CHAPTER 2
STORMWATER REGULATIONS

INTRODUCTION

Stormwater drainage planning and construction has historically been provided for the purpose of protecting property from damage due to stormwater runoff. Most stormwater facilities have been installed by local and state governments to drain roadways. Private developers have installed stormwater facilities to control and treat runoff from their project site, prior to discharging into the public drainage system. However, in recent years many new regulations have come forth to protect the natural environment and habitat from the increasing flows and pollution conveyed by stormwater runoff.

Federal, state, and local stormwater regulations provide the minimum standards for the control and treatment of stormwater runoff. The purpose of these regulations is to reduce the damaging effects of increased runoff volumes and pollutants to the natural environment as the land surface changes and development occurs.

Through the Clean Water Act and other legislation at the federal level, state agencies have been delegated the authority to implement rules and regulations that meet the goals of this legislation. In Washington State, this falls on the Washington State Department of Ecology (Ecology). Ecology has subsequently delegated some of this authority to the local agencies governing land use and development activity, such as Pierce County and the City of Gig Harbor. These local agencies, in turn enact development regulations to enforce the rules established by Ecology. This is done by enacting and enforcing rules and policies that meet or exceed the State requirements. Permits may be issued by all three levels of government depending on project location as well as the type of project and the impacts it may have on the natural drainage systems, which may include streams (intermittent or year-around flows), wetlands, lakes, ponds, rivers, estuaries, marine waters, and groundwater.

Most recently, Gig Harbor has been identified as a National Pollutant Discharge Elimination System (NPDES) Phase II community and is required to develop a stormwater program that satisfies the requirements of the Municipal Stormwater Permit.

FEDERAL STORMWATER REGULATIONS

The majority of responsibility for implementing the policies of federal stormwater programs is delegated to state and local agencies. The federal government does, however, maintain the responsibility for those activities that are of national interest. A summary of the federal regulations and programs governing stormwater are summarized below.

Federal Water Pollution Control Act (Clean Water Act)

The Clean Water Act (CWA) is a 1977 amendment to the Federal Water Pollution Control Act (FWPCA) of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. The CWA establishes the authority of the US Environmental Protection Agency (EPA) to set effluent standards on an industry basis (technology-based) and continued the requirements of the original FWPCA to set water quality standards for contaminants in surface waters. The CWA makes it unlawful to discharge any pollutant from a point source into waters of the United States unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained under the Act.

The State of Washington, like many other states, administers the NPDES permitting program with state statutory and EPA authorization, and manages most administrative and enforcement aspects of the law at the local level. In states with the authority to implement CWA programs, EPA still retains oversight responsibilities.

Provisions of the CWA directly apply to the purpose and creation of the non-point source management program. Under the CWA, stormwater control was established as part of the NPDES permit program (Section 402 of CWA).

Phase I NPDES Stormwater Permits

Section 402 of the Clean Water Act establishes a regulatory program for point sources of pollution but exempts most agricultural activities. The NPDES permit program draws its power from this section, and was originally designed to reduce pollution from point sources such as domestic and industrial wastewater discharges. In 1990, the United States Environmental Protection Agency (EPA) extended the program to runoff, and set out regulations for Phase I stormwater permits. Runoff discharges operated by local governments with a population over 100,000, as well as specific industries, and construction sites that disturbed more than 5 acres of land were required to obtain permits. Agencies such as Pierce, King and Snohomish Counties were required to obtain NPDES Phase I permits. The counties were required to develop and implement a plan to reduce the discharge of pollutants to the “Maximum Extent Practicable”, protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act.

Phase II NPDES Stormwater Permits

The United States Environmental Protection Agency (EPA) NPDES Phase II Regulations went into effect in 2003 and in January 2007, Ecology issued the Western Washington Phase II Municipal Stormwater Permit (Permit). According to Permit Section S2, the Permit authorizes the discharge of stormwater to surface waters and to ground waters of the State from Municipal Separate Storm Sewer System (MS4) owned or operated by the Permittee. In the State of Washington, Ecology was delegated authority by the EPA to issue and administer the Municipal Stormwater Permits. The State Permit is currently scheduled to

expire in February 2012. The City of Gig Harbor and Kitsap County were identified as NPDES Phase II communities.

In 2005, Ecology completed an update of their stormwater management manual. Because of the differences in climate and conditions, separate manuals were developed for western and eastern Washington. As a Permit requirement, Ecology requires that all Phase II Permittee, including the City of Gig Harbor, adopt the 2005 Stormwater Management Manual for Western Washington (Manual) or an equivalent. The City of Gig Harbor has not adopted the Manual to date and is currently using a Design Manual developed by the City in 2001 and updated in July 2006. Adoption of the Pierce County Surface Water Design Manual is anticipated in 2008, after Pierce County receives the equivalency approval from Ecology.

The Phase II regulations require all municipalities in urbanized areas and all construction sites greater than one acre in size to obtain stormwater permits. All municipalities outside of urbanized areas with a population greater than 10,000 were also evaluated by Ecology to determine whether they need to be covered under a stormwater permit. The City was listed as an operator of a regulated small MS4 and was required to apply as a Permittee. In March 2003, the City submitted the Notice of Intent application to Ecology as required. An annual Permit fee of $1,700.24 was assessed to the City by Ecology. This fee covers permit application reviews, site inspections, technical document reviews and technical assistance.

As required by the Permit (Section S5.C), the Permittee must develop and implement a Stormwater Management Program that includes the following components:

1. Public Education and Outreach Program
2. Public Involvement and Participation Program
3. Illicit Discharge Detection and Elimination Program
4. Controlling Runoff from New Development, Redevelopment and Construction Sites
5. Pollution Prevention and Operation and Maintenance for Municipal Operations

The Permit has outlined minimum performance measures for each of the components and provides a schedule for each to be completed.

The City has been proactive in satisfying the requirements of this Permit. In 2006, HDR, Inc. was retained to complete the City's NPDES Phase II Permit Application and Implementation Project report. The report included a gap analysis comparing the City's existing stormwater program to the Permit requirements. Also included in the report was a schedule and budget. The report indicates that public participation, staff training and stormwater policies are the recommended areas of focus for the City. To satisfy the Permit requirements, the report estimated a budget range of $155,000 to $215,000 (2006 dollars) is needed.

In 2007, the City completed and submitted its first annual report to Ecology as required by the Permit. This report is included in Appendix A. The following describes the actions that have been taken to satisfy the NPDES Phase II requirements. The recommendations stated below to improve the City stormwater program are in addition to those in the HDR report.

1. Public Education and Outreach

The City provides information packets and handouts related to stormwater. To satisfy the public education and outreach requirements, the City has partnered with the below described regional groups to develop and provide educational programs.

- Kitsap Peninsula Cleanwater Runoff Collaborative (KPCRC) – Kitsap County is the lead agency for the KPCRC. The purpose of the KPCRC according to the interlocal agreement is to voluntarily collaborate in the development, implementation, and funding of stormwater education and outreach messages, materials, activities, and program assessment tools for the general public, businesses, and other target audiences as required by the NPDES Phase II Permit. In June 2008, the Gig Harbor City Council approved the Interlocal Agreement (ILA). The ILA terminates in February 2012. The City has made a financial commitment to participate in this program. One of the first tasks with the KPCRC is to conduct a survey for the general public to develop a baseline of public behavior regarding stormwater.
- Key Peninsula-Gig Harbor-Islands Watersheds Council (KGI) – Pierce County is the lead agency for the KGI. The purpose of the KGI is to protect water quality and the beneficial uses of water by providing educational programs and workshops. KGI encourages volunteer programs, and the collaboration and involvement of all Watershed residents. City representatives have attended the KGI meetings to share information and to support current efforts. In 2007, KGI coordinated the Donkey Creek Chum Festival in Gig Harbor. This festival provided an opportunity for the community to connect with the commercial fishermen and learn about fish, the fishing industry, marine life and the importance of clean water.
- Stormwater Outreach for Regional Municipalities (STORM) – King County is the lead agency for the STORM and received a $978,925 grant from Ecology to lead a regional consortium of Puget Sound jurisdictions. The purpose is to develop and test the effectiveness of media campaign and social marketing tools designed to change behaviors that directly affect non-source stormwater pollution generated through household practices, including yard care, car care, pet waste, storm drain awareness, and other household practices. The City will participate in this consortium to provide stormwater information to the public.

Public Education and Out Reach Recommendations:

- Seek out educational and outreach opportunities in stormwater system and habitat improvement projects such as project tours and presentations during public meetings.
- Continue partnerships with the organizations mentioned previously.
- Partner with Harbor WildWatch to incorporate stormwater information into the City's environmental education programs. Harbor WildWatch is a non-profit organization dedicated to environmental education in the Gig Harbor area and to inform area residents about their Harbor environment and engage their involvement in preserving the wealth of the natural resources. In 2008, Harbor WildWatch installed a Tacoma Narrows and Puget Sound Watershed interpretive sign in Gig Harbor. Work with businesses and develop stormwater protection programs specific to the activities of the business.
- Develop a site on the Gig Harbor website dedicated to stormwater topics, issues and projects. Include links to KPCRC, KGI, STORM, Pierce County SWM, Kitsap County SWM, Ecology, EPA and other stormwater related sites.

Development of a stormwater seminar program for children has been proposed and will be presented by City officials at schools. Also, creating informational inserts regarding stormwater best management practices for utility notices and placing signs at stream crossings.

2. Public Involvement and Participation Program

The City is seeking various ways to satisfy the public involvement and participation requirements. This includes working to involve the public in restoration projects and the Stormwater Management Plan as described below:

- Donkey Creek Restoration Project – West Sound Watersheds Council (WSWC)is associated with WRIA 15. Kitsap County serves as the Lead Entity. WSWC reviews and recommends projects related to the protection and restoration of the nearshore environment for the recovery of salmon to the Salmon Recovery Funding Board (SRFB) for project funding. WSWC also is participating in the planning for salmon recovery in the south Puget Sound. The City is in the process of reviewing the Interlocal Agreement with WSWC. In 2007, the City submitted Donkey Creek Restoration Project to the WSWC for review to be included on the SRFB project list. The project includes removing a 300-foot culvert, daylighting the creek, and restoring the creek and estuary. Within this project there are opportunities for public participation including possible streambank plantings, and removal of non-native plants. This is also an opportunity to educate the public on the affects of stormwater quality and quantity related to site and road runoff to the fish and wildlife habitat.

- 2007 Donkey Creek Chum Festival – Community participated in various activities related to fish and marine life as discussed in the previous section.
- NPDES Phase II 2007 Report Item No. 9. The City sent a letter out to the public on February 8, 2008 inviting public participation and comments on the City Stormwater Management Program.

Public Involvement and Participation Recommendations:

- Seek out public involvement and participation opportunities in habitat restoration and improvement projects such as volunteer streambank planting and removal of non-native/invasive plants.
- Work with the Volunteer Center to develop stormwater related volunteer programs such as catch basin stenciling and neighborhood litter collection. Incorporate stream plantings into the City's Arbor Day event.
- Develop a City stormwater website requesting public input on possible stormwater and habitat improvement projects, submitting problem locations and providing comments to the Stormwater Comprehensive Plan.

The City has proposed involving City officials in a public forum discussion regarding stormwater discharge and other related subjects.

3. Illicit Discharge Detection and Elimination Program

The majority of the City's public storm system has been mapped in GIS. Currently, when an illicit discharge is detected, the City maintenance staff is the first to respond. The maintenance staff will make an assessment of the spill or dumping and if possible contain and remove the substance. If City crews are not able to contain and remove the substance, the Fire Department or Ecology will be contacted for assistance. Ecology will then investigate the spill to determine the source. If necessary, Ecology will begin the enforcement process. Gig Harbor Municipal Code (GHMC) Chapter 14.20.580 addresses illicit discharges and Chapter 14.20.630 addresses the enforcement of violations of the code.

Illicit Discharge Detection and Elimination Program Recommendations:

- Provide the public a telephone number to the public that is clearly identified to call for illicit discharges and spills. Notify the public of the number on the City's website, newsletter, local newspaper and as an insert in utility mailings.
- Provide proper training for all staff that will respond to illicit discharges, spills and dumping. EPA has training classes available.

- Develop a written process for responding to spills, and illicit discharges and detections. Include follow-up inspections. Develop a spill/discharge report template for staff documentation of incidents.
- Map (GIS) locations of illicit discharges. Include date, property contact information, name of other agencies that responded or assisted, spill/discharge material in data table or link spill/discharge report to map.
- Map/identify the discharge/outfall locations on slopes and at water bodies. Evaluate these areas for any impacts due to the discharge.
- Map locations of onsite septic systems.
- Meet with other agencies including the Fire Department, Pierce County and Kitsap County to discuss coordination and process in response to spills and illicit discharges.
- Develop relationships with the State and Counties to assist in spills or illicit discharges.

The City has proposed an annual video inspection of the storm system to locate any cross connections and an outfall inspection program. Also, staff training identifying possible sources of illicit discharges is proposed.

4. Controlling Runoff from New Development, Redevelopment and Construction Sites

As mentioned, the City of Gig Harbor expects to adopt the Pierce County Surface Water Design Manual in 2008 by ordinance. Pierce County is currently updating this Manual and working with Ecology to obtain equivalency approval. According to NPDES Phase I permit requirements, Pierce County is responsible for completing the update by September 21, 2008. The City has participated in the review and development of the Low Impact Development chapter of the Manual and will implement this chapter after adoption.

City staff has received Western Washington Continuous Simulation Hydrology Model (WWHM) training and is familiar with Ecology's Manual.

Currently the City inspects stormwater detention facilities as needed. If the staff observes problems with a discharge from a facility or is notified by the public, the City will inspect the facility and notify the owner of the problem. The following codes have been adopted for approval and inspection of stormwater detention facilities:

- GHMC Chapter 14.20.530 requires a recorded maintenance covenant for all privately maintained stormwater facilities to allow the City to access the property for the purpose of inspecting the facilities.

- Chapter 14.20.540 describes the requirements for the City to accept new stormwater facilities. All facilities must be inspected and approved by the City prior to acceptance.
- Chapter 14.20.570 is related to inspection schedules. The Public Works Director is authorized to establish a master inspection and maintenance schedule to inspect appropriate stormwater facilities that are not owned and operated by the city of Gig Harbor. The party (or parties) responsible for maintenance and operation shall be identified. Critical stormwater facilities, as so deemed by the director, may require a more frequent inspection schedule.

Controlling Runoff from New Development, Redevelopment and Construction Sites Recommendations:

- Provide staff with Certified Erosion and Sediment Control Lead (CESCL) - Training and Certification Programs (Provided by Ecology).
- Provide training after the Pierce County Manual is adopted to those who will be involved with design, plan review, maintenance or inspection.
- Implement the Low Impact Development requirements to applicable projects.
- Develop an inspection program for public and private stormwater facilities that includes a schedule. Include inspection reporting guidelines. Possibly include an incentive program (decrease in SWM fee) for those private stormwater facilities that properly maintain their facilities and clearly define penalties for those that do not have properly maintained facilities and correction schedule for any deficient items.
- Use Chapters 3 and 4 from Volume IV of the 2008 Pierce County Surface Water Design Manual to educate homeowners and business owners on how they can reduce pollutants from their sites.

The City has proposed to develop and implement a new inspection program related to redevelopment and will meet with other municipalities that have implemented similar programs.

5. Pollution Prevention and Operation and Maintenance for Municipal Operations

The City is responsible for all stormwater runoff from public facilities and City owned properties. This includes, but is not limited to, roads, maintenance facility, City Hall, parks and material storage areas.

The City currently maintains all vehicles at a City facility that has an oil/water separator and waste fluids are disposed at a recycling center. Vactor and street sweeping wastes are properly contained and stored under cover. The waste is disposed of at a transfer

station in most instances. Asphalt patch material is stored under cover. Salt used for streets is stored indoors.

The City has a street sweeping program that includes a regular sweeping schedule for the City streets. Soon after the snow and ice melts the streets are swept and the storm system is inspected. If needed the catch basins are cleaned with the City's vactor truck. The City works with WSDOT any time there are water quality problems in the area of State Routes.

Any spills are contained and removed immediately. Spill containment material is stored and available for City staff to use at the facilities. City staff is trained in the proper use of spill containment material. If any material enters the storm system, the vactor truck is available for cleaning the system.

Pollution Prevention and Operation and Maintenance for Municipal Operations Recommendations:

- Develop Stormwater Pollution Prevention Plan for all City facilities.
- Develop an inventory of all City operation and maintenance activities. Determine the activity impacts to stormwater. Determine proper procedures or mitigation to avoid any stormwater impacts and improve water quality.

The City has proposed to provide staff training for best management practices and recognizing potential stormwater issues.

Other Significant Elements of the Permit

- Stormwater Management Plan: The City is in the process of updating the Stormwater Comprehensive Plan and developing a Stormwater Management Plan to satisfy the Permit requirements as described previously.
- Application for Coverage: The City has satisfied this requirement to date by submitting the Notice of Intent application in March 2003.
- Response to Violations of Water Quality Standards: The City will take appropriate actions when notified of violations.
- Compliance with Total Maximum Daily Loads (TMDL): This requirement does not apply to the City. Since Ecology has not identified a waterway or water body within the City that will require a TMDL study, the City does not have TMDL requirements at this time.
- Monitoring: The City will develop a monitoring program to track the effectiveness of the BMP's that will be implemented as part of the stormwater management program. An assessment and the appropriateness of the BMP's will be reported to Ecology in the annual report.

- Reporting: The City has satisfied this requirement to date by submitting the Annual Report for 2007 in March 2008.
- Notification of Spill: The City will report to Ecology within 24 hours any spills into the municipal storm sewer system which could constitute a threat to human health, welfare or the environment.
- Duty to Reapply: The City will apply for Permit renewal no later than August 16, 2011 (180 days before permit expiration).
- Non-Compliance Notification: The City will notify Ecology within 30 days of awareness of permit non-compliance.

Endangered Species Act

In the State of Washington, there are currently 44 listed threatened or endangered species by the National Marine Fisheries Service (NMFS) and United States Fish and Wildlife Service (USFWS). The following table outlines the listed species that are of primary concern to the City of Gig Harbor as a contributor to Puget Sound.

Table 2-1: Endangered Marine Species in Puget Sound

Common Name	State Status	Federal Status	Listed by	Date Listed
Humpback Whale	Endangered	Endangered	NMFS	June 2, 1970
Bull Trout	Threatened	Threatened	NMFS	November 1, 1999
Chinook Salmon	Threatened	Threatened	NMFS	March 24, 1999
Chum Salmon	Threatened	Threatened	NMFS	March 25, 1999
Killer Whale	Endangered	Endangered	NMFS	February 16, 2006
West Coast Steelhead	Threatened	Threatened	NMFS	May 7, 2007

ESA listings are expected to significantly impact activities that affect salmon and trout habitat, such as water use, land use, construction activities, and wastewater disposal. Low dissolved oxygen levels in the Hood Canal area of Puget Sound caused fish kills in 2006. As a result, Ecology along with several other partners in the effort to clean and protect Puget Sound, have increased efforts to protect marine habitats from future instances. Impacts to the City may include revised waste load allocations developed under Section 303 of the Clean Water Act, longer timelines for permit applications, more stringent regulation of construction impacts, and activities in riparian corridors.

The purpose of the 1973 ESA is to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved....” In pursuit of this

goal, the ESA authorizes the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to list species as endangered or threatened, and to identify and protect the critical habitat of listed species. USFWS has jurisdiction over terrestrial and freshwater plants and animals such as bull trout, while NMFS is responsible for protection of marine species including anadromous salmon. Under the ESA, endangered status is conferred upon "any species which is in danger of extinction throughout all or a significant portion of its range…", while threatened status is conferred upon "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The ESA defines critical habitat as the "geographical area containing physical and biological features essential to the conservation of the species."

Once a species is listed as endangered or threatened, the ESA makes it illegal for the government or individuals to "take" a listed species. "Take" is defined in Section 9 of the act and includes killing, hunting, trapping, or otherwise "harming" the listed species or habitat the species depends upon. "Take" has been interpreted by the federal courts to include "significant modification or degradation of critical habitat" that impairs essential behavior patterns. For species listed as endangered, the blanket prohibitions against "take" are immediate. However, threatened species may be protected through a more flexible Section 4(d) rule describing specific activities that are likely to result in a "take".

In response to existing and proposed ESA listings of salmon, steelhead, and trout species throughout Washington State, many efforts have been made to develop acceptable management guidelines and habitat conservation plans. Governor Gregoire and the 2007 legislative session passed a comprehensive package of legislative and financial support under the Puget Sound Initiative. The initiative includes over a dozen legislative bills that directly or indirectly assist in the restoration and protection of Puget Sound, including these four primary bills:

- Senate Bill 5372 – Establishes the Puget Sound Partnership (PSP) to coordinate and hold accountable the organizations and programs that protect Puget Sound. The Puget Sound Partnership has been charged with recovering and restoring Puget Sound to a safe and sustainable habitat for marine wildlife by 2020.

- House Bill 1024 – Phases out toxic flame retardants known as PBDE's in consumer products in cases where the State determines there are less toxic alternatives.

- Senate Bill 5778 – Requires local governments to implement shellfish protection programs.

- Senate Bill 5894 – Directs the State Department of Health to update established standards for siting, design, construction, operation and maintenance of large on-site sewage systems.

The National Marine Fisheries Service

Under the ESA, NMFS is responsible for the protection of marine life, including anadromous salmon such as the Puget Sound Chinook. When a species is listed as "endangered", the prohibitions against a "take" of the species are immediate under Section 9 of the ESA of the Act. Although NMFS may choose to invoke the blanket prohibitions of Section 9, the "threatened" status of the Puget Sound Chinook allows more flexibility to establish regulations designed to protect these species. These regulations, known collectively as a Section 4(d) rule, outline activities exempted from the "take" prohibitions of Section 9.

United States Fish and Wildlife Service

Under the ESA, USFWS is responsible for the protection of all non-marine life such as bull trout. The bull trout was listed as "threatened" July of 2000. Unlike the NMFS, the USFWS does not differentiate between "threatened" and "endangered" species, so a Section 4(d) rule will not contain exceptions to the Section 9 prohibition on "take".

In June 2000 the final Section 4(d) rule was published in the Federal Register. In order to minimize liability under the ESA, local governments will need to demonstrate that their land use regulations will not result in a prohibited "take" of a listed species, including adverse modification of critical habitat. Possible regulatory impacts local jurisdiction can undertake may include the following:

- Adopt model critical areas ordinances designed to protect critical habitat. The Department of Community, Trade, and Economic Development would prepare model ordinances, although this activity was not funded in the 1999 state budget.
- Amend critical areas ordinances to include riparian buffers, vegetation retention, soil retention, maximum road density within a watershed, maximum impervious surface in a watershed, and limits on road crossings of streams.
- Amend GMA comprehensive plans to require an "environmental protection element."
- Adopt stormwater operation and maintenance ordinances requiring regular, frequent maintenance of stormwater facilities.
- Increase inspection and enforcement of stormwater best management practices.
- Require monitoring of best management practices.
- Implement stormwater utilities to provide adequate funding of stormwater infrastructure.
- Amend Shoreline Master Programs to encourage greater use of conservancy and natural designations, and limit conversion of agricultural and forest land.

The 4(d) rules may exempt certain activities from "take" liabilities up front and thereby offer an alternative mechanism by which to secure relief from potential " take" liability. The 4(d)

rule approves some specific existing state and local programs, and creates a means for NMFS to approve additional programs if they meet certain standards set out in the rule. NMFS published "A Citizen's Guide to the 4(d) Rule for Threatened Salmon and Steelhead on the West Coast" in June, 2000. The guide introduces and explains the rule. The following summary is from the guide.

Section 4(d) requires NMFS to issue regulations deemed "necessary and admissible to provide for the conservation to the species." NMFS must establish protective rules for all species now listed as threatened under the ESA. The rules need not prohibit all take. There may be an "exception" from the prohibitions on take so long as the take occurs as the result of a program that adequately protects the listed species and it habitat. The 4(d) rule can "limit" the situations to which the take prohibitions apply. By providing limitation from take liability, NMFS encourage governments and private citizens to adjust their programs and activities to be "salmon safe."

One of the limitations on the take prohibitions contained in the 4(d) rule is Limit No. 12 – Municipal, Residential, Commercial and Industrial Development and Redevelopment (MRCI). The 4(d) rule recognizes that MRCI development and redevelopment have a significant potential to degrade habitat and injure or kill salmon and steelhead in a variety of ways. With 4(d) guide states that appropriate safeguards, MRCI development can be specifically tailored to minimize impacts on listed fish to the extent that additional Federal protections would not be needed to conserve the listed ESA. The guide further states that NMFS would individually apply the following 12 evaluation considerations when determining whether MRCI development ordinances or plans adequately conserve listed fish.

1. An MRCI development ordinance or plan ensure that development will avoid inappropriate areas such as unstable slopes, wetlands, areas of high habitat value, and similarly constrained sites.
2. An MRCI development ordinance or plan adequately prevents stormwater discharge impacts on water quality and quantity and stream flow patterns in the watershed – including peak and base flows in perennial streams
3. An MRCI development ordinance or plan protects riparian areas well enough to attain or maintain Proper Functioning Condition (PFC), habitat that provided for the biological requirements of the fish, around all rivers, estuaries, streams, lakes, deepwater habitats, and intermittent streams.
4. An MRCI development ordinance or plan avoids stream crossings – whether by roads, utilities, or other linear development – wherever possible and, where crossings must be provided, minimize impacts.
5. An MRCI development ordinance or plan adequately protects historic stream meander patterns and channel migration zones and avoids hardening stream banks and shorelines.

6. An MRCI development ordinance or plan adequately protects wetlands, wetland buffers and wetland function – including isolated wetlands.
7. An MRCI development ordinance adequately preserves permanent and intermittent streams' ability to pass peak flows.
8. An MRCI development ordinance or plan stresses landscaping with native vegetation to reduce the need to water and apply herbicides, pesticides, and fertilizer.
9. An MRCI development ordinance or plan contains provisions to prevent erosion and sediment run-off during (and after) construction and thus prevent sediment and pollutant discharge to streams, wetlands and other water bodies that support listed fish.
10. An MRCI development ordinance or plan ensures that demands on the water supply can be met without affecting either directly or through groundwater withdrawals – the flows salmon need.
11. An MRCI development ordinance or plans provides mechanisms or monitoring, enforcing, funding, reporting, and implementing its program.
12. An MRCI development ordinance or plan complies with all other state and Federal environmental and natural resource laws and permits.

Currently, however, there are no regulations, ordinance or policies identified in the 4(d) rule that provide blanket coverage for municipal, residential, commercial or industrial development or municipal maintenance activities within Washington State.

In 2000, local governments joined together to form the Tri-County Road Maintenance ESA Technical Working Group for the purpose of developing the Regional Road Maintenance ESA Program Guidelines. The purpose of the Regional Road Maintenance ESA Program Guidelines is to provide a consistent, Regional Program that can be used by any agency wishing to limit, reduce or eliminate the prohibition on take of threatened species under the 4(d) Rule (NMFS), special 4(d) rule and/or Section 7 take exemption (USFWS). These guidelines were completed in 2001.

STATE STORMWATER REGULATIONS

The principal state programs that relate to stormwater include the *Puget Sound Water Quality Management Plan*, municipal NPDES stormwater permits (as discussed previously), the Growth Management Act, the Shorelines Management Act, and Hydraulic Project Approvals.

Puget Sound Water Quality Management Plan

In December of 1986, the Puget Sound Water Quality Authority adopted the *1987 Puget Sound Water Quality Management Plan*. The plan established, among other things, the requirement for local governments in the Puget Sound basin to develop and implement stormwater management programs. The Plan also directed the Ecology to develop guidance for local government stormwater programs, and to review local programs for consistency with the Plan.

The Plan includes a specific goal of improving the management of stormwater in the Puget Sound basin and lists a series of strategies for achieving this goal. Each strategy is then addressed in the Plan as program elements, which have been transformed into requirements for achieving the goal. The Puget Sound Water Quality Authority was terminated and replaced with the Puget Sound Water Quality Action Team (PSWQAT). In 2007, the PSWQAT was replaced by the Puget Sound Partnership.

The *Puget Sound Water Quality Management Plan* (Puget Sound Plan) was developed by PSWQAT, and consists of elements calling for counties and cities in the Puget Sound basin to develop and implement local stormwater management programs. The Puget Sound Plan has been updated and is included in Ecology's 2005 Manual (Section 1.6.4).

Comprehensive stormwater management programs under the Puget Sound Plan follow the elements of the Phase II Permit and include:

- ***Stormwater Controls for New Development and Redevelopment*** – Local governments are directed to adopt ordinances that require the use of best management practices (BMPs) to control stormwater flows, provide treatment, and prevent erosion and sedimentation from all new development and redevelopment projects. They are also directed to adopt and require the use of Ecology's stormwater technical manual *1-10 Volume I – Minimum Technical Requirements February 2005* (or an approved alternative manual) to meet these objectives. All new development in the basin, particularly new development sited outside of urban growth areas, are to seek to achieve no net detrimental change in natural surface runoff and infiltration.

- ***Stormwater Site Plan Review*** – Local governments are directed to review new development and redevelopment projects to ensure that stormwater control measures are adequate and consistent with local requirements.

- ***Inspection of Construction Sites*** – Local governments are directed to regularly inspect construction sites and to adopt ordinances to ensure clear authority to inspect construction sites, to require maintenance of BMPs, and to enforce violations. They are also directed to provide local inspectors with training on erosion and sediment control practices.

- ***Maintenance of Permanent Facilities*** – Local governments are directed to adopt ordinances that require all permanent stormwater facilities to be regularly maintained to ensure performance. They are also directed to develop necessary provisions, such as agreements or maintenance contracts, to ensure that facilities on private land (e.g., residential subdivisions and commercial complexes) are maintained. The Plan directs local government to provide training for professionals who maintain stormwater facilities.

- ***Source Control*** – Local governments are directed to develop and implement a program to control sources of pollutants from new development and redevelopment projects and from existing developed lands, using BMPs from Ecology's stormwater technical manual, or an equivalent manual. Source control activities are to include pollution from roadways and landscaping activities. Integrated pest management practices are to be used to manage roadside vegetation.

- ***Illicit Discharges and Water Quality Response*** – Local governments are directed to adopt ordinances to prohibit dumping and illicit discharges and to carry out activities to detect, eliminate and prevent illicit discharges, and respond to spills and water quality violations.

- ***Identification and Ranking of Problems*** – Local governments are directed to identify and rank existing problems that degrade water quality, aquatic species and habitat, and natural hydrologic processes. Local governments may choose to achieve this through watershed or basin planning or another process. Local governments are directed to conduct a hydrologic analysis and map stormwater drainages, outfalls, and impervious surfaces by watershed and to develop plans and schedules and identify funding to fix the problems.

- ***Public Education and Involvement*** – Local governments are directed to educate and involve citizens, businesses, elected officials, site designers, developers, builders and other members of the community to build awareness and understanding of stormwater and water quality issues. Local governments are to provide practical alternatives to actions that degrade water quality and biological resources.

- ***Low Impact Development Practices*** – Local governments are directed to adopt ordinances that allow and encourage Low Impact Development practices. These are practices that infiltrate stormwater (using proper safeguards to protect ground water) on-site rather than collecting, conveying and discharging stormwater off-site. The goals of Low Impact Development practices are to enhance overall habitat functions, reduce runoff, recharge aquifers, maintain historic in-stream flows and reduce maintenance costs.

- ***Watershed or Basin Planning*** – Local governments are directed to participate in watershed or basin planning processes, such as planning under Chapter 400-12 WAC or

Chapter 90.82 RCW. The objective is to coordinate efforts, pool resources, ensure consistent methodologies and standards, maintain and restore watershed health, and protect and enhance natural hydrology and processes - including natural surface runoff, infiltration and evapotranspiration. Basin plans are to address water quality, aquatic habitat, ground water recharge and water re-use. Basin plans may prescribe stronger stormwater management measures to protect sensitive resources in a certain basin or sub-basin. Stormwater management measures in all basins are to at least meet the minimum requirements of Ecology's technical manual. Cities and counties are directed to incorporate recommendations from watershed or basin plans and specific requirements from Total Maximum Daily Load (TMDL) Water Cleanup Plan processes into the City stormwater programs, land use comprehensive plans and site development ordinances.

- ***Funding*** – Local governments are directed to create local funding capacity, such as a utility, to ensure adequate, ongoing funding for program activities and to provide funding to contribute to regional stormwater projects.

- ***Monitoring*** – Local governments are directed to monitor program implementation and environmental conditions and trends over time to measure the effectiveness of program activities. Local governments are directed to periodically share monitoring results with local and state agencies, citizens and others.

Stormwater Technical Manual

In 1994, the City approved and adopted the Gig Harbor Public Works Standards by Resolution No. 403 and again in January 1996, by Ordinance No. 712. Chapter 3 of the Standards included the City's storm drainage requirements. In January 2001, Ordinance No. 858 was approved to repeal Ordinance No. 712 and adopted the Gig Harbor Stormwater Design Manual (GHMC Chapter 14.20). The City's Manual was last updated in July 2006.

As required by the NPDES Phase II Permit, Permittees are required to use Ecology's 2005 Stormwater Management Manual for Western Washington or an equivalent manual approved by Ecology. The City has developed a Stormwater Manual that is based on the 2008 Pierce County Surface Water Design Manual which has received equivalency approval from Ecology. Pierce County updated the 2008 Surface Water Design Manual based on Ecology's comments to receive the equivalency approval. Major updates that will affect City drainage requirements include:

- Thresholds for triggering a permit have been reduced primarily to ensure a review of single family development for impacts.
- All sites must retain stormwater on-site to the maximum extent possible.
- Continuous simulation hydrologic modeling is required, and includes duration matching criteria for releases from stormwater facilities.

- The definition of "pre-developed condition" is assumed to be forested land cover unless reasonable, historic information is provided that indicates the site was prairie prior to settlement.
- Updates have been made to the financial guarantee requirements.
- New guidance is provided for developing drainage and erosion control plans for single family residences and other small projects.
- Temporary erosion and sediment control plans requirements are updated to meet Ecology SWPPP requirements.
- New thresholds are set for requiring enhanced runoff treatment of stormwater runoff.
- Low Impact Development (LID) Volume has been updated to encourage use of LID techniques.

The Gig Harbor Stormwater Manual has been adopted by the City and establishes the minimum requirements for stormwater control and site development requirements for all new development and redevelopment. This manual outlines water quantity design criteria, water quality controls, erosion and sediment control practices, and site development.

The intent and purpose of the manual is to provide for the following elements:

- Establish criteria for review and analysis of all development,
- Manage stormwater to minimize contact with contaminants,
- Mitigate the impacts of increased runoff due to urbanization,
- Manage runoff from developed property and that being developed, and
- Protect the health, safety, and welfare of the public.

Low Impact Development

In 2008, the Washington State Pollution Control Hearings Board made a ruling that ordered the use of low impact building techniques. This ruling applied to the NPDES Phase I agencies. The NPDES Phase II permit section S5.C.4. Controlling Runoff from New Development, Redevelopment and Construction Sites, includes as a minimum performance measure, developing an ordinance or enforceable mechanism that allows source reduction approaches such as LID techniques. Since 2005, the Puget Sound Partnership has assisted local agencies in the development of LID ordinances and also in 2005 they developed the Low Impact Development Technical Guidance Manual for Puget Sound (at that time they were the Puget Sound Action Team).

In the 2008 Pierce County Surface Water Design Manual, LID is a term used generally to describe a land use development strategy that emphasizes protection and use of onsite natural features integrated with engineered, small-scale hydrologic controls at the parcel and

subdivision scale to manage stormwater and more closely mimic the existing watershed hydrologic functions prior to development. The updated Pierce County SWM manual establishes the applicability of LID as voluntary unless mandated through a county planning process or other implementing ordinances or regulations. LID practices include minimizing the clearing and grading of a site, preserving native vegetation for stormwater dispersal, soil amendments to promote stormwater infiltration, small-scale hydrologic controls such as rain gardens, pervious pavements and curbless road sections with vegetated swales. Volume VI Low Impact Development of the Pierce County Design Manual provides design/modeling guidance, maintenance recommendations and LID best management practice selection process for the various LID techniques.

Ecology's Stormwater Management Manual for Western Washington Appendix III-C also provides a methodology to model various LID techniques such as permeable pavement, vegetated roofs, and rain gardens in WWHM. By using LID techniques, flow control credits are allowed to reduce the size of stormwater treatment and flow control facilities.

The City has incorporated LID techniques in road improvement projects to reduce stormwater runoff from the site. The following are the City project that incorporated LID techniques:

- 50th Street Improvement Project - Includes pervious pavement and bioretention.
- 45th Avenue Pedestrian Improvement – Includes pervious pavement.

Growth Management Act

Relating to stormwater management, the Growth Management Act (GMA) of 1990 requires all cities to adopt regulations to address the management of critical areas and wetlands, location and capacity of utilities, planning and financing of capital facilities and transportation needs. In addition, GMA identified that the Land Use element must, where applicable, "review drainage, flooding and stormwater runoff in the area and nearby jurisdictions and provide guidance for corrective actions to mitigate or cleanse those discharges that pollute the waters of the state, including Puget Sound or waters entering Puget Sound." Specific policies and goals from the Gig Harbor Comprehensive Plan, 2004 (revised 2007) are addressed below.

LOCAL STORMWATER REGULATIONS

Although driven by federal and state legislation, local jurisdictions are typically responsible for implementing and enforcing these regulations, as authorized by the state, and for enacting additional policies, procedures and regulations based on local conditions and desires of the citizens. The City stormwater regulations have been codified in Title 14 of the GHMC as discussed later in this chapter.

City of Gig Harbor Comprehensive Plan

The City of Gig Harbor's Comprehensive Plan was updated and adopted on December 8, 2008 (Ordinance No. 1151). The Comprehensive Plan is a high-level planning document with goals and objectives enforced by City codes. Several of these goals and policies relate directly to stormwater management and are explained below.

Land Use Element (City Comprehensive Plan Chapter 2)

The Land Use Element of the Comprehensive Plan does not directly impact stormwater policies of the City. However, the as land develops or redevelops, emphasis on density, open space requirements, and impervious surface coverage will all have a direct impact on the water quality and quantity of runoff from a particular area. Goals listed in the Comprehensive Plan that are related to stormwater planning are identified in the following paragraphs.

GOAL 2.4: PROTECT AND MAINTAIN GROUNDWATER QUALITY AND QUANTITY USED FOR PUBLIC WATER SUPPLIES.

The City encourages increased structure height and decreased impervious coverage on new development or redevelopment within the City, and by doing so can simultaneously maintain and enhance groundwater recharge and reduce stormwater runoff.

GOAL 2.5: PROTECT AND ENHANCE SURFACE WATER QUALITY AND MANAGE FLOWS TO PRESERVE ENVIRONMENTAL RESOURCES.

Goal 2.5 demonstrates the City's efforts on encouraging Low Impact Development methods to help manage stormwater runoff on new development within the City limits. By encouraging alternative sites and public facility design to incorporate Low Impact Development, the City will extend the useful life of the current stormwater infrastructure and limit unnecessary runoff into the Harbor.

GOAL 2.6: OPEN SPACE/PRESERVATION AREAS.

Specific objectives are called out to designate critical areas, to restrict development in or near these areas, to provide incentives for preserving open space or acquiring quality natural areas for preservation purposes.

Environment Element (City Comprehensive Plan Chapter 4)

The Environment Element contains several goals and objectives for preserving the natural environment, specifically streams, ponds, creeks, wetlands, floodplains, and marine areas. Specific objectives are also identified for protecting steep slope areas and controlling and preventing erosion. Two goals are called out specifically for stormwater:

GOAL 4.1: RESPECT THE NATURAL ENVIRONMENT.

Maintain a harmonious relationship between the natural environment and proposed future urban development. Develop, implement and enforce exacting performance standards governing possible developments within land or soil areas which are subject to moderate and severe hazards.

Under this goal, the Comprehensive Plan identifies priority objectives:

- Protect perennial stream, ponds, springs, marshes, swamps, wet spots, bogs and other surface tributary collection areas from...alterations which would tend to alter natural drainage capabilities, contaminate surface water runoff or spoil the natural setting.
- Enforce buffer zones along the banks of perennial streams, creeks, and other tributary drainage systems to allow for the free flow of storm runoff and to protect runoff water quality.
- Protect alluvial soils, tidal pools, retention ponds and other floodplains or flooded areas from land use developments which would alter the pattern or capacity of the floodway, or which would interfere with the natural drainage process.
- Enforce control zones and exacting performance standards governing land use developments around retention pond dams, and along tidal beaches to protect against possible damage due to dam breaches, severe storms and other natural hazards or failures.
- Protect soils with extremely poor permeability from land use developments which could contaminate surface water runoff, contaminate ground water supplies, erode or silt natural drainage channels, overflow natural drainage channels and otherwise increase natural hazards.
- Protect soils in steep slopes which are composed of poor compressive materials, or have shallow depths to bedrock...which are susceptible to landslide or land slumps.
- Enforce exacting performance standards governing possible land use development on soils which have moderate to steep slopes which are composed of soils, ground covers, surface drainage features or other characteristics which are susceptible to high erosion risks.

GOAL 4.2: CONSERVE NATURAL RESOURCES AND ACTIVITIES.

Conserve and protect natural areas within the environment to provide a continuing place for wildlife which are representative of the area's ecological heritage. Protect harbor, agricultural and timber production activities which produce a valued natural and economic product, and which reflect the area's historical origins. Enforce exacting performance standards governing possible land use developments on lands or sites which may be planned to include wildlife.

Regarding stormwater, this goal identifies the need to protect lands, soils, or other wetland areas which have prime wildlife habitat characteristics by promoting the use of site retention ponds, natural drainage methods and other site improvements which conserve or increase wetland habitats.

GOAL 4.3: SET URBAN LAND USE OPERATING STANDARDS.

Establish minimum acceptable performance standards governing noise, air, light, glare and other operating characteristics or permitted urban uses which affect the quality of the manmade environment.

Regarding stormwater, the following objectives are identified:

- Prevent surface water contamination and erosion of natural surface drainage channels due to ill-conceived or poorly designed urban development. Promote the use of stormwater retention ponds and holding areas, natural drainage and percolation systems, permeable surface improvements, clustered developments and other concepts which will reduce stormwater volumes and velocities.
- Coordinate with the appropriate local and state agencies in promoting public education and awareness in the proper use of household fertilizers and pesticides. Develop and implement performance standards regarding the dumping of wastes, trapping of greases and other byproducts, which can be carried into the natural drainage system.

Utilities Element (City Comprehensive Plan Chapter 8)

The Utilities Element addresses stormwater management with the following goal and objectives:

GOAL 8.3: PLAN FOR AND PROVIDE ADEQUATE STORM DRAINAGE FACILITIES TO MANAGE AND CONTROL STORMWATER RUNOFF.

- Develop and implement stormwater management design standards that ensure an adequate level of containment which is both economically reasonable and environmentally responsible.

- Develop a stormwater management program which complies with National Pollution Discharge Elimination System (NPDES) standards.
- Provide for the upgrade of existing, substandard stormwater systems through a combination of funding sources, with special emphasis on forming Local Improvement Districts (LID) for those areas which are in critical need of improved stormwater facilities.

Shoreline Management Element (City Comprehensive Plan Chapter 9)

The Shoreline Management element, which deals primarily with the process of developing and protecting the shoreline areas for the public benefit, addresses the stormwater issues with respect to water quality. The City updated its Shoreline Master Program in 1993 which "is intended to serve as the framework for shoreline planning and development into the next century."

GOAL 9.1: PROTECT NATURAL QUALITY.

Preserve and protect the unique, interdependent relationship between water, land and cultural heritage.

- Preserve natural habitat areas, including beaches, streams and estuaries, from disruption. Protect fragile ecosystems which provide the waterfront unique value, especially the fish spawning beds in the natural tributaries [to Gig Harbor] of Crescent Creek and Donkey Creek.
- Define and regulate activities which can possibly contaminate or pollute the harbor and shorelines including the use or storage of chemicals, pesticides, fertilizers, fuels and lubricants, animal and human wastes, erosion and other potentially polluting practices or conditions. Coordinate with the PSWQAT, Pierce County and the Tacoma-Pierce County Health Department to secure adequate funding from available sources to develop and implement a water quality baseline study as a prelude to an area-wide water quality basin plan.

Development Regulations

The policies and goals contained in the Comprehensive Plan are intended to be implemented through the adoption of development regulations and performance standards and enforced by City staff. The following regulations have been adopted specifically with respect to stormwater:

Chapter 12.17 – Enforcement

The City Enforcement Ordinance No. 870 was adopted in 2001 by the City Council, in the form of Chapter 12.17 of the GHMC. Chapter 12.17 created a uniform procedure for the enforcement of City development codes and public works standards including any

stormwater code violations. All provisions of Chapter 12.17 became effective on March 12, 2001.

Chapter 14 - Storm and Surface Water Drainage, Gig Harbor Municipal Code

The City Storm and Surface Water Drainage Ordinance No. 448 was adopted in 1984 by the City Council, in the form of Title 14 of the GHMC. Title 14 created a stormwater utility, including the rates and charges, billing policies, and classification of property. All provisions of Title 14 became effective on August 1, 1984.

Chapter 14 has been since revised, in January 2001, the City approved Ordinance No. 858 to adopt the City's Stormwater Design Manual (GHMC Chapter 14.20).

The Stormwater Utility is defined as "a utility which operates and maintains the storm and surface water drains, channels and facilities, outfalls for storm drainage and the rights and interests in property relating to the system." The duties and authority of the City are identified, in general, to construct, acquire and condemn property, manage, operate and maintain, improve, inspect, monitor, enforce, administer, and regulate control of storm and surface water within the boundaries of the City, as necessary to protect the health, safety and welfare of the citizens of the City. This includes the authority to fix and control the rates, charges and conditions for the use thereof; to regulate actions taken which affect the flow of storm and surface water and the use of drainage facilities, and to adopt, alter and amend a plan, as necessary, to implement the policies of the City pertaining to storm and surface water drainage. The storm drainage utility fund creates a dedicated source of revenue solely for the purposes of regulating storm and surface water in the City.

In December 2007, the City adopted Ordinance No. 1121 increasing the Surface Water Management fee to $10.80 per equivalent billing unit (EBU). In March 2008, the City adopted Ordinance No. 1125 that implemented a Storm Water System General Facilities Charge that varies from $1,160 per EBU (for up to 3 EBU's) to $1,300 per EBU (for 4 or more EBU's). Payment is required before issuance of a development permit.

At the time of the writing of this Stormwater Comprehensive Plan, the City was in the process of developing the Illicit Discharge and Detection Elimination GHMC Chapter 14.30 and Grading GHMC Chapter 14.40.

Chapter 17 Zoning Code

The Zoning Code contains specific requirements for how land designated by zoning may be developed. Specifically, zoning code contains requirements on minimum lot area, lot width, yard setbacks, building structure coverage, and impervious to pervious surface ratios. The Zoning Code, or "Zoning Ordinance of the City of Gig Harbor, Washington" was adopted by Ordinance No. 573 in 1990. Several changes have been made to the zoning ordinances since original adoption, and Table 3-1 in Chapter 3 of this Plan outlines the current (2008)

requirements for the various types of zoning in the City. These requirements create development standards that are designed to complement the goals set forth in the Gig Harbor Comprehensive Plan. Perhaps the most significant requirement covered under the zoning ordinance as it relates to stormwater management is that of the impervious surface requirements. The definition of impervious surface was established in 1990 and updated by Ordinance No. 863 in 2001 and reads as follows:

> *"'Impervious surface' means a hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads with compacted sub-grade, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces."*

Chapter 18.08 Critical Areas, Gig Harbor Municipal Code

The Critical Areas Code (Chapter 18.08) describes the requirements for preserving and protecting critical areas. Per Chapter 18.08, Critical Areas are defined as wetlands, streams, hillsides, ravine sidewalls, bluffs, landslide hazard areas, erosion hazard areas, seismic hazard areas, flood hazard areas, aquifer recharge areas, and critical fish and wildlife areas. Very specific restrictions apply to these areas with respect to land use, buffers and building setbacks.

Wetland Management Regulations, Gig Harbor Municipal Code

Regulation and protection of wetlands is provided in the GHMC Sections 18.08.038 through 18.08.180. These measures were most recently updated by the adoption of Ordinance 1036 in 2006. The purpose of this section is "to avoid where possible, or in appropriate circumstances, to minimize, rectify, reduce or compensate for impacts arising from land development and other activities affecting wetlands." Where such impacts are unavoidable, measures are provided for mitigating those impacts. The following activities are regulated under this chapter:

- Removing, excavating, disturbing or dredging soil, sand, gravel, minerals, organic matter or materials of any kind;
- Dumping, discharging or filling with any material;
- Draining, flooding or disturbing the water level or water table;

- Constructing, reconstructing, demolishing or altering the size of any structure or infrastructure, except repair of an existing structure or infrastructure, where the existing square footage or foundation footprint is not altered;
- Destroying or altering vegetation through clearing, harvesting, cutting, intentional burning, shading or planting vegetation that would alter the character of the wetland;
- Activities from construction or development that result in significant, adverse changes in water temperature, physical, or chemical characteristics of wetland water sources, including quantity and pollutants.

No specific permit is required to conduct regulated activities in the wetlands. However, review of regulated activities within a wetland or buffer is subject to the existing environmental review procedures under the State Environmental Policy Act (SEPA), in accordance with Chapter 18.04 GHMC, to assess impacts to wetlands and impose required mitigation. Said review must be performed based on a Request for Official Determination submitted with plans, data and other information to the Office of Community Development. A Preliminary Site Inspection may also be requested to determine if a wetland exists on the site. If alteration of a wetland or buffer is proposed, a wetland mitigation plan is required.

The following activities are permitted within the wetland buffer, with conditions:

- Wells, pumps, and storage tanks;
- Pervious trails and viewing platforms;
- Placement of underground utility lines, septic drain fields, grass-lined swales and detention/retention facilities;
- Placement of access roads and utilities across Category II, III, or IV wetland buffers if no practical alternative exists.

Alteration of Category I wetlands is prohibited. Alterations to Category II, II, and IV wetlands may be allowed when all significant adverse impacts to wetland functions and values can be shown to be fully mitigated.

Chapter 18.10 - Flood Hazard Construction Standards, Gig Harbor Municipal Code

Regulations with respect to activities in flood hazard areas were adopted by Ordinances No. 506 in 1987 and No. 550 in 1989 and were codified in GHMC 15.04 Flood Hazard Construction Standards of the GHMC. In 2007, GHMC 15.04 was repealed by Ordinance No. 1074 and adopted GHMC 18.10.

This section of code essentially requires a permit for any construction, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of “special

flood hazard" as defined by the flood insurance study for Gig Harbor published in March, 1981, with the accompanying flood insurance maps.

The code essentially allows all of the above activities, after submittal of reports and review and approval by the City, with conditions. Elevation and/or flood proofing of structures is required. Any alteration of a "watercourse" requires "that maintenance is provided within the altered or relocated portion of such water course so that the flood carrying capacity is not diminished". Watercourse is not defined, but the interpretation is that in an area which conveys floodwaters (e.g., a stream), alteration of the "stream" is not allowed unless it can be shown that the conveyance and storage are not diminished. Lastly, impacting wetlands in the special flood hazard area is to be avoided, especially those activities, which limit or disrupt the ability of the wetland to alleviate flooding impacts.

Shoreline Master Program

In accordance with WAC 173-26, the City of Gig Harbor is in the process of developing an updated Shoreline Master Program (SMP) that meets the new planning requirements set forth in 2003. It is anticipated that the SMP update will be completed and adopted by the City in 2010.

The 1972 State SMP Guidelines were updated between 1995 and 1999 and an adopted draft in 2000 was challenged in court. After several years of mediation, in December of 2003 the final SMP Guidelines were adopted. Several changes were made in response to public comment, including the elimination of the two-path approach that gives cities and counties a choice in how they write and implement their shoreline master programs. "Path A" allowed local governments flexibility in meeting the Shoreline Management Act standards, while "Path B" contained specific measures for protecting shoreline functions, The SMP Guidelines contain several policy goals (WAC 173-26-181), as stated in order of preference:

1. Recognize and protect the state-wide interest over local interest;
2. Preserve the natural character of the shoreline;
3. Result in long term over short term benefit;
4. Protect the resources and ecology of the shoreline;
5. Increase public access to publicly owned areas of the shorelines;
6. Increase recreational opportunities for the public in the shoreline;
7. Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary."

The City of Gig Harbor first adopted their SMP in 1975 with subsequent amendment in June 1994 (Ordinance No. 645). The City has designated the shoreline uses within its boundaries as either "urban" or "urban residential". These designations reflect the predominately urban nature

of the City's waterfront. Uses within urban residential areas will be allowed only as zoning permits. The urban designation applies to the mixed use shorelines along the west and north sides of Gig Harbor and within the urban growth area. These areas consist primarily of non-residential uses. The City requires a Shoreline Substantial Development Permit, or permit exemption, for any development that may occur within the City's shoreline areas. Other than the immediate shorelines of Gig Harbor, there are no other shorelines identified in the SMP. Although these shorelines may be impacted by stormwater runoff, and therefore, require protection from degradation due to runoff, the SMP does not contain regulations which control stormwater runoff.

JURISDICTIONAL COORDINATION

The main purpose of stormwater management is to preserve or improve surface water quality; prevent or control flooding, and control the flow regime of the natural drainage systems. This purpose will be accomplished through the adoption and implementation of the capital improvements and maintenance and operations program contained in this document. In addition, the City's stormwater ordinance should be comprehensive in nature and consistent with the ordinances of surrounding jurisdictions and the stormwater management manual recently updated by Pierce County. Pierce County also manages the stormwater infrastructure mapping data (GIS) for the City, and works closely with the City to ensure stormwater management and policies are consistent with County and State goals and standards.

As a partner in the Puget Sound Partnership (PSP), the City will comply with the action agenda designated for their area, designated as the North Central Puget Sound area. The City will participate with neighboring jurisdictions such as Pierce and Kitsap Counties, the City of Port Orchard, Bainbridge Island, and Suquamish Tribes to help implement the identified action items developed by the PSP.

In addition to the PSP, the City participates in the efforts of the Key Peninsula – Gig Harbor – Islands (KGI) Watershed Plan, which maintains a council and an action agenda for governments, businesses, environmental nonprofit organizations, and other key stakeholders in the Gig Harbor area. The City coordinates its stormwater management efforts as a member of this council with that of the planning efforts put forth by the PSP and Pierce County.