information to evaluate plan effectiveness relative to pollutant reduction goals. If evidence indicates that the Plan (and specifically for the SWMP, the BMPs) are not adequate, then modification to the plan (and/or BMPs) would be necessary.

Table 2-3 outlines the BMPs the City of Newberg is or will be implementing for stormwater quality improvement with regards to the TMDL pollutants. Included in the table are goals and tracking or performance measures for each BMP that will be used for BMP implementation and effectiveness evaluation for the purpose of reporting. There are several BMPs included in the SWMP where specific tracking or performance measures are not applicable. For these BMPs, the City will provide any updates or progress made toward those goals in their annual progress report to ODEQ. These BMPs have been assigned an implementation tracking/performance measure of “track progress” in Table 2-3. Once these tasks are deemed complete by the City, this will also be reported to ODEQ through the means of its annual progress report. The City will submit annual reports starting one year from the date this TMDL implementation plan is approved by ODEQ and each year afterwards. The implementation plan report will be submitted five years after this TMDL implementation plan is approved by ODEQ.

**Table 2-3
 City of Newberg TMDL Implementation Matrix**

Best Management Practice or Activity	Source	Commitment/ Implementation Strategy	Measurable Goal	Implementation Tracking/Performance Measure	Expected Implementation Timeline	Responsible Division	BMP Implementation Status*	Pollutant				
								Nutrients	Bacteria	Total Suspended Solids	Mercury	Temperature*
Measure No. 1 - Public Education												
PE-1 Implement Stormwater Educational Activities	All	Ongoing Public Education Activities	Community nights, Library Open House, Chamber of Commerce, etc.	Track number of community nights, topics covered, and attendance.	Existing Practice; Ongoing	Public Works		X	X	X	X	X
		Prepare an educational insert for inclusion in bills	Annual mailing starting in 2009.	Track how many inserts were mailed.	June 2009, then ongoing	Public Works		X	X	X	X	X
		Use City website to include stormwater quality tips and information.	Place materials on website	Track updates to website and number of hits to website.	June 2009, then ongoing	Public Works		X	X	X	X	X
		Periodic News Releases	As needed	Track number of news releases and topics.	June 2009, then ongoing	Public Works		X	X	X	X	X
PE-2 Participate in the Yamhill Basin Council												
	Urban Activities	Assure representation at Yamhill Basin Council Meetings	Attend meetings, exchange information between City and Council	Track number of meetings attended and meeting notes.	Existing Practice; Ongoing	Public Works		X	X	X	X	X
	Urban Activities	Contribute \$1,000 to the Yamhill Basin Council annually, as funds are available.	Keep receipts for donations on file	Track funds donated.	January 2009, then ongoing	Public Works		X	X	X	X	X
PE-3 Provide Environmental Marking for Storm Drains												
	Spills, illicit discharges	Mark storm drains in high profile areas	Mark catch basins as needed	Track number of catch basins marked per year.	Existing Practice; Ongoing	Public Works		X	X	X	X	
			50 catch basins a year	Track number of catch basins marked per year.	January 2009, then ongoing	Public Works		X	X	X	X	
Measure No. 2 - Public Involvement												
PI-1 Continue with Public Participation in Reviewing the Stormwater Utility Fee												
	All	Solicit public input for establishing appropriate stormwater rate structure	Develop ongoing Citizens' Rate Review Committee	Track meeting attendance.	Existing Practice; Ongoing	Public Works		X	X	X	X	X
		Meet with existing rate committee to review funding levels	Present funding needs to rate committee	Track progress and amount agreed upon and date it is effective.	March, 2008	Public Works		X	X	X	X	X
PI-2 Public Participation in Ordinance and Program Development												
	Construction site runoff, post construction controls	Solicit public input for development of new ordinances	Develop list of new ordinances needed per goals of SWMP	•Track number of ordinances needed. •Track public input received.	March, 2009	Public Works		X	X	X	X	X
			Develop construction site runoff control program ordinance for public review	Track progress.	September, 2009	Public Works		X	X	X	X	
			Place document on City website for 30 days.	Track comments and incorporate as appropriate.	March, 2008; Complete	Public Works						
PI-3 Use the City's Website for Education and Reporting of Stormwater Concerns												
	Spills, illicit discharges	Update website with stormwater information and requesting information from public	Provide a method for citizens to report stormwater concerns on City website.	Track number of comments received from website feedback mechanism.	May 2009, then ongoing	Public Works		X	X	X	X	X
			Identify and train staff to respond to incoming reports	Track training dates, attendance, and topics covered.	May, 2009	Public Works		X	X	X	X	X

**Table 2-3
 City of Newberg TMDL Implementation Matrix**

Best Management Practice or Activity	Source	Commitment/ Implementation Strategy	Measurable Goal	Implementation Tracking/Performance Measure	Expected Implementation Timeline	Responsible Division	BMP Implementation Status*	Pollutant				
								Nutrients	Bacteria	Total Suspended Solids	Mercury	Temperature*
PI-4 Establish Hotline to Receive Complaints from the Public	Spills, illicit discharges	Provide telephone line that is checked continually for incoming reports of water quality issues	Identify and train staff to respond to incoming calls	Track number of calls received, the content of the calls, and the action taken (if required).	December 2009, then ongoing	Public Works		X	X	X	X	X
			Advertise hotline on website and by placing phone number on utility bills.	Track progress.	December 2009	Public Works						
Measure No. 3 - Illicit Discharge Detection and Elimination (IDDE)												
ID-1 Develop IDDE Plan	Spills, illicit discharges	Respond to spills and illegal dumps	Clean up illicit dumps and implement enforcement by citing violators	Track number of citations issued.	Existing Practice; Ongoing	Public Works		X	X	X	X	
			Implement spill containment; respond to spills with fire department	•Track number of spills responded to by fire department. •Track sources, causes, and resulting water quality problems resulting from spills.	Existing Practice; Ongoing	Public Works		X	X	X	X	
			Develop Draft Illicit Discharge Ordinance	Track progress.	April, 2009	Public Works		X	X	X	X	
			Ordinance Approved by City Council	Track progress.	August, 2009	Public Works		X	X	X	X	
			Map existing outfalls	Track progress.	Existing Practice; Ongoing	Public Works		X	X	X	X	
			Prepare inventory	Track progress.	December, 2009	Public Works		X	X	X	X	
			Develop monitoring plan including plan to follow up on discharges identified	Track progress.	June, 2010	Public Works		X	X	X	X	
			Develop plan to address non-stormwater discharges	Track progress.	June, 2010	Public Works		X	X	X	X	
		Develop worksheets for inspections	Track progress.	July, 2010	Public Works		X	X	X	X		
ID-2 Train City Employees to Implement IDDE	Spills, illicit discharges	Inform staff, public employees, businesses and general public of hazards, new regulations, and proper disposal of waste	Develop training material and program	Track progress.	August, 2010	Public Works		X	X	X	X	
			Implement training and notification of staff and public employees; use public education measures to inform businesses and general public	Track training provided and attendance.	October, 2010	Public Works		X	X	X	X	
			Seek free relevant stormwater webcasts for lunch & learns for interested employees	•Track number of stormwater webcast lunch & learns put on for employees . •Track topics of webcasts chosen •Track attendance to webcast brown bags.	January 2009; then ongoing	Public Works		X	X	X	X	
ID-3 Implement IDDE plan	Spills, illicit discharges	Conduct illicit discharge inspections	Conduct field screening of outfalls and other elements of plan developed in ID-1	Track number of field screenings performed, results of field screenings, and any follow up actions taken.	October 2010; then ongoing	Public Works		X	X	X	X	

**Table 2-3
 City of Newberg TMDL Implementation Matrix**

Best Management Practice or Activity	Source	Commitment/ Implementation Strategy	Measurable Goal	Implementation Tracking/Performance Measure	Expected Implementation Timeline	Responsible Division	BMP Implementation Status*	Pollutant				
								Nutrients	Bacteria	Total Suspended Solids	Mercury	Temperature*
			Follow up on reports of spills and illicit discharges	•Track number of reports received for spills or illicit discharges. •Track follow up actions taken.	October 2010; then ongoing	Public Works		X	X	X	X	
ID-4 Hazardous Waste Collection Program	Illicit discharges	Provide opportunity for residents to dispose of hazardous waste	Offer free hazardous waste collection service twice per year to City residents.	Track volume of waste received during collection events.	Existing practice; Ongoing							
Measure No. 4 - Construction site stormwater runoff control												
CS-1 Develop Ordinance to Control Construction Site Runoff for less than one acre	Construction Site Runoff	Erosion control on public works projects	Use of biobags, haybales, wattles, and other construction practices on construction sites	Track number of construction projects with erosion control measures.	Existing Practice; Ongoing	Public Works		X	X	X	X	
		Develop erosion control ordinance.	Prepare draft ordinance.	Track progress.	February, 2009	Public Works		X	X	X	X	
		Ordinance approved by City Council	Ordinance approved by City Council	Track progress.	September, 2009	Public Works		X	X	X	X	
		Select guidance manuals for program implementation	Select guidance manuals for program implementation	Track progress.	July, 2009	Public Works		X	X	X	X	
CS-2 Train City Employees Regarding Construction Site Controls	Construction Site Runoff	Identify and train employees for plan review, inspection and enforcement of erosion control ordinance	Develop training materials	Track progress.	December, 2010	Public Works		X	X	X	X	
		Conduct training for staff	Conduct training for staff	Track progress.	January, 2011	Public Works		X	X	X	X	
		Seek free relevant stormwater webcasts for lunch & learns for interested employees	Seek free relevant stormwater webcasts for lunch & learns for interested employees	•Track number of stormwater webcast lunch & learns put on for employees. •Track topics of webcasts chosen. •Track attendance to webcast brown bags.	January 2009; then ongoing	Public Works		X	X	X	X	
CS-3 Conduct Plan Reviews, Inspections, and Enforcement for Construction Sites	Construction Site Runoff	Implement erosion control program	City responds to erosion control complaints	•Track number of complaints received and follow up actions taken by City. •Track number of notices of non-compliance per year .	Existing Practice; Ongoing	Public Works		X	X	X	X	
		Conduct plan review	Conduct plan review	Track number of plans reviewed per year.	February 2011; then ongoing	Public Works		X	X	X	X	
		Conduct site inspections, enforcement, as necessary	Conduct site inspections, enforcement, as necessary	•Track number of erosion control inspections conducted per year. •Track number of notices of non-compliance per year.	February 2011; then ongoing	Building		X	X	X	X	
Measure No. 5 - Post-Construction Stormwater Runoff Control												
DS-1 Develop Ordinance to Control Runoff from New and Redevelopment	New Development	Develop ordinance for on-site facilities to prevent or minimize pollutants from new development	Prepare draft ordinance	Track progress.	August, 2010	Public Works		X	X	X	X	
		Ordinance approved by City Council	Ordinance approved by City Council	Track progress.	December, 2010	Public Works		X	X	X	X	

**Table 2-3
 City of Newberg TMDL Implementation Matrix**

Best Management Practice or Activity	Source	Commitment/ Implementation Strategy	Measurable Goal	Implementation Tracking/Performance Measure	Expected Implementation Timeline	Responsible Division	BMP Implementation Status*	Pollutant				
								Nutrients	Bacteria	Total Suspended Solids	Mercury	Temperature**
			Develop standards and guidelines for on-site facilities	Track progress.	November, 2010	Public Works		X	X	X	X	
			Evaluate Retrofit Opportunities	Track number of sites reviewed and result of evaluation.	February 2011; then ongoing	Public Works		X	X	X	X	
			Evaluate Opportunities for Implementing Regional Facilities for Existing and New Development	Track number of sites reviewed and result of evaluation.	August 2010; then ongoing	Public Works		X	X	X	X	
DS-2 Train City Employees Regarding New Development Standards	New Development	Identify staff and train staff on standards, guidelines, plan review, and inspections	Develop training materials	Track progress.	December, 2010	Public Works		X	X	X	X	
			Implement training	Track when training occurred and attendees.	December 2010; then ongoing	Public Works		X	X	X	X	
			Notification to development community of new requirements	Track progress.	December, 2010	Public Works		X	X	X	X	
			Seek free relevant stormwater webcasts for lunch & learns for interested employees	<ul style="list-style-type: none"> Track number of stormwater webcast lunch & learns put on for employees. Track topics of webcasts chosen. Track attendance to webcast brown bags. 	January 2009; then ongoing	Public Works		X	X	X	X	
DS-3 Conduct Plan Reviews, Inspections, Enforcement for New Development	New Development	Implement program for on-site requirements to address stormwater quality	Conduct pre-construction conference	Track number of pre-construction conferences per year.	Existing practice; Ongoing	Public Works		X	X	X	X	
			Encourage use of water quality facilities for new development	Track number of water quality facilities installed for new development.	Existing practice; Ongoing	Public Works		X	X	X	X	
			Require plan submittals, conduct plan reviews	Track number of plan submittals and reviews conducted per year.	Existing practice and March 2011; Ongoing	Public Works		X	X	X	X	
			Start inspection of new facilities	<ul style="list-style-type: none"> Track number of inspections done per year. Track inspection results. 	March 2011, then ongoing	Building		X	X	X	X	
Measure No. 6 - Pollution prevention in Municipal Operations												
OM-1 Develop a Water Quality Sensitive Operations and Maintenance Manual	Public Operations and Maintenance Practices	Develop water quality friendly practices	Place trash racks over major inlets	Track inlets installed with trash racks.	Existing Practices; Ongoing	Public Works		X	X	X	X	X
			Review existing operation and maintenance practices	Track progress.	Existing Practices	Public Works						
			Develop manual of existing practices, modifications, and new practices from other programs	Track modifications to manual.	September, 2009	Public Works		X	X	X	X	X

**Table 2-3
 City of Newberg TMDL Implementation Matrix**

Best Management Practice or Activity	Source	Commitment/ Implementation Strategy	Measurable Goal	Implementation Tracking/Performance Measure	Expected Implementation Timeline	Responsible Division	BMP Implementation Status*	Pollutant					
								Nutrients	Bacteria	Total Suspended Solids	Mercury	Temperature**	
OM-2 Train City Employees Regarding Revised O&M Practices	Public Operations and Maintenance Practices	Implementation of water quality friendly O&M practices	Review practices with staff	Track progress.	December, 2009	Public Works		X	X	X	X	X	
			Review new manual with staff	Track progress.	January, 2010	Public Works		X	X	X	X	X	
			Seek free relevant stormwater webcasts for lunch & learns for interested employees	<ul style="list-style-type: none"> Track number of stormwater webcast lunch & learns put on for employees. Track topics of webcasts chosen. Track attendance to webcast brown bags. 	January 2009; then ongoing	Public Works		X	X	X	X	X	
OM-3 Conduct Catch Basin and Storm Drain Cleaning	Stormwater Runoff	Catch Basin Cleaning TV, inspect, and clean stormdrains Repair pipe and culverts	Catch Basins cleaned on an as needed basis	Track number of catch basins cleaned per year.	Existing Practice; Ongoing	Public Works		X	X	X	X		
			TV, inspect and clean storm drains as needed	Track length of storm drain cleaned and number of inspections.	Existing Practice; Ongoing	Public Works		X	X	X	X		
			Repair pipe and culverts	Repair pipe and culverts as needed	<ul style="list-style-type: none"> Track amount of pipe repaired per year and culvert repairs. Track number of culverts repaired per year. 	Existing Practice; Ongoing	Public Works		X	X	X	X	
			Optimize catch basin maintenance practices for water quality	Develop routine catch basin cleaning program	Track progress.	December, 2009	Public Works		X	X	X	X	
				Implement catch basin cleaning program	Track progress.	January 2010; then ongoing	Public Works		X	X	X	X	
OM-4 Conduct Street Sweeping	Street Debris	Street sweeping Optimize street sweeping practices for water quality	Street sweeping occurs on select streets every 4 to 6 weeks	Track miles swept per year.	Existing Practice; Ongoing	Public Works		X	X	X	X		
			Evaluate street sweeping program and develop routine street sweeping program to optimize water quality benefits	Track modifications done to street sweeping program.	March, 2009	Public Works		X	X	X	X		
			Implement street sweeping program	Track progress.	April 2009; then ongoing	Public Works		X	X	X	X		
*Timeline represents target date for completion or implementation of goal. Some goals that are currently being implemented are not currently being tracked. Tracking measures for these goals will be implemented upon acceptance of this TMDL plan by ODEQ.													
** See separate Temperature Implementation Plan in Section 3.0 of this plan													

3.0 Temperature TMDL

3.1 Background

Elevated temperatures can compromise several beneficial uses for surface waters. ODEQ has reported that resident fish and aquatic life, salmonid spawning, rearing and migration, and anadromous fish passage are the most sensitive beneficial uses related to high temperatures. ODEQ has focused the temperature TMDL on the protection of the cold water salmonids (ODEQ 2006).

Salmonids require cool, well-oxygenated water to survive. Elevated water temperature is a common problem in many tributaries of the Willamette River, resulting in TMDL load allocations and waste load allocations designed to protect and remedy impaired aquatic habitats. Water temperatures in excess of TMDL load allocations make streams uninhabitable for most fish and other aquatic animals. Excessively warm streams lead to a variety of ill effects on many salmon and trout species, ranging from decreased spawning success to death (WDOE 2000). Given the opportunity, juvenile and adult salmon will occupy water that is 13-18° C (55-64° F), with the warmer water selected only if excess food is available. Water temperatures of approximately 23-25° C (73-77° F) are lethal to salmon and steelhead, and genetic abnormalities or mortality of salmonid eggs can occur above 11° C (52° F) (WDOE 2000). The maximum temperature that salmonids can tolerate varies with species, life-stage (e.g., fry, fingerling or adult), prior acclimation, oxygen availability, duration of warmer temperature, and the presence of pollutants. Per the Willamette River TMDL, the temperature criteria for Willamette River tributaries is 18° C to provide for salmon and trout rearing and migration, and 20° C for the mainstem Willamette RM 0 to RM 50 to provide for salmon and steelhead migration corridors.

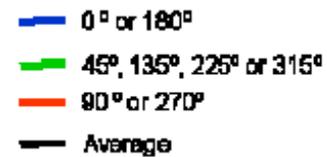
Through the Willamette Basin TMDL, ODEQ states “waste load allocations will restrict all NPDES point sources and non-point sources to a cumulative increase of no greater than 0.3° C (0.5° F) above the applicable criteria after complete mixing in the water body, and at the point of maximum impact.” There are several factors that can contribute to stream warming such as changes in watershed processes and channel morphology, climate, geographic location, riparian vegetation, dams, reservoirs, and point sources such as industrial waste water discharges (ODEQ 2006).

3.1.1 Surrogate Pollutant

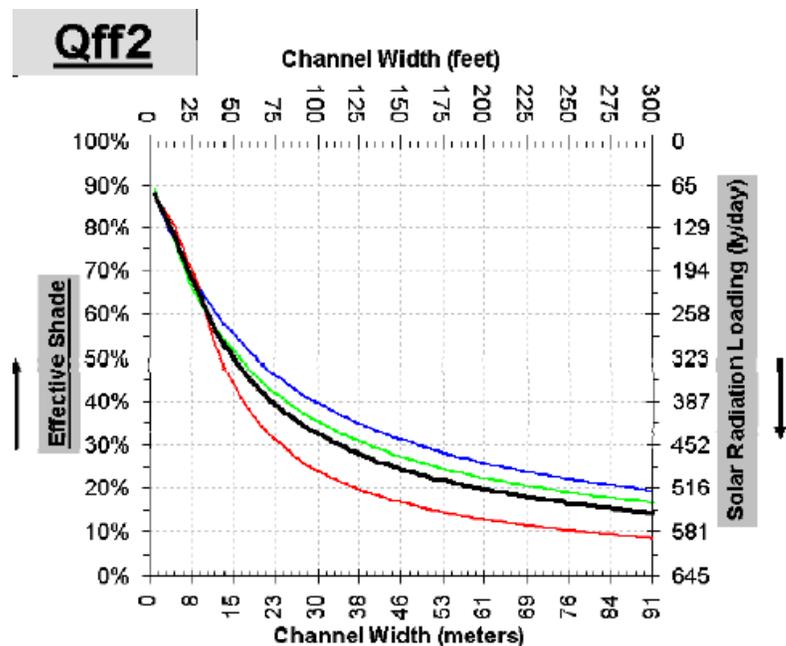
ODEQ has found that the largest contributor to temperature is the increased impacts from solar radiation loads due to disturbances of riparian vegetation. In response to this finding, ODEQ has defined effective shade targets as a surrogate measure for addressing temperature. This means that temperature readings will not be taken. Instead, the increase in effective shade will be monitored to determine if the City is successful in addressing temperature. Effective shade is determined through the use of shade curves on a region-specific basis. ODEQ has developed shade curves for 15 different geomorphic units. The shade curves, used along with stream orientation and width, provide a target for percent effective shade and corresponding solar radiation loading (ODEQ 2006).

Shade is more effective on narrower streams than wider streams because shadows from trees in the riparian zone will cover a larger percent of water surface. Since most tributaries to the Willamette are 20 feet wide or less including those within the City boundaries, riparian vegetation casting shade over the streams is expected to be very effective. This can be projected through the use of the shade curves. The City is classified as the geomorphic unit “Quaternary fine-grained flood deposits”, also known as Qff2. Below is the corresponding shade curve from Figure 7.8 in Chapter 7 of the Willamette TMDL for this geomorphic unit. This curve is specific to the soils for the City. By knowing the width of the channel and its direction from the north, this curve will provide the “amount of percent effective shade that each geomorphic unit tree composition provides to the stream based on the stream’s channel width and stream aspect from north” (ODEQ 2006).

Planting appropriate trees for the soils will enhance the likelihood of success for shading of tributary creeks and streams. Oregon ash, Sitka willow, Pacific willow, red-osier dogwood, black cottonwood, red alder, red cedar, douglas fir, and bigleaf maple are known to be historically dominant riparian trees in the Newberg area.



To determine the percent effective shade for the Willamette tributaries, the percent effective shade was picked off the chart using a channel width of 20 feet and a direction of 0° or 180° from the north since the tributaries within the City of Newberg generally flow from north to south. This resulted in an effective shade goal for City between 75% - 90%. This is interpreted to mean historically prevalent riparian vegetation should block the majority (at least 75%) of solar radiation loading from the streams’ water surface. It should be noted that based on this curve, percent effective shade decreases significantly as the width of the channel increases. Because of this the most effective way to manage temperature in the mainstem of the Willamette River is through its smaller, narrower tributaries.



3.2 Temperature TMDL Analysis

3.2.1 Shade Targets

In order to meet the effective shade targets, the goal for the temperature management plan is to plant and maintain system potential vegetation which is defined by the ODEQ as “riparian vegetation which can grow and reproduce on a site given the plant biology, site elevation, soil

characteristics, and local climate” (ODEQ 2006). In other words, system potential vegetation should be viewed as vegetation historically known to be found throughout Newberg’s eco-region. Efforts should include working with existing and future development to meet these targets. As this riparian vegetation matures, it produces shade and creates a microclimate around the waterway that regulates and minimizes solar radiation. Although other techniques are available for reducing water temperatures, the installation of native riparian corridors provides a cost-effective, relatively simple (low engineering/earthwork) approach that provides multiple benefits beyond temperature regulation. Other benefits include primary production of organic materials, source debris for in-stream channel complexity and habitat features, wildlife corridor connectivity, displacement of noxious vegetation, and visual aesthetics.

A study done by the City of Gresham and Pacific Habitat Services was referenced when creating this plan (Van Staveren 2007). Based on the study, it was determined that to reap the benefits of shade from the system potential vegetation, the vegetated buffer should be at least 35 feet from the stream edge, but expanding the buffer to 55 feet yielded significantly more direct shade. Fifty feet was also deemed acceptable for providing adequate shade. The study found the microclimate under the riparian canopy is equally important in maintaining lower stream temperatures as direct shade. The microclimate created under the vegetative cover keeps air temperature lower during the day (higher at night), and relative humidity is also higher. The microclimate helps to moderate the impacts of higher temperatures outside this cover. The findings from the study apply to streams 25 feet wide or less; these streams received the most effective shade benefits from riparian plantings. Larger waterways, like the Willamette River, receive less effective shade from riparian vegetation, simply due to their dimensions. The majority of tributaries to the Willamette River are within the width limits of this study, including those within the City. These findings are therefore directly applied to the City’s plan.

3.2.2 Identifying Restoration Areas

Methods developed for identifying riparian shade restoration opportunities for this TMDL Implementation Plan were based on work completed by the City of Gresham and Pacific Habitat Services for the Gresham Temperature TMDL. Since the City currently protects a 50-foot wide streamside corridor in their Streamside Corridor Ordinance (there are some exceptions depending on the slope of the ground surface adjacent to the stream), it was decided to base the analysis for Newberg on a buffer width of 50 feet. The core riparian area evaluated for the streams includes all areas within 50 feet of the ordinary high water mark (OHWM) of a stream. This results in a study area that is approximately 120 feet wide in cross section (50’ buffer + 20’ typical stream width + 50’ buffer). Where the OHWM has not been delineated, and only the stream centerline is available, the buffer is increased to approximately 60 feet to include the width of the stream.

The next step is the identification of hard and soft constraints within the core riparian area. These constraints restrict the ability of tree planting due to conflicts with existing structures or land uses. Examples of hard constraints include roadways, utility corridors, and/or rail right-of-way (ROW) corridors as these generally have planting restrictions. Soft constraints are identified as “areas where plant communities other than the native vegetation are more appropriate” (Majidi 2007). Soft constraints include seasonal streams and wetland areas that are

too deeply inundated at various periods of the growing season to support mature woody vegetation. Where rigorous wetland data is available, wetlands capable of being planted with trees (e.g. potential forested wetlands) are eliminated as a constraint. Forested wetlands provide some of the best opportunity for thermo-regulation in perennially saturated areas due to the slow movement of water and often spring-fed hydrology. Seasonal streams lack surface water during the summer when temperatures are most likely to be exceeded. Thus, shade is ineffective in substantially reducing water temperature TMDL exceedances in seasonal streams.

Another soft constraint is land ownership. The riparian areas were identified as public or private properties. Different management strategies need to be developed for public and private riparian areas. Public parks, operated and maintained by the Chehalem Parks District, were identified throughout the City's streamside corridors. Remaining areas are private property. The City has no public properties located along Newberg's streams.

After identifying hard and soft constraints, the remaining portions of the study areas were analyzed using high-resolution aerial photography and false infrared photography to delineate areas that appear to be well vegetated and areas that appear devoid of mature woody vegetation. Other GIS data was utilized as well, including recent restoration areas, noxious vegetation areas, and existing riparian mapping data. These sources were used to further illuminate areas where mature vegetation would be most beneficial, or where plantings have already occurred. A site visit confirmed the findings of the GIS analysis.

Results of this analysis indicated that there is a total of about 110 acres within 50 feet of a stream in the City limits. Of this area, about 38 acres is public land, belonging to the Chehalem Parks District, and about 72 acres are privately owned. About 73 percent of the total acreage is already vegetated and providing shade for the streams. Impervious riparian acreage is about 3.5 acres and wetlands take up about 13 acres.

3.2.3 Cold Water Refugia

The fifth component of TMDL Implementation Plans required by OAR 340-042-0025 is "any other analyses or information as specified in the Water Quality Management Plan." The WQMP for the Willamette Basin TMDL requires cold water refugia to be addressed in TMDL Implementation plans for DMAs within RM 50 of the Willamette mainstem and the confluence of the Columbia River. This stretch of the river has been designated as a migration corridor by OAR Division 41 (ODEQ 2006). Per the WQMP, the TMDL Implementation Plans within this designated area "shall look at identifying existing cold water refugia and provide options for protecting or enhancing such areas. Wherever localized cold water refugia have been altered through channel modification or by other means, consideration should be given to exploring options for restoring or enhancing these areas of cold water refugia where feasible."

Cold water refugia (CWR) can be described as patches of water within a stream that are one or two degrees cooler than the surrounding ambient stream temperature resulting from cool in-flow of tributaries. Studies indicate that CWR may provide critical habitat for salmonids in basins affected by warm temperatures (Bartholow 1995). CWR are associated with different aspects of stream morphology, including side channels, alcoves, lateral seeps, and floodplain spring brooks

(Ebersole 2003). McIntosh et. al. (1998), in their study of CWR in the Klamath Basin using forward-looking infrared (FLIR), concludes that areas of CWR appeared to be at junction where tributaries meet.

Since there are no direct stormwater outfalls to the Willamette River within the City of Newberg's jurisdiction, and all tributaries within the City of Newberg travel through land outside of the City's jurisdiction prior to discharging into the Willamette River, the City of Newberg is unable to implement any measures that will directly protect CWR in the Willamette River. Maintaining and protecting the Willamette River Greenway, which is part of Oregon's Statewide Planning Goal 15, and under discussion with City planners, would provide some protection of CWR within the Willamette River.

3.3 Implementation Strategies and Timelines

As stated earlier, the City does not currently have any public properties along creeks under their jurisdiction at this time. Chehalem Park and Recreation District manages public parks within the City. Private property consists of remaining riparian areas.

This section describes the measures already in place to protect riparian areas and proposed measures the City will undertake to plant effective shade along their creeks and streams. Of importance is the opportunity to protect existing vegetation, which is in place for a large part of the riparian areas within the City, and to plant effective shade through new development.

It should be noted that although the SWMP is a stormwater plan and thus does not specifically address temperature, the City believes that some of the six minimum measures, as indicated in Table 2-3, may also be effective for addressing temperature such as public involvement, public education, and operation and maintenance.

3.3.1 Existing Measures

In response to Statewide Planning Goal 5, the City has designated an area called the Stream Corridor (SC) Overlay Sub-district in an effort to protect the streams within Newberg, as they are considered a natural resource. Part 15 of the City's Development Code is dedicated strictly to the rules and regulations pertaining to the SC area. Section 151.465 defines the purpose of the SC Overlay Sub-district to implement goals and policies of the comprehensive plan that are intended to protect land for open space and protect natural scenic and historic resources, as well as protect and improve the Willamette River Greenway. Section 151.467 of the code states: "the boundaries of the SC areas were established by an ecologist analyzing several environmental values including erosion potential, wildlife habitat, riparian water quality protection, floodplain water quality protection, natural condition, and ecological integrity". These boundaries are typically set at the top of bank, or 50 feet from the wetland edge if the top of bank is not obvious (City of Newberg 2003).

The SC ordinances already in place are an important measure the City is already implementing to protect riparian vegetation. The ordinances cover improvements and expansions of existing structures, new construction, and disturbing current conditions within the SC boundary. Per

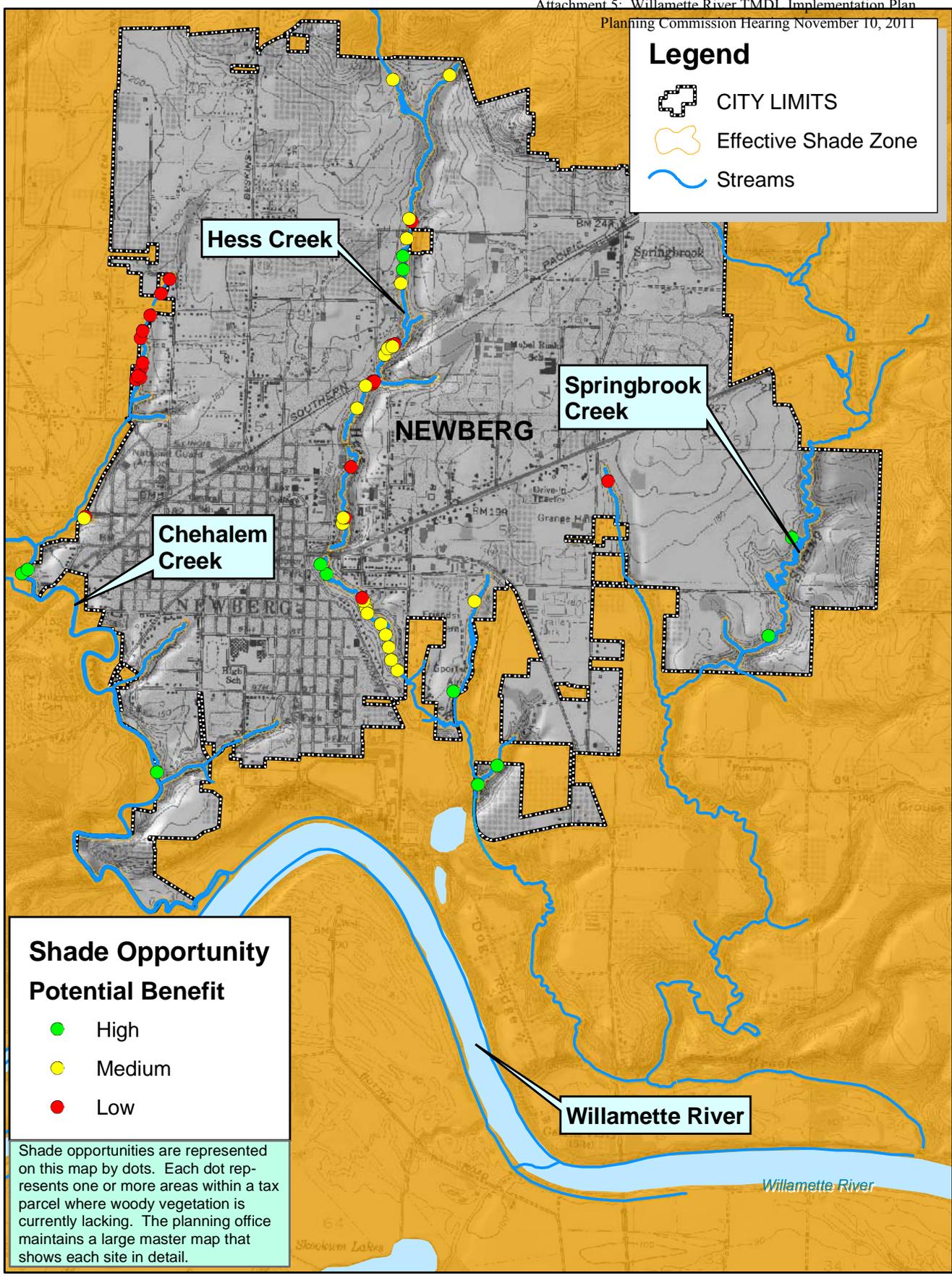
Section 151.470 of Newberg's development code, areas developed or improved within the SC boundaries are required to: re-grade and contour disturbed ground to appear natural with native soils, replant using species from the native Newberg plant list, replace trees to a specific ratio depending on size, and protect disturbed areas with erosion control devices during construction and site stabilization. The City currently implements and enforces this ordinance on both new construction and existing land use. Disturbances to riparian areas require submittal of a planting plan using native vegetation and subsequent restoration. As such, existing riparian vegetation and thus, existing shade, is protected by the City.



1:32,000

Legend

- CITY LIMITS
- Effective Shade Zone
- Streams



Shade Opportunity Potential Benefit

- High
- Medium
- Low

Shade opportunities are represented on this map by dots. Each dot represents one or more areas within a tax parcel where woody vegetation is currently lacking. The planning office maintains a large master map that shows each site in detail.

0 0.5 1 Miles

RIPARIAN SHADE OPPORTUNITIES

CITY OF NEWBERG, OREGON
 WILLAMETTE RIVER TMDL IMPLEMENTATION PLAN

105 of 108 **FIGURE 3-1**

FILEPATH: O:\25696460 Newberg TMDL Implementation Plan\5000 Technical\GIS_Maps_and Plots\ MXD

The SC Overlay Sub-district regulations within the City Development Code are an important step towards meeting shade targets since they provide guidelines and restrictions for development within the riparian restoration areas.

3.3.2 New Development

New development offers opportunities to provide shade through the plan review process. Proposed new developments within the City are already planning to protect riparian corridors and provide natural areas for passive recreation.

3.3.3 Public Education

Public education is a key method to improving water quality conditions within a community. It is vital for the community to understand the cause and effect of their actions in order for them to change behaviors. Within the next year, by December 2008, additional information explaining the effect of riparian shade and cool temperatures for healthy fish will be added to the City’s website. Emphasis will be placed on encouraging protection of existing vegetation, followed by restoring remaining sites.

3.3.4 Incentives

As providing shade on private property is purely voluntary, the City will explore options for providing incentives to property owners to increase tree canopies in riparian areas within existing development and for new development. Options the City will consider include the feasibility of providing planting plans for property owners, providing a portion of the materials for planting in exchange for maintenance agreements, and providing discounts on stormwater fees. This method is similar to an existing incentive program offered in Chapter 53 of the Storm Water System in the City Charter. This method encourages landowners to manage storm water quantity and quality within their property by issuing discounts on the City’s stormwater management fee. Within the next four years, by December 2011, the City will assemble proposals for an incentive plan to present to the public for comment prior to approval by the City Council. Approval of incentives is based on Council action, available funding, and public input. Final approval and implementation of incentives is unknown at this time. A table is provided below for native vegetation within the City of Newberg’s SC Overlay Sub-basin based on land description.

**Table 3-1
 City of Newberg Native Riparian Shade-producing Trees**

Land Description	
Wetlands and lower streambanks	Upper streambanks and upland floodplain
<ul style="list-style-type: none"> • Oregon ash (<i>Fraxinus latifolia</i>) • Sitka willow (<i>Salix sitchensis</i>) • Pacific willow (<i>Salix lucida</i>) • Red-osier dogwood (<i>Cornus sericea</i>) • Black cottonwood (<i>Populus balsamifera</i> spp. <i>Trichocarpa</i>) • Red alder (<i>Alnus rubra</i>) 	<ul style="list-style-type: none"> • Red cedar (<i>Thuja plicata</i>) • Douglas fir (<i>Pseudotsuga menziesii</i>) • Bigleaf maple (<i>Acer macrophyllum</i>) • Red alder (<i>Alnus rubra</i>) • Black cottonwood (<i>Populus balsamifera</i> spp. <i>Trichocarpa</i>)

3.3.5 Prioritizing Restoration Area Opportunities

The City will pursue planting at all available sites provided there are sufficient resources, both funding and staff time, to implement restoration projects to provide shade. In the event there are more opportunities than there are resources, it will be necessary to prioritize projects. A prioritization mechanism was developed that is based on a measure of maximum shade benefit, duration of shade (aspect), fish use, size, and proximity to potential cold water refugia. Various riparian area opportunities, identified with GIS mapping, was numerically scored, using 5 as the highest priority and 0 as the lowest priority, for each of the following factors:

- Aspect: Vegetation on the west and south bank is more effective because Newberg is in the Northern hemisphere with the sun always shining from the south, and the hottest hours of the day are in the afternoon when the sun is further to the west. Riparian vegetation on the South bank (5), west bank and east bank (4), west bank (3), east bank (2), or north bank (1)
- Fish Presence: Downstream (3) of an ODFW designated fish passage barrier or upstream (1) of a barrier
- Rare Species Presence: Presence of species listed as federally endangered or threatened (3) or species not protected under the federal Endangered Species Act (0)
- Size of Improvement Area: Area \geq 1 acre (5), between 0.66 and 0.99 acre (3), between 0.33 and 0.65 (2), and area smaller than 0.33 acres (1)
- Protection of CWR: Within 50ft buffer of potential CWR (5), within 50ft - 100ft buffer of CWR (3), or beyond 100ft from CWR (1)

Each identified restoration area was scored using the above method. The sums of the scores for each area were used to break the areas up into three categories for potential shade benefit: high benefit, medium benefit, and low benefit. See Figure 3-1: Riparian Shade Opportunities for a map of the results. Although the Willamette Basin TMDL only requires protection of CWR in the Willamette River, they were used to categorize shade benefits since studies have indicated that CWR may provide critical habitat for salmonids in basins affected by warm temperatures.

3.3.6 Additional Measures

Many of the BMPs described in Table 2-3 also address temperature. Although the SWMP does not specifically address temperature since it is not considered to be a stormwater pollutant, the City believes some of the BMPs under the six minimum measures described in Table 2-3 may be effective in addressing temperature such as public involvement and public education.

3.4 Measuring and Monitoring

In order to determine progress in planting effective shade, the City will monitor and track efforts identified in this plan. Items to be monitored and recorded include educational efforts, new development areas planted with shade, existing vegetation protected. In a GIS map layer, the City will record the areas currently vegetated and areas needing restoration. As areas are restored or protected, these will be identified and tracked on the GIS layer. Public education efforts will

be tracked including information provided on the website and public questions and responses. This information will be included in the annual report to ODEQ.

4.0 Evidence of Compliance with Applicable Land Use Requirements

Oregon Administrative Rule 340-042-0080(3) defines one of the required elements of a TMDL implementation plan to be evidence of compliance with applicable statewide land use requirements. Below are the findings and conclusions from the general compatibility assessment addressing all the TMDL-related activities and discharges under the City's jurisdiction.

Findings: Newberg's comprehensive plan, originally adopted in 1979, has been acknowledged by the Land Conservation and Development Commission (LCDC) to be in compliance with the Statewide Planning Goals. Since then, the plan has been revised numerous times, most recently in February 2007. The TMDL Implementation Plans are consistent with the City's acknowledged comprehensive plan to the extent required by law.

Although not every BMP and activity contained in the TMDL plan is listed in the comprehensive plan, as a whole the two documents are compatible with similar goals and methods for improving water quality. An important component of Newberg's comprehensive plan is the goals and policies section, which include statements indicating the intent of the Plan and establish directions for future planning decisions and activities. Several of these goals were found to be compatible with this TMDL plan.

There are four specific goals within Oregon City's comprehensive plan that contain intentions similar to the strategies in this TMDL implementation plan. These are parts A, D, E, and G of section II.

Part D of Section II is "to retain and protect wooded areas". There are two policies that are included in this goal which are, 1. "The city shall encourage the preservation of wooded areas for wildlife habitat and limited recreational uses" and 2. "Development in drainageways shall be limited in order to prevent erosion and protect water quality. Trees provide needed protection from erosion and should be maintained." The first policy within this goal relates to the management strategies recommended for temperature, since shade from trees in riparian zones was established as the surrogate for temperature. The intent of the second policy relates to the erosion control BMPs under minimum measure #4: construction site runoff control.

Part E of Section II is "to maintain and, where feasible, enhance the air, water and land resource qualities within the community." There are several policies under this goal. Examples of a few that pertain to this TMDL plan are, policy 2 which states, "water quality in the Willamette River and tributary streams shall be protected", policy 5 stating, "new industry should be located in areas which minimize impacts upon the air, water, and land resource base, as well as upon surrounding land uses", and policy 12 which states, "The City will require development to establish and maintain adequate levels of natural area buffers between new development and the waterways in the riverfront District." Some policies, such as policy 12 provide more specific wording that directly relates to specific sections of this TMDL, like temperature. Other policies are more general but share the general idea and intent of this plan.

Part G of Section II covers open space, scenic, natural, historic and recreational resources and is broken into three goals. The first goal, “to ensure that adequate land shall be retained in permanent open space use and that natural, scenic and historic resources are protected” relates to this plan. There are numerous policies under this goal, many of which are directly or indirectly related to the intent of this plan. A few examples are policy 1.a. stating, “the dedication of easements for public drainageways and stream corridors should be encouraged when properties are either developed or redeveloped” and policy 1.g. stating “The City shall coordinate with State and Federal agencies to protect identified wetland areas”. These policies again support the intent of this TMDL plan by identifying water bodies within the city as important resources to be protected.

Conclusion: Newberg’s acknowledged comprehensive plan has components that are pertinent to the TMDL Implementation Plans. Based on the above findings, this TMDL plan is considered to be compatible with the land use requirements as set forth in the comprehensive plan.

5.0 References

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Appendix A

Oregon Department of Environmental Quality Notification Letter



Oregon

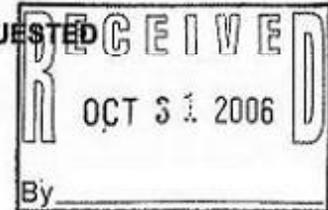
Theodore Kulongoski, Governor

Department of Environmental Quality
Western Region Eugene Office
1102 Lincoln Street, Suite 210
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY (541) 687-5603

October 17, 2006

Dan Danicic
City of Newberg
PO Box 970
Newberg, OR 97132

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**



Re: Issuance of Willamette Basin TMDL and Water Quality Management Plan

Dear Dan Danicic,

On September 21, 2006, the Department of Environmental Quality (DEQ) issued the Willamette Basin Total Maximum Daily Load (TMDL) as an Order, and submitted the TMDL to the Environmental Protection Agency (EPA) for approval. This is a huge milestone and comes after many years of working closely with the Willamette TMDL Council and other basin partners to develop a TMDL that was approved by EPA on September 29, 2006. When implemented, it will result in a cleaner, healthier Willamette River for current and future generations.

The Willamette River and numerous tributaries do not currently meet several water quality standards including bacteria, mercury and temperature. These standards assure that beneficial uses of the river and tributaries, such as swimming, fish consumption and fish rearing, are protected. When water quality standards are not met, the federal Clean Water Act requires a TMDL to be established. A TMDL determines how much pollution can be added to the river without exceeding water quality standards.

This letter is intended to provide you with notification that the TMDL has been issued as an order and that the summary of responses to comments is available as directed under OAR 340-042-0050 to 0070. Copies of the final TMDL, Water Quality Management Plan (WQMP) and Response to Comments are available on the DEQ Website at <http://www.deq.state.or.us/wq/tmdls/willamettebasin.htm>

Water quality improvements will depend on the actions of Willamette Basin communities, businesses and citizens. DEQ has named certain federal, state and local governments and agencies, including cities, counties and special districts, as Designated Management Agencies (DMA), as these governments and agencies have authority to manage and regulate sources of pollutants listed in the TMDL. The City of Newberg has been identified as a DMA. Upon issuance, the TMDL is an order that requires the City to develop and carry out its own implementation plan outlining actions the City will take to meet the requirements of the TMDL. The implementation plan must be submitted to DEQ within 18 months of September 21, 2006, unless that timeline is extended by DEQ.

These implementation plans will describe the actions that municipalities and agencies will undertake to reduce pollution in order to help restore and protect water quality. You may already have plans or strategies in place that help prevent or control water pollution, such as Storm Water Management Plans or road maintenance plans, but these plans may not address all of the TMDL pollutants. The Implementation Plan will be built upon these efforts and may include additional steps that will be taken over time to improve water quality.

DEQ will work in partnership with you to provide assistance and support in development of the implementation plan. Nancy Gramlich (503-378-8240 x259), DEQ's basin coordinator, is available to provide you and your staff with technical assistance for plan development.

We look forward to working with you to improve water quality in the Willamette Basin. If you have any questions about the TMDL overall or would like to request a copy/CD of the TMDL/WQMP, please call Mike Wolf in our Eugene Office at 541-686-7848.

Sincerely,


Kerri L. Nelson, Administrator
Western Region

Encl

Cc:

Appendix B
BMP Implementation Schedule

