

**Center for Environmental Excellence by AASHTO  
Stormwater Management Community of Practice (CoP)**

**STATE-OF-THE-PRACTICE REPORT:  
Watershed-Based Stormwater Management**

**December 2012**



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## **DISCLAIMER**

This State-of-the-Practice Report summarizes the discussions of Stormwater Management Community of Practice members who spoke as individual members of the community and did not necessarily represent their agency's views or positions. In addition, the contents of the report do not necessarily represent the views or positions of AASHTO or the Center for Environmental Excellence.

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## EXECUTIVE SUMMARY

This Community of Practice (CoP) report includes an overview of the State-of-the-Practice for Watershed-based National Pollutant Discharge Elimination System (NPDES) compliance, specifically stormwater mitigation outside of the right-of-way for State Departments of Transportation (DOTs). This report provides information on the definitions, barriers, approaches, and recommended coordination with watershed stakeholders to achieve NPDES permitting regulations and goals. Subtopics include implementation of the watershed approach at a DOT; policy limitations to working outside the right-of-way, how to fund projects treating stormwater outside right-of-way, and the drivers and benefits of watershed based approaches for environmental mitigation and NPDES compliance.

A watershed approach to NPDES permit implementation may have many benefits to DOTs. DOTs generally limit right-of-way acquisition to minimize maintenance and capital cost, and avoid additional impacts to adjacent habitat. Implementing NPDES permit requirements on a watershed basis may improve environmental benefit by supporting the highest priority mitigation projects in the watershed. Capital and operation and maintenance (O&M) cost may also be reduced for the DOT since offsite mitigation will likely be shared with other stakeholders with inherent economies of scale. Currently, there is little use of watershed-based solutions to NPDES permitting. This is because several barriers remain to implementation, including an uncertain regulatory framework.

The flexibility to implement stormwater mitigation projects apart from the capital improvement project is unclear in Section 402 of the Clean Water Act (CWA), whereas, for example, it is accomplished routinely for Section 404 mitigation. Stormwater runoff generally cannot be released to waters of the US without first having pollutants reduced to the maximum extent practicable. Further, assessing the equivalency of offsite versus onsite mitigation is not readily apparent and there have been no guidelines developed for this type of analysis. Timing of completion of mitigation projects must be considered, and O&M may be difficult for agencies to support if the mitigation project is on private land. The use of DOT funds outside of the right-of-way may be restricted.

For the watershed approach to be viable, a comprehensive watershed plan must be in place as a framework to direct the implementation of priorities and specific projects. The agency to lead the plan development, the cost for the plan, and the content of the plan are all fundamental elements that must be determined to start the planning process. Ultimately, there must be a watershed steward or arbiter of the watershed approach to ensure that watershed mitigation projects are constructed per plan and that they receive maintenance in perpetuity.

Ultimately, the costs and benefits of a watershed approach should prove to be superior to on-site project NPDES compliance since capital and O&M costs may be reduced through economies of scale and the most important sources of pollution in the watershed, or the highest quality waters, can be targeted. DOTs will benefit from continuing to pursue watershed based solutions and opportunities and work with regulatory authorities to include in lieu and alternative compliance provisions in NPDES permits.

## INTRODUCTION

The Center for Environmental Excellence by AASHTO has established a Stormwater Management Community of Practice (CoP). The purpose of the Stormwater Management CoP is to create a forum where State Department of Transportation (DOT) practitioners can engage in facilitated discussions on emerging issues, research needs, and innovative stormwater quality compliance solutions. The CoP has two primary goals: the first is to extend each state DOT's network and contacts, enabling them to share experiences and engage in technology transfer. The second goal is to develop a State-of-the-Practice Report (this document) on a selected focus topic. The Stormwater Management CoP consists of representatives from 16 state DOTs, and the Federal Highway Administration (FHWA). The Stormwater Management CoP members agreed that watershed-based stormwater management should be the top priority for this report of the CoP.

Watershed-based stormwater management (also referred to as the “Watershed Approach” in this document) is an important emerging tool for DOTs meeting priority water resource and environmental permitting goals. This report includes definitions and information about NPDES program compliance, barriers to compliance, potential solutions to overcome the barriers, approaches, and recommended coordination with stakeholders. The watershed approach is also applicable for NEPA compliance. All DOT projects go through the NEPA process, which ultimately resolves into the selection of the least environmentally damaging preferred alternative (LEDPA). The LEDPA process may provide the latitude to balance environmental impacts, including the assessment of environmentally superior alternatives that involve offsite stormwater mitigation. Subtopics include implementation of the watershed approach in a DOT, funding, logistics of projects treating stormwater outside the DOT right-of-way, and total maximum daily load (TMDL) drivers.

## Definition of the Watershed Approach and its Regulatory Implications

### *Background*

The watershed approach can be an effective way to improve the quality of surface water resources. Stakeholders within a watershed have varying levels of control over pollution sources. Matching pollutant load reductions with the degree of control a stakeholder has for a pollutant can be one way to reduce mitigation costs and improve receiving water quality. The watershed approach focuses resources within the watershed on the highest priority problems, returning better environmental performance compared to on-site project mitigation. Capital cost of watershed projects may also be reduced compared to on-site project mitigation since unit construction costs should generally be more favorable. NPDES permits recognize the efficacy of watershed based planning but implementation can be difficult given the jurisdictional structure of federal, state, and local governments, and special districts. The [watershed approach](#) has the following characteristics according to the U.S. Environmental Protection Agency (USEPA):

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### **A Watershed Approach:**

- Is hydrologically defined
  - geographically focused
  - includes all stressors
- Involves all stakeholders
  - includes public (federal, state, local) and private sector
  - is community based
  - includes a coordinating framework
- Strategically addresses priority water resource goals (e.g., water quality, habitat and causes of watershed impairment)
  - integrates multiple programs (regulatory and voluntary)
  - based on sound science
  - aided by strategic watershed plans
  - uses adaptive management

DOT facilities are throughout many of a state's watersheds. At the same time, the DOT facilities generally account for a relatively small fraction (2 – 5%) of the total impervious area in a watershed. Accordingly, it is not always practical for the DOT to develop specific programs and construct capital stormwater enhancement projects on a pollutant specific basis, particularly if the DOT has a low degree of control over the pollutant. In some instances, it may be preferable for the DOT to participate in a larger coordinated watershed-based program with in-kind services or financial support.

An objective of the watershed approach is to improve program pollution control effectiveness while reducing the implementation cost. The cost and effectiveness of pollution control strategies is partially based on the degree of control a discharger has over the pollutant of concern. For example, runoff from DOT facilities generally contains pathogens, but there are few sources of pathogens within the DOT right-of-way. The resources that a DOT would apply for pathogen mitigation may be better leveraged by participating in a regional – watershed based – program for pathogen control, focusing on “hot spots” within the watershed rather than a strict runoff based approach established in a traditional NPDES program.

The watershed approach can also facilitate other environmental objectives such as wetland restoration or resource protection when objectives are developed and clearly communicated in a watershed plan. A critical part of a watershed plan is establishing a system that allows “trading” of pollution credits (removal of a pollutant in an area geographically distinct from the project area), mitigation credits or both. One goal of watershed plans is to prioritize problems – mitigation may focus on problems or pollutants that are not a direct consequence of the project construction or O&M. The issue of “environmental equivalency” (equating the pollution generated by a project to equivalent mitigation elsewhere in the watershed) and applying mitigation resources to problems not directly related to the project may be difficult for regulatory agencies and DOTs to achieve consensus on.

The final subtopic reviews the use of post-construction best management practice (BMP) retrofits as a stand-alone program or in partnership on a regional level. Retrofit of post-construction BMPs is a central element in the implementation of a watershed approach. This discussion focuses on the current practice, opportunities and technical challenges associated with retrofit projects for DOTs.

## **CURRENT IMPLEMENTATION OF THE WATERSHED APPROACH**

### ***Discussion***

Fourteen DOTs participated in this Community of Practice: Alabama, Caltrans, Colorado, Delaware, Florida, Michigan, New Hampshire, New York State, North Carolina, Oregon, Texas, Virginia, Washington State, and Wisconsin. Three sub-topics form the basis of this report.

The first subtopic is a discussion of the use of a watershed approach in each state and on how the regulatory structure supports or provides challenges for implementation. Each state discussed the current state of implementation of the watershed approach through the presence or absence of watershed plans and the current level of implementation of watershed based principles and programs.

The second subtopic explores the drivers and barriers to implementation of the watershed approach. The drivers can include the opportunity for greater environmental benefit at a reduced cost. The barriers include the use of funding outside of the DOT right-of-way and the CWA requirements.

The third subtopic explores retrofit of post-construction BMPs and mitigation using a watershed approach.

### **Alabama DOT**

TMDLs are the only regulatory driver for a watershed approach in Alabama. There has been discussion during the NEPA permitting process for Alabama DOT (ALDOT) projects to begin to integrate watershed mitigation strategies. The watershed approach is preferred by local watershed groups, but there are no formal regulations or permit requirements mandating watershed plans.

### **California DOT**

California DOT (Caltrans) has begun to develop watershed approaches in a district based on local regulatory drivers. For example, Caltrans has established a Memorandum of Understanding (MOU) in District 4 with the San Francisco Bay Regional Water Board and the Association of Bay Area Governments (ABAG). This MOU provides alternative stormwater treatment BMPs at an off-site location, within the watershed, as mitigation for Caltrans projects. A copy of the MOU is provided in Appendix A.

Conceptually, the framework established by the MOU is a good model, but it has implementation shortcomings. ABAG acts as a third party banker and project sponsor. This is a positive aspect of the structure, and focuses efforts on watershed scale improvements and management. The shortcomings lie in the lack of an established appropriate approach to project assessment and the “impact” fee and crediting valuation.

### **Colorado DOT**

Colorado is active in watershed based management programs. The primary agency that leads this effort is the Colorado Watershed Assembly, which is funded by the State Legislature. The Colorado Department of Health and Environment (CDPHE, state regulatory agency) has a section that supports watershed protection and restoration, including the TMDL program. Recently, CDOT has just begun to engage with the watershed groups to participate as a stakeholder in watershed planning and implementation projects. The initial project focus is on upcoming nutrient regulations. CDOT facilities contribute pollutants to receiving waters, but sources are largely airborne. The resources that CDOT would otherwise spend on controlling pollutants may be applied more effectively in supporting regional programs for pollutant removal.

### **Delaware DOT**

Delaware DOT (DelDOT) has TMDLs for nitrogen (N), phosphorus (P), and bacteria in most of the state's 45 major watersheds. Groups of stakeholders, known as Tributary Action Teams, have been convened by the state Department of Natural Resources and Environmental Control (DNREC) to recommend a list of actions to reduce nonpoint source pollution in several TMDL watersheds. These recommendations, which include both voluntary and regulatory actions, are used to develop pollution control strategies. DelDOT participates on these stakeholder teams. In addition to these documents, other watershed plans and strategies have been developed by DNREC over the years, including a Watershed Implementation Plan (WIP) for the Chesapeake Bay TMDLs. DelDOT helped write the stormwater section of that WIP. All of the state's watershed plans and strategies can be viewed [here](#).

Twenty-one of Delaware's watersheds fall within the area covered by DelDOT's Phase I municipal separate storm sewer system (MS4) permit. Implementation of Water Quality Improvement Plans (WQIP) on a watershed basis is a required element of DelDOT's proposed new permit. DelDOT, in coordination with seven co-permittees, must plan and implement projects that aim toward meeting TMDL allocations and applicable water quality standards in two priority watersheds during the five-year permit term.

In addition, DelDOT has partnered with various agencies and organizations in the state on two smaller sub-watershed assessment and improvement projects.

### **Florida DOT**

Watershed activities in Florida are focused around TMDLs and basin action plans. The state regulatory agency is the Department of Environmental Protection (DEP), which develops basin management action plans for pollutants of concern. Numeric criteria for nutrients are currently under consideration. Florida DOT (FDOT) is interested in the watershed approach for nutrient reduction to improve efficiency of the programs and increase their effectiveness. It is difficult to control nutrient export from the right-of-way for the DOT since there are few effective BMPs that fit well into the narrow roadway footprint; other NPDES permit holders can reduce nutrients more cost-effectively, including wastewater facilities.

### **Michigan DOT**

Michigan has developed watershed plans through the nonpoint 319<sup>1</sup> Program for water quality. Michigan DOT (MDOT) has not completed a project outside of the right-of-way under a watershed plan. The DOT has collaborated with local governments adjacent to DOT projects for stormwater mitigation. The Michigan Department of Environmental Quality (DEQ) is very interested in the watershed approach but has not yet implemented watershed provisions in NPDES permits.

### **New Hampshire DOT**

New Hampshire has developed 319<sup>1</sup> based watershed plans, with coverage generally restricted to lakes. New Hampshire DOT (NHDOT) has been involved in watershed plans through the public involvement process. The DOT participates as a stakeholder but has not developed or funded a watershed plan to date.

New Hampshire has developed a quasi-watershed-based approach through a state in-lieu fee program for wetland impacts operated through the six major watersheds in the state. The Department of Environmental Services (DES) requests proposals to apply mitigation funds for wetland remediation projects. This program could serve as a model for an NPDES watershed based strategy.

### **New York State DOT**

New York State DOT (NYSDOT) has watershed-specific requirements written into its MS4 General Permit. Retrofit planning is one of the required watershed-specific planning elements. The New York State Department of Environmental Conservation (DEC) has watershed implementation plans for some of the TMDL watersheds.

### **North Carolina DOT**

North Carolina does not have a watershed-based approach for NPDES permitting, but has some watershed based stormwater programs for nutrient reduction. Both the state and private groups have developed watershed plans. The North Carolina Division of Water Quality (DWQ) produces watershed-based plans for the 17 major river basins in the state.

North Carolina DOT (NCDOT) has a variety of TMDLs that are intrinsically pollutant-specific watershed plans. NCDOT is collaborating with two municipal entities to develop a watershed restoration plan. The state is also in the process of pilot testing a watershed restoration plan. The purpose of the plan is to manage an impaired water body to preclude the development and implementation of a TMDL.

### **Oregon DOT**

Watershed plans in the state are developed by local watershed councils. TMDLs are also drivers for the watershed approach. Oregon DOT (ODOT) routinely collaborates with local MS4 programs on watershed priorities, and has collaborated on joint mitigation projects.

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<sup>1</sup> The 1987 amendments to the Clean Water Act (CWA) established the Section 319 Nonpoint Source Management Program. Section 319 addresses the need for greater federal leadership to help focus state and local nonpoint source efforts. Under Section 319, states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects. (Source: USEPA)

Oregon's Department of Environmental Quality (DEQ) has a water quality trading program that can be used for NPDES or TMDL programs. The trading occurs within a discrete watershed. A limited number of pollutants are eligible for trading. The most important of these for DOTs is sediment. Other eligible pollutants or indicators include temperature, oxygen demand and nutrients. Trading can occur for improved treatment efficiency elsewhere or for creation of enhancement of stream, wetland and riparian habitat. ODOT has yet to formally use the trading program.

The National Marine Fisheries Service (NMFS) allows for off-project mitigation when on-site treatment is not practical. Guidance is minimal and limited to treating runoff from an equivalent amount of impervious surface area with a similar average daily traffic (ADT) as the project and within the same watershed. Going beyond the affected watershed for mitigation can be negotiated on a case-by-case basis.

To some extent, watershed planning and restoration projects are coordinated by the Oregon Watershed Enhancement Board as part of the Oregon Salmon and Watershed Recovery Plan. Stormwater is not explicitly, but rather is implicitly included. All state agencies, including ODOT, are expected to participate in the plan.

### **Texas DOT**

Texas DOT (TxDOT) currently has no watershed plans or regional approaches to water quality. The state regulatory agency is beginning to implement post-construction BMP requirements in MS4 Permits that are more prescriptive. The State has developed watershed plans, but the DOT has not participated in one to date.

### **Virginia DOT**

Most of the watershed plans in Virginia are developed by municipalities in urbanized areas for local watersheds, and are driven by water quantity and quality concerns. Virginia DOT (VDOT) has not completed any watershed planning, but does participate in some local watershed plans. The DOT has participated in a watershed stream restoration initiative by providing funding in lieu of onsite BMPs for an Interstate interchange project. The DOT has also funded and constructed an offsite regional facility to address downstream water quality and quantity issues in lieu of onsite BMPs for a major roadway project. New stormwater regulations that go into effect in 2014 recognize and allow the use of many types of offsite mitigation alternatives.

### **Washington State DOT**

Washington State does not implement stormwater management on a watershed basis. The regulatory driver is the NPDES permit program, based on population and urban density, without regard to watershed boundaries. Multiple watershed planning efforts have been made over the last 30 years to support water supply, water quality, and Puget Sound restoration and protection, but not for stormwater (although stormwater has been a component of some watershed plans). All watershed planning in the state has been "bottom up", i.e., through local governments and stakeholders, and local representatives of federal and state agencies. Washington State DOT (WSDOT) participates on local watershed planning committees if water quality in highway runoff is a concern. TMDLs and waste load allocations are developed on a watershed basis and are an important component of watershed planning where they are being developed.

### **Wisconsin DOT**

The state has developed watershed plans for most of the watersheds. The nexus for watershed planning for Wisconsin DOT (WisDOT) is through the NEPA process for a project. The primary constituents of concern is suspended sediment. WisDOT is interested in watershed planning, but the political climate is currently not supportive. The DOT has developed a project that incorporates a shared BMP, which a private business, the DOT, and a municipality will use for mitigation.

### **Federal Highway Administration**

The FHWA is currently researching watershed-based approaches specifically for application by DOTs. FHWA is looking at stormwater quality mitigation banking as well. Watershed drivers are NPDES permits, regulatory compliance, cost, and local stakeholder advocacy.

## **Drivers of and Barriers to using the Watershed Approach**

### ***Discussion***

The primary driver of the watershed approach is the promise of improved environmental performance at a reduced implementation cost. Centralized mitigation projects have the advantage of economy of scale, and they can be managed more cost-effectively for O&M. The USEPA is also interested in promoting the watershed approach for these same reasons. Watershed problems are often interrelated and can be best eliminated by examining all of the stressors in the watershed and optimizing the locations for water quality improvement. For example, trash and solids in stormwater are pollutants, but also have been shown to introduce bacteria, potentially causing sanitary quality issues.

Barriers to implementation of a watershed approach to NPDES permit compliance revolve around the lack of watershed plans for many areas, and a formal program implementation framework. The CWA requires that all waters of the U.S. support beneficial uses. There may be an inherent conflict in allowing offsite mitigation if the receiving water impacted by the project does not meet this standard. Finally, there are policy issues at the state and federal level regarding the expenditure of funds for projects outside of the DOT right-of-way and for participating with private parties on mitigation projects. State DOT experience with some of these barriers is discussed in this section.

### **Alabama DOT**

The watershed approach has not been implemented to date in Alabama. The process will need to consider cumulative impacts to ensure compliance with environmental regulation.

### **California DOT**

Caltrans must manage implementation of 71 TMDLs statewide within its stormwater program. Compliance with the TMDL requirements may be achieved using a watershed approach in some instances. Caltrans will assess the most effective method of compliance with the lowest implementation cost to meet its TMDL obligations.



### **Colorado DOT**

Colorado DOT (CDOT) has initiated several small projects that use principles of the watershed approach. Colorado DOT is working on a revised New Development and Redevelopment program (NDRD) and the Colorado Department of Public Health and Environment (CDPHE) is supportive. The most significant barrier is state regulation. Currently the DOT is also allowed to treat equivalent areas offsite from the project within the same watershed as an option. CDOT has proposed changing their program to allow equivalent funding to be put toward an account to use for offsite mitigation and regional water quality projects. A specialized committee would be needed to administer the fund and determine funding priorities in each region/watershed.

This proposed regional watershed mitigation approach would involve multi-party agreements. Public education on this planning process and opportunities for partnerships with CDOT would be required to facilitate long range watershed planning that would be the driver for this water quality mitigation. Partnerships could include shared and leveraged funding, donation of land for the regional watershed mitigation facility, and cooperation for long-term maintenance of these facilities along with a mutual benefit for water quality improvements that these facilities would provide. Preliminary discussions with CDPHE and EPA have been positive and details of the program are being shaped in response to their questions.

### **Delaware DOT**

Delaware DOT is beginning to embrace a watershed approach to stormwater program compliance. The DOT sees an advantage in some instances. For example, if a private developer needs to discharge stormwater to the DOT, and the DOT is constrained from a right-of-way perspective, offsite treatment may be accommodated for the DOT in exchange for accepting additional flow in DOT facilities from the development. No formal programs have been established to facilitate this type of exchange.

DelDOT currently has no watershed policies; however, projects with watershed components are completed on a case-by-case basis. If the DOT has an opportunity to derive benefit from offsite mitigation for a project and, for example, partner with a developer, the watershed approach may be used.

Long-term maintenance of BMPs located outside of the right-of-way is a concern. DelDOT is supportive of the creation of staff positions as “Watershed Managers” at the regulatory agency. The Watershed Manager would be responsible for facilitating watershed based projects. Specific job responsibilities would include brokering projects within each watershed and facilitating agreements between various entities.

DelDOT has completed some relatively small watershed projects in partnership with other entities, nonprofit groups, and state agencies. Maintenance agreements have been completed; most projects have been supported by grants that require maintenance agreements in place before receiving funding. The DOT has begun to address the issue of long-term maintenance in the Phase I MS4 Permit with the other co-permittee.

The watershed approach in Delaware is being driven by the Chesapeake Bay TMDL program. This program has its own watershed manager and uses many watershed models that may ultimately be replicated throughout the state.

## **Florida DOT**

FDOT employs an element of the watershed approach through regional treatment projects associated with its capacity work program. Regional projects use land adjacent to the DOT right-of-way to treat DOT and non-DOT runoff and are preferred since they are usually the lowest cost option. Improving existing golf courses has historically been a practical approach to providing regional treatment without the expensive purchasing of right-of-way. A primary barrier is the limitation that jurisdictional receiving waters, even if historical drainage ditches and canals, must meet the same standards as natural rivers. Regional projects typically are viable only if the treatment location is adjacent to the DOT outfall, thereby avoiding a discharge of untreated runoff to receiving water. Beneficial uses are established for many drainage canals and drainage ditches. Legislation has been introduced to reclassify receiving waters to allow for the conveyance of untreated stormwater runoff; however, third party opposition from activist environmental groups may render it politically infeasible. Florida DOT is currently working with the state regulatory agency on rule changes to facilitate regional treatment and an in-lieu fee program.

FDOT typically avoids long-term maintenance responsibilities on watershed based projects. FDOT may provide funding for long-term maintenance if it is completed by another agency. The DOT believes that regional treatment can provide significant cost savings. Past projects have demonstrated reduced capital outlay compared to project specific solutions since right-of-way acquisition costs are lower.

The DOT generally prefers to partner with public (rather than private) agencies, to avoid future property ownership transfers or bankruptcies. The DOT must be willing to assume a basic level of risk with watershed based projects since there is additional potential for issues during project development and construction.

A regulatory/DOT working group has convened in Florida, and is supported by the Governor's office. Working in association with the Department of Environmental Protection (DEP), the group plans to develop a framework to facilitate the implementation of regional treatment projects. The framework will provide a mechanism to "warehouse" wetlands, water supply, water quality, flood management, and fish and wildlife improvement projects to create a pool of multi-objective 'credits' for participating agencies. Information on pollutant trading efforts in Florida is available [here](#).

## **New Hampshire DOT**

New Hampshire DOT has explored elements of the watershed approach for stormwater program compliance and identified several barriers to implementation. Determining adequacy, i.e., whether the identified mitigation is equivalent to an onsite project, is an issue since there is no consistent framework to guide the assessment. Administration of an in-lieu program, which would likely be most viable if done by the state regulator, is another barrier.

The DOT is also unsure of the procedure to transfer funding between the state and a private entity. Federal funding may not be used for maintenance activities on private land. Maintenance must be ensured in perpetuity to fulfill the resource permit obligations. If a private entity fails to maintain the mitigation site, the DOT may have to shoulder responsibility for the entire offsite

project. Participation of a DOT in a private mitigation project also raises equity issues: has a private project received an unfair advantage with public funding?

New Hampshire has developed an in-lieu fee program for wetland mitigation. Mitigation requirements including an offset are established as a part of the program. A similar framework is needed for stormwater mitigation. The in-lieu fee calculation must consider administrative fees, land cost, and construction costs. A benefit to in-lieu fee programs is they are associated with the permit, which is associated with the project. This ensures a consistent accounting of costs associated with the project and establishes a link to help ensure sustained funding.

### **New York State DOT**

New York State DOT is interested in pursuing the watershed approach to take advantage of the intrinsic benefits it can offer. However, the term “watershed approach,” has not been adequately defined, which can result in different goals and expectations among the watershed stakeholders. Communication could be enhanced through the creation or establishment of a watershed manager. Differing permit requirements in watersheds complicates the process of establishing a common implementation framework within the agency. It is difficult for a DOT to gain approval for projects crossing watershed boundaries if requirements are dissimilar.

The New York State Department of Environmental Conservation considers credits as an opportunity to provide additional program flexibility but it has placed criteria and restrictions on how credits can be accrued. The specific requirements are enumerated in the DOT’s MS4 permit (See Appendix C).

Similar to other programs, there are constraints to construction outside the right-of-way. The DOT cannot construct on private property or cooperate with private entities. Effectively right-of-way must be acquired in fee or through an easement for stormwater management purposes.

Permitting and programs involving the watershed approach may contradict permit regulations, making it difficult to achieve regulatory agency concurrence. Limitations regarding public and private partnerships present an obstacle to watershed program implementation. Design build is becoming a more popular option in New York State, creating opportunity for public and private partnerships.

### **Oregon DOT**

The Oregon state regulatory agency does not have any formal guidance on a watershed approach to stormwater management. The DOT is interested in pursuing watershed based projects and ODOT would like to engage the state regulatory agency to establish basic program parameters:

- How to define the watershed, i.e., what size of watershed is to be addressed;
- how to allocate credit for off-project mitigation upstream and downstream of the highway, or a different stream in the same watershed;
- how to establish equivalence between highway runoff pollutant impacts and out-of-kind mitigation; and
- how to establish equivalence among treatment of runoff from different types of highways (e.g., if treating urban highway runoff is considered a higher value than treating a rural highway).

ODOT does not provide maintenance for facilities on property owned by someone other than the DOT that treats runoff from outside the right-of-way. If the DOT jointly develops a project in another party's jurisdiction, an agreement is negotiated to require the other party to ensure perpetual maintenance of the offsite mitigation facility. The agreements are very explicit on maintenance responsibility and detail long-term funding sources.

To date, the DOT has not acquired standalone properties outside of the right-of-way for water quality treatment. In the future, the DOT will likely need to be more deliberate in planning the replacement of existing stormwater management facilities and exploring the most cost-effective construction and operation alternatives.

### **Virginia DOT**

New Virginia Stormwater Management Program (VSMP) Regulations adopted September 2011 better facilitate a watershed-based approach as compared to the previous regulations. The new regulations allow the DOT to look offsite to mitigate for some or all of a project's water quality requirements. Offsite options included adjacent DOT property, regional facility participation, participating in a pro-rated stormwater share account for watershed improvements and the purchase of offset nutrient credits in a nutrient credit bank.

The private sector is pushing nutrient credit banks as being an economical alternative to onsite mitigation where allowed by regulation. Nutrient Credit Banks are, typically, being established by the conversion of agricultural land to forest land, thereby creating credits in the process for nutrient mitigation.

A primary barrier to utilizing the offsite mitigation program is the funding mechanism for offsite mitigation and the timing of the construction of the offsite facilities. The DOT is obligated to perform an analysis to determine that offsite mitigation is less expensive than onsite mitigation. There can be costs that are intangible and difficult to estimate that can complicate this estimate. In addition, offsite mitigation sites must be in place and operational before construction of the DOT project can begin. Therefore, the DOT cannot purchase offset credits or pay into a mitigation fund unless the water quality improvements have been completed and are functional.

### **Washington State DOT**

In Washington State, the stormwater regulatory framework is built around the NPDES permit program, and NPDES permits are based on population and density. Consequently, resources are dedicated to complying with the NPDES permit provisions. Absent watershed type requirements in the Permit, there are neither the resources available nor incentives to implement a watershed approach to stormwater management.

The State conducts watershed planning primarily focused on water supply, water quality, and Puget Sound protection and restoration, but not watershed planning for the purpose of stormwater management. In some watersheds, stormwater has been a significant issue and those watershed plans include an element for stormwater. WSDOT has participated in some watershed-planning efforts, e.g., when highway runoff was a factor in the water quality of a specific watershed. TMDLs are developed on a watershed basis and are focused on one or a specific number of watershed pollutants.

Offsite mitigation of stormwater is permitted, but it must be within the same watershed as the project; however, offsite watershed options are seldom used. A primary barrier appears to be NPDES permits that do not describe a watershed framework and provide context for application and translation of maximum extent practical controls from a project site to another site within the watershed.

### **Wisconsin DOT**

The Department of Natural Resources (DNR) has been assessing TMDL watersheds as a potential starting point for developing a watershed approach to stormwater mitigation. In general, the private entity or municipality would be responsible for maintenance of a shared facility.

The DOT has been exploring alternative compliance options for some projects where existing right-of-way is not available, but capital facility upgrades trigger a need to construct stormwater treatment BMPs. To date, offsite compliance plans have not been implemented. Public scrutiny of funding of offsite improvements is significant, and the transfer of DOT funds to other agencies for mitigation projects can be problematic.

### **Federal Highway Administration**

The FHWA has been working with the U.S. Department of Agriculture (USDA), the USEPA, Virginia DOT (VDOT), and Virginia Department of Environmental Quality (DEQ) to develop federal funding sources for a water quality credit trading program for VDOT projects to facilitate meeting the goals of the Chesapeake Bay nutrient TMDL. This program is currently under development and may serve as a model for other areas.

## **BMP Retrofit and Mitigation using the Watershed Approach**

### ***Discussion***

Retrofit of post-construction BMPs is a central feature of implementing the watershed approach. Retrofit locations, both onsite and offsite should be part of a larger plan to maximize environmental benefit and minimize capital and O&M cost. For example, coordinating a retrofit program with an asset management program can help reduce capital expenditures. Specific questions addressed in this section include:

- Is the watershed approach implemented for mitigation and/or BMP retrofit?
- Have there been limitations of using the watershed approach to mitigation and/or BMP retrofit for your DOT
- What is your DOT's current policy on using the watershed approach to in lieu fees, mitigation banking and would your DOT purchase offsite right-of-way for a retrofit project?

Examples of retrofit programs or policy framework are provided as Appendices where available, and are cited in the text.

### **Delaware DOT**

In 1996, DelDOT entered into an agreement for stormwater mitigation with the Delaware Department of Natural Resources (see Appendix B). The Memorandum of Agreement defines the conditions that DelDOT may use offsite mitigation, including the definition of “credits” for

DOT projects. DelDOT does not currently have fee in lieu program, but this option will be part of new regulations taking effect in January 2013. This program is discussed in the Delaware Sediment and Stormwater Regulations, Policy and Procedures document (see Appendix B).

DelDOT has executed shared use agreements with developers, counties, municipalities when it is in the interest of the DOT. Typically, the DOT will enter into a shared use agreement when there are right-of-way constraints, to allow treatment of highway runoff outside of the right-of-way. Examples of DelDOT shared use agreements are provided in Appendix B.

### **Florida DOT**

Florida DOT will work with adjacent landowners to construct a BMP when there is a benefit through right-of-way acquisition savings. After construction, these regional mitigation sites are usually relinquished to a County for maintenance – resulting in a long-term cost savings as compared to mitigation within the right-of-way.

There is not currently a fee in-lieu program in Florida. The DOT completed a study showing that acquisition for right-of-way to construct BMPs ranges from cost up to \$6 million per acre, with the average cost being about \$600,000 per acre. The DOT has also successfully pursued rule changes that will allow BMPs to accept offsite discharge without upsizing.

The state is currently engaged in a study to facilitate stormwater reuse incorporating regional treatment options and options for supplementing water supply.

### **New York State DOT**

NYSDOT does not have a mitigation banking policy. No in lieu fees have been used to purchase right-of-way for stormwater management practices for a fee, and the DOT maintains all BMPs constructed in the right-of-way, the most common being ponds, swales, and bioretention structures.

The DOT does have a BMP retrofit program. Retrofit plans are submitted to the regulatory agency as prescribed in the Phase II MS4 permit. The permit also allows for the development of an in lieu program subject to the following conditions (see Appendix C):

- Ensure that offset exceeds a standard reduction by factor of at least 2
- Offset is implemented within the same watershed
- Proposed offset addresses the pollutant of concern (POC) in the watershed
- Tracking system is established for the watershed
- Mitigation is applied for retrofit or redevelopment
- Offset project is completed prior to beginning of the proposed construction
- A legal mechanism is established to implement the banking and credit system

The retrofit plans are implemented in the context of Watershed Plans that are pollutant and water body specific, and incorporated into the Permit. For example, the retrofit plan for the New York City Croton watershed (developed for a phosphorus TMDL) includes the following information for each designated BMP:

- Site identification number
- Location description
- Drainage area to practice
- Proposed type of practice
- Water quality volume to be treated by practice
- Percent imperviousness within drainage area of practice
- Pollutant removal efficiency of practice
- Estimated cost to construct
- Amount of phosphorus “removed” (measured in lbs.)

### **Oregon DOT**

ODOT does not have a mechanism to participate in water quality banking; however, it is a concept the DOT favors. The DOT occasionally completes off-project stormwater mitigation but requirements are determined on a case-by-case basis in the absence of formal guidelines.

There is a formal retrofit program for water quality treatment facilities, associated with a legal settlement, which obligated the DOT to provide \$2.1 million per year for four years, for retrofit projects. Funding was reallocated from the fish passage program to establish the retrofit program. Retrofit projects are focused on the Willamette Valley, the most developed part of the state. Allocation of the retrofit project funding is biased toward joint projects with other jurisdictions where conjunctive and watershed goals can be achieved.

The DOT’s MS4 permit is 12 years old and does not contain retrofit requirements. ODOT purchases land outside the right-of-way on project-by-project basis for stormwater management facilities. Sample agreements are attached as Appendix D.

### **Washington State DOT**

WSDOT does not have programs for stormwater mitigation banking or in lieu fees. The DOT has entered into regional stormwater management agreements with other jurisdictions in the past 5-10 years but not recently (see examples in Appendix E). Project-triggered stormwater mitigation obligations may be met off-site if doing so within the project limits is not feasible on an economic or engineering basis, as long as the off-site location is in the same watershed as the project. If on-site mitigation is not feasible, WSDOT’s Highway Runoff Manual off-site treatment options are described in Sections 2-7.3 and 2-7.4 of the manual, and these sections present a process for analyzing off-site treatment options.

Retrofit projects are completed using a prioritization scheme, for which one of several elements is watershed-related (locally identified erosion or pollution problems documented in a local watershed plan).

The DOT will acquire additional right-of-way for stormwater retrofit projects and off-site mitigation.

### **Wisconsin DOT**

WisDOT has a wetland mitigation banking program but does not have a banking program for NPDES compliance. The DOT does not have a formal post-construction BMP retrofit program, but rather incorporates BMPs with maintenance and repair projects.

The DOT has purchased additional right-of-way for BMPs associated with improvement projects. Long-term maintenance is a challenge since the DOT contracts with a county or other entity for this service and it is difficult to ensure that the terms of the contracts are enforced.

The DOT has an asset management program that specifically identifies BMPs in the urbanized Milwaukee area. This program will eventually be expanded to include all WisDOT stormwater facilities. An asset management program is viewed as a critical pre-cursor to beginning any BMP retrofits.

The DOT is currently working on its first private/public stormwater mitigation project. The DOT will purchase additional right-of-way to construct a BMP. There is enough capacity at the site to treat additional runoff from private development. Tentatively, the private entity will be responsible for site design and ongoing maintenance. WisDOT will be responsible for facility construction.

## **Future Research Needs**

Research topics that would facilitate the next steps in implementation of a watershed approach are as follows:

- Stormwater regulatory frameworks that are consistent with, or provide incentives for, implementing a watershed approach. CWA regulations may not support mitigation for project stormwater impacts that occur in another watershed. There is risk with offsite mitigation, responsibility for maintenance and operation must be assured.
- Defining trading “credits” and how to apply them to non-point control strategies; Credits must be defined to allow universal application. Who will administer a credit trading system and track credit balances
- Addressing funding constraints for constructing outside the DOT right-of-way; DOTs often cannot fund work outside of the right-of-way, or on private property. DOTs often cannot provide funding prior to start of construction
- Can the watershed approach be used outside of a TMDL context; are there otherwise restrictions in the CWA; or state water codes. Some states have codes that extend beyond the CWA and may present barriers to application of the watershed approach.
- Is there an offset ratio required for the credits – a factor of safety applied when mitigation is applied elsewhere in the watershed. The regulatory community may judge that offsite mitigation presents more risk and a less defined environmental benefit than onsite mitigation. The use of offset ratios or factors of safety should be explored.
- Service area for the watershed trading bank (define criteria to be used by programs when setting up a bank) Are credits transferable within the same watershed, jurisdiction or state? The geographic applicability of a mitigation bank must be defined.



## ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations are used in this report:

AASHTO	American Association of State Highway and Transportation Officials
ABAG	Association of Bay Area Governments
ALDOT	Alabama DOT
ADT	Average Daily Traffic
BMP	Best Management Practice
CoP	Community of Practice
CWA	Clean Water Act
DEC	Department of Environmental Conservation
DelDOT	Delaware DOT
DEP	Department of Environmental Protection
DEQ	Department of Environmental Quality
DES	Department of Environmental Services
DNREC	Department of Natural Resources and Environmental Control
DOT	Department of Transportation
DWQ	Department of Water Quality
FDOT	Florida DOT
FHWA	Federal Highway Administration
MDOT	Michigan DOT
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NCDOT	North Carolina DOT
NEPA	National Environmental Policy Act
NHDOT	New Hampshire DOT
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NYSDOT	New York State DOT
O&M	Operation and Maintenance
ODOT	Oregon DOT
POC	Pollutant of Concern
SPDES	State Pollutant Discharge Elimination System
TMDL	Total Maximum Daily Load
TxDOT	Texas DOT
USEPA	U.S. Environmental Protection Agency
VDOT	Virginia DOT
WIP	Watershed Implementation Plan
WisDOT	Wisconsin DOT
WQIP	Water Quality Improvement Plan
WSDOT	Washington State DOT

## RESOURCES

Delaware Department of Natural Resources and Environmental Control: [Watershed Plans and Strategies](#)

Florida Department of Transportation: [Water Quality Credit Trading](#)

U.S. Environmental Protection Agency: [Watershed Approach](#)

Washington State Department of Transportation: [Highway Runoff Manual](#)

## **APPENDIX A: California Department of Transportation Memorandum of Understanding**

Memorandum of Understanding (MOU) by and among the California Regional Water Quality Control Board, San Francisco Bay Region; the California Department of Transportation (Caltrans), District 4; and the Association of Bay Area Governments (ABAG) concerning the implementation of alternative stormwater treatment best management practices (BMPs) at an off-site location within the watershed.

**MEMORANDUM OF UNDERSTANDING**  
**by and among the**  
**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,**  
**SAN FRANCISCO BAY REGION,**  
**the**  
**CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 4,**  
**and the**  
**ASSOCIATION OF BAY AREA GOVERNMENTS**  
**concerning the implementation of**  
**ALTERNATIVE STORMWATER TREATMENT BEST MANAGEMENT**  
**PRACTICES**

**I. Recitals**

- A. This Memorandum of Understanding (MOU) is made and entered into by and among the California Regional Water Quality Control Board, San Francisco Bay Region (Board), the California Department of Transportation, District 4 (Caltrans), and the Association of Bay Area Governments (ABAG) as of the last date set forth below. This MOU sets forth the understandings of the Board, Caltrans, and ABAG with respect to Caltrans's implementation of alternative stormwater treatment best management practice (BMP) controls for Caltrans's projects within the Board's jurisdiction.
- B. This MOU sets forth the framework by which the parties will operate to facilitate Caltrans's implementation of alternative stormwater treatment BMPs at off-site locations by and through the use of third parties, where such BMPs are not feasible within Caltrans's right-of-ways due to construction limits of an individual roadway project. When an off-site alternative stormwater treatment BMP project is approved by the Board as satisfying Caltrans's permit requirements, Caltrans and ABAG intend to enter into an agreement with the appropriate third party implementing the alternative stormwater treatment BMP on its funding, construction, and maintenance.

**II. Definitions**

In this MOU, the following terms shall have the following meanings:

- A. ABAG shall mean the Association of Bay Area Governments.
- B. BMP, or best management practice, is any program, technology, process, siting criteria, operating method, measure, structure, control, or device, which controls, prevents, removes, or

reduces stormwater pollution. BMPs must meet the maximum extent practicable standard for municipal separate storm sewer system requirements.

- C. BMP Implementer shall mean the city, county, flood district or other public entity within the Board's jurisdiction, which will construct and maintain Board-approved alternative stormwater treatment BMPs at locations outside the Right-of-Way.
- D. Board shall mean the California Regional Water Quality Control Board, San Francisco Bay Region.
- E. Caltrans shall mean the California Department of Transportation, District 4.
- F. Excess Lands are those lands that have been determined to be unsuitable for any transportation or environmental mitigation uses including stormwater treatment, as determined by Caltrans.
- G. Interagency Agreement shall mean an agreement between ABAG and Caltrans that outlines a scope of work and methods and protocols for payment of services rendered by ABAG as generally set forth herein.
- H. Letter of Agreement shall mean an agreement among ABAG, Caltrans, and BMP Implementer to fund, construct, and maintain any Board-approved alternative stormwater treatment BMP.
- I. Right-of-Way shall refer to property owned and/or controlled by Caltrans. Right-of-Way shall exclude Excess Lands, provided the Board agrees that the Excess Lands are not suitable for environmental mitigation uses including stormwater treatment.
- J. Water Quality Benefit shall mean a tangible water quality improvement resulting from actions such as the installation of structural stormwater treatment BMPs or controls.

### **III. Background**

- A. Of particular concern with Caltrans roadway projects is the potential for long-term or post-construction water quality impacts, to both waters of the State and U.S. Considering this, and to adhere to Caltrans's Statewide National Pollutant Discharge Elimination System (NPDES) Permit, issued by the State Water Resources Control Board (SWRCB), and such other permits, orders, and certifications issued by the Board, Caltrans investigates the incorporation of permanent stormwater treatment BMPs within the available Right-of-Way. Occasionally, the acreage of available Right-of-Way is not sufficient for Board-sanctioned treatment requirements, or opportunities for on-site treatment are constrained due to physical conditions. In these instances, Caltrans, working collaboratively with the Board, may pursue alternative stormwater treatment BMPs at an off-site location.

An example of this was the proposal to reconstruct the Fifth Avenue Overhead Structure in the City of Oakland as a Seismic Retrofit Project (Fifth Avenue Project). To comply with the Board-issued Clean Water Act Section 401 certification for the Fifth Avenue Project, Caltrans presented to the Board a biofiltration swale as a proposed BMP to treat approximately three acres of impervious area within the Right-of-Way. Caltrans's good faith estimate of the cost to construct this biofiltration swale was six hundred thousand dollars (\$600,000). Due to site-specific conditions that made the construction and operation of an effective swale infeasible,

the Board suggested Caltrans consider using the same amount of funds to construct alternative stormwater treatment BMPs on sites outside the Right-of-Way that provide treatment of runoff from impervious areas equal to or more than three acres. The Board was willing to accept off-site alternative stormwater treatment BMPs in lieu of the biofiltration swale. By adopting a watershed-wide perspective, the funds that would have been used to construct the biofiltration swale could be used for other treatment needs within the same watershed, providing more effective Water Quality Benefits.

Other examples of projects necessitating an alternative stormwater treatment BMP approach include the proposed reconstruction of State Route 84 through Pigeon Pass (SR84) and the proposal to reconstruct the Interstate 880/ Highway 92 Interchange (880/92). Caltrans was unable to provide the Board-mandated level of post-construction stormwater treatment BMP within the Right-of-Way. Both sites had space constraints and limited Right-of-Way access, while the steep terrain of the SR84 project site precluded placement of treatment controls. Caltrans and the Board agreed that alternative stormwater treatment BMPs may be provided at locations outside the limits of the project site while meeting the Board's stormwater treatment requirements.

- B. Caltrans plans more projects within the Board's jurisdiction with field conditions similar to the Fifth Avenue, SR84, and 880/92 projects; similar alternative stormwater treatment BMP concepts may be used for these projects. Where on-site limitations exist that preclude stormwater treatment of the whole Board-mandated stormwater treatment requirement, off-site treatment BMPs may be considered in addition to proposed on-site treatment BMPs and not exclusively as an alternative to on-site treatment options. However, there may be instances where Caltrans determines that on-site treatment is not practicable. In such cases total off-site treatment may be warranted and acknowledged by both the Board and Caltrans. Listed below are some Caltrans planned major reconstruction projects, where off-site treatment, in whole or in part, may be applicable:

1. San Francisco-Oakland Bay Bridge Post-Construction Stormwater Treatment Measures Project/ Highway 80
2. Route 92/Interstate 880 Interchange Reconstruction
3. 5th Avenue Seismic Retrofit Project/ Interstate 880
4. High Street Retrofit Project/Interstate 880
5. Pigeon Pass/Highway 84 Safety Realignment Project
6. Route 12 (Solano County)/Truck Climbing Lane Construction
7. Route 12 (Solano County)/Roadway Rehabilitation

The intent of this MOU is to lay out a framework for future projects. As such, the above projects are not an all-inclusive list.

- C. In order for an alternative stormwater treatment BMP to be implemented, the Board must concur that: 1) fully implementing the stormwater treatment BMP on-site is infeasible due to physical constraints within the Right-of-Way and that Caltrans has exhausted all practicable on-site stormwater treatment BMPs and 2) the proposed alternative stormwater treatment BMP (or BMPs) provides an equivalent or better Water Quality Benefit than what would be constructed on-site if not for the physical constraints within the Right-of-Way, is not an otherwise required obligation of the BMP Implementer, and there are sufficient assurances that the alternative stormwater treatment BMP will be properly constructed to perform as designed and be adequately maintained (collectively, the "Criteria"). The parties will cooperate with one

another as provided below so that the Board may expeditiously make its determination as to whether a proposed alternative stormwater treatment BMP (or BMPs) satisfies the Criteria.

- D. When the Board concurs on an alternative stormwater treatment BMP, Caltrans, ABAG and the BMP Implementer will enter into a Letter of Agreement, which at a minimum, will include:
- a. Description of the scope of work and schedule for the adequate construction of the alternative stormwater treatment BMP;
  - b. A characterization, as determined by the Board, of the Water Quality Benefit (for example, the amount of impervious surface area acreage served by the alternative stormwater treatment control), and the Caltrans project or projects to which the Water Quality Benefit is to be applied as determined by the Board;
  - c. The amount of money to be transferred from Caltrans to ABAG for its disbursement to the BMP Implementer for the cost of construction and maintenance of the alternative stormwater treatment BMP; and,
  - d. The BMP Implementer's agreement to ensure the maintenance and efficacy of the alternative stormwater BMP for the years of maintenance funded by Caltrans.

#### **IV. Statement of Cooperative Activities**

##### **A. CALTRANS**

1. Caltrans affirms the following: (a) it is obligated under the NPDES Permit to implement controls to reduce the discharge of pollutants to the maximum extent practicable (MEP) for municipal separate storm sewer system requirements and (b) it is now and in the future may be further required to implement stormwater treatment controls in permits, orders, and certifications for its projects.

Caltrans will make a good faith effort to implement post-construction stormwater treatment BMPs to the MEP on-site. If site constraints prevent full treatment opportunities, Caltrans will seek Board approval to treat any or all remaining treatment obligation off-site.

2. Where Caltrans seeks to undertake alternative stormwater treatment BMPs outside of the Right-of-Way, Caltrans will work cooperatively with the Board and ABAG to: (a) provide the Board with the necessary information for the Board to determine that implementing BMPs completely on-site is not feasible and that the proposed alternative stormwater treatment BMP (or BMPs) satisfies the Criteria; (b) fund Board-approved off-site alternative stormwater treatment BMPs; and (c) allow ABAG to act as the fiscal agent for transmitting these funds to BMP Implementers by entering into Letter Agreements with ABAG and BMP Implementers. Caltrans has the right to pursue BMPs within the Right-of-Way prior to any Board-sanctioned alternative stormwater treatment BMP.
3. No employee, officer, or agent of Caltrans shall participate in proposing an alternative stormwater treatment BMP or a BMP Implementer if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of his or her immediate family, his or her partner, or an

organization which employs, or is about to employ, has a financial interest or other interest in the alternative stormwater treatment BMP or the BMP Implementer.

**B. THE BOARD:**

1. The Board affirms: (a) off-site alternative stormwater treatment BMPs are a good mechanism by which to achieve Water Quality Benefits while affording regulatory flexibility to Caltrans to meet its requirements under permits, orders, and certifications; (b) will work cooperatively with Caltrans to promote and facilitate implementation of these BMPs where physical conditions within the Right-of-Way make completely implementing stormwater treatment BMPs on-site infeasible; and (c) Caltrans has the right to implement on-site BMPs within the Right-of-Way.
2. Where Caltrans seeks Board concurrence of a proposed alternative stormwater treatment BMP, the Board will act expeditiously to: a) determine whether Caltrans has fully exhausted all practicable on-site stormwater treatment BMPs; b) determine whether the proposed off-site alternative stormwater treatment BMPs satisfy the Criteria, provided Caltrans provides all of the necessary information for the Board to make that determination; c) characterize the Water Quality Benefit and apply it the applicable Caltrans project or projects, where it approves an off-site alternative stormwater treatment BMP.
3. Where the Board has concurred with a proposed alternative stormwater treatment BMP as satisfying the Criteria, and where the Board and Caltrans have agreed upon a total cost to implement such alternative, then the Board will find that Caltrans has satisfied its permit obligation for the underlying construction project when Caltrans transfers said funds to ABAG pursuant to a Letter of Agreement with which the Board concurs to ensure that the alternative stormwater treatment BMP will be adequately constructed and maintained.

**C. ABAG:**

1. ABAG affirms: (a) ABAG will act, through a Letter of Agreement, as the fiscal agent for receipt of the funds and transmitting the funds to the BMP Implementers for those Board-approved alternative stormwater treatment BMPs that Caltrans seeks to fund and (b) it presently has no interest, and none shall be acquired, direct or indirect, which conflicts in any manner or degree with ABAG's role as a fiscal agent. Methods and protocols for payment of ABAG services rendered will be detailed in an Interagency Agreement between ABAG and Caltrans.
2. In carrying out its responsibilities, ABAG will: (a) exercise reasonable prudence as the custodian of funds for the approved off-site stormwater treatment BMPs; (b) be entitled to rely on the BMP Implementer's representations in making any payments to the BMP Implementer during implementation; (c) will have no liability to the Board, Caltrans, BMP Implementer or any third party for the implementation, operation or maintenance of the alternative stormwater treatment BMPs.

**V. Duration of MOU**

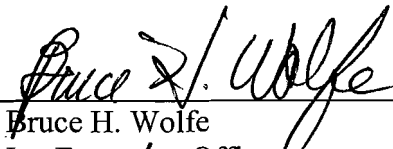


This MOU shall be in effect until terminated by the parties in accordance with Section VI below.

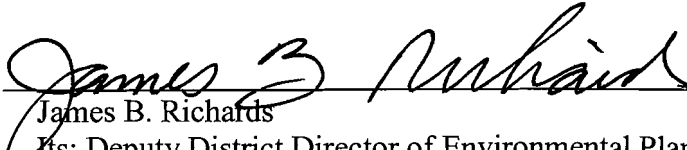
## **VI. Amendments to the Agreement**

This MOU may only be modified by the written agreement of all parties.


### **CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION**

By:   
Bruce H. Wolfe  
Its: Executive Officer  
Date: 8/31/07

### **CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 4**

By:   
James B. Richards  
Its: Deputy District Director of Environmental Planning and Engineering, District 4  
Date: 8/14/07

### **ASSOCIATION OF BAY AREA GOVERNMENTS**

By:   
Henry L. Gardner  
Its: Executive Director  
Date: 8/23/07

## **APPENDIX B: Delaware Department of Transportation Stormwater Management Memorandums of Agreement**

Storm Water Management Agreement between Delaware Department of Transportation and Sea Colony Recreational Association, Inc. regarding proposed enhanced roadway drainage improvements

Memorandum of Agreement between Delaware Department of Transportation and Delaware Department of Natural Resources and Environmental Control Concerning Stormwater Quality Management

Stormwater Management Agreement between Delaware Department of Transportation and Odessa National Golf Course regarding a Stormwater Management Shared Use and Easement Agreement

Prepared by: DelDOT, Real Estate Section  
P.O. Box 778  
Dover, DE 19903

Return to: DelDOT Real Estate Section  
P.O. Box 778  
Dover, DE 19903

### **STORM WATER MANAGEMENT AGREEMENT**

**THIS STORMWATER MANAGEMENT AGREEMENT** ("Agreement") is entered into on this 25<sup>th</sup> day of MARCH, 2011, by and between Sea Colony Recreational Association, Inc., of P.O. Box 480, Bethany Beach, DE 19930, party of the first part, (hereinafter referred to as "Sea Colony"), its successors, heirs or assigns, and the State of Delaware, Department of Transportation, c/o Division of Planning, Real Estate Services, P.O. Box 778, Dover, DE 19903, (hereinafter referred to as "DelDOT"), party of the second part.

#### **WITNESSETH:**

**WHEREAS**, Sea Colony consists of common area property leased through long-term leases from Sea Colony, Inc. to the Sea Colony and to each of the individual and separate condominiums known as Sea Colony Phases;

**WHEREAS**, Sea Colony is legally authorized to enter into maintenance and use agreements regarding the real property it leased from Sea Colony, Inc., as well as similar agreements regarding adjacent properties;

**WHEREAS**, a storm water detention facility (the "SWM Facility") is located on the property owned by DelDOT which is abutting Sea Colony's property and adjacent to South Pennsylvania Avenue and State Route 1;

**WHEREAS**, The Center for Inland Bays has prepared plans for certain proposed enhanced roadway drainage improvements to be constructed under the project titled Anchorage Canal Retrofit Phase I, which are incorporated herein by this reference;

**WHEREAS**, the project requires discharge of storm water runoff into SWM Facility for water quality and quantity management;

**WHEREAS**, the standard construction design for SWM Facilities is a system that includes, but is not limited to, open ditches, pipes, gabion check dams, infiltration pits and bio-filtration swales;

**WHEREAS**, Center for Inland Bays' site development engineer, Johnson, Mirmiran & Thompson, Inc. (hereinafter referred to as JMT), has designed the said proposed enhanced SWM Facility to be a shared use SWM facility by DelDOT, Sea Colony and the Sea Colony Phases. The documentation for calculations for the shared use of the SWM Facility are included in JMT's Stormwater Management Report, dated January 13, 2011, which is incorporated herein by this reference; and

**NOW THEREFORE**, in consideration of the mutual promises and covenants contained herein, and for other good and valuable consideration, both parties agree to the following maintenance responsibilities:

1. DelDOT shall be responsible for:

- Inspections of SWM Facility, biennially and after major storm events.
- Periodic removal of sediment near the inflow areas and outlet structures, cleaning of outlet pipes, and adding or replacing riprap in the SWM Facility.
- Repair and /or replacement of outlet structures.

2. Sea Colony shall be responsible for:

- Mowing, trash removal, landscaping and maintenance of vegetation within and around the SWM Facility.
- Inspection, maintenance, repair and/or replacement of infiltration pits and/or any facilities on Sea Colony's property outside of the DelDOT Right of Way.

3. Sea Colony shall maintain, inspect and repair the infiltration pits that are located outside the DelDOT Right of Way and on Sea Colony's property adjacent to the SWM Facility.

4. Future changes to the respective lands of either party to this Agreement that may require a reconfiguration or retrofit of the said SWM Facility or Sea Colony's infiltration pits shall be subject to the approval of the appropriate storm water regulatory authority.

5. Sea Colony and DelDOT agree to abide by all applicable laws, rules and regulations pertaining to the use and operation of SWM Facility.

**IN WITNESS WHEREOF**, the said parties have executed this agreement the day and year aforesaid.

**The State of Delaware, Department of Transportation**

**Approved by:**

Natalie Barnhart 4/25/11  
Natalie Barnhart, P.E. Date  
Chief Engineer

Joseph Wright 4/12/11  
Joseph Wright, P.E. Date  
Director, Maintenance and Operations

Carol O'Donoghue 4/21/11  
Carol O'Donoghue Date  
Assistant Director, Real Estate Services

*for assistance in reviewing only*  
Concurred by: *and not as a form or substance*

FH Schranck 3/28/11  
Frederick H. Schranck Date  
Deputy Attorney General



**Recommended by:**

Vincent W. Davis, P.E. 25 MAR 2011  
Vincent Davis, P.E. Date  
DelDOT Stormwater Engineer

 4/7/11  
Alastair Probert, P.E. Date  
South District Engineer, Maintenance and Operations

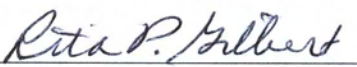
**Approved by Sea Colony Recreation Association, Inc.**

JOHN J. GILBERT  
Print name of Approving Authority

 3/25/11  
Signature of Approving Authority Date

**Witnessed by:**

Rita P. Gilbert  
Print name of Witness

 3/25/11  
Signature of Witness Date

# **Memorandum of Agreement**

## **Between The Delaware Department of Transportation And The Delaware Department of Natural Resources And Environmental Control Concerning Stormwater Quality Management**

### **1.0 Introduction**

#### **1.1 Intent**

The Delaware Department of Transportation (DelDOT) and the Delaware Department of Natural Resources and Environmental Control (DNREC) recognize that it is sometimes not practicable to provide stormwater quality management in accordance with Section 10 of the Delaware Sediment and Stormwater Regulations (DSSR). This Memorandum of Agreement (MOA) establishes procedures which DelDOT may choose to follow in lieu of those stipulated in the DSSR.

The procedures outlined herein shall be considered variance procedures and are to be implemented only when it has been demonstrated that exceptional circumstances exist at the project site which would cause undue hardship and not fulfill the intent of State and Federal stormwater quality laws if DelDOT were to maintain strict adherence to the provisions embodied in the DSSR.

This MOA will allow DelDOT to make a statewide initiative to meet, in part, the Federal nonpoint source pollution and stormwater permit program requirements contained in Section 6217 (g) of the Federal Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), and the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit Program (NPDES MS<sup>4</sup>) authorized by the Federal Clean Water Act Reauthorization Amendments of 1987.

By this agreement, the parties intend that, where DelDOT has demonstrated it cannot provide stormwater quality management on a given project, the "deficit" thus created will be mitigated at another DelDOT project, or existing road, highway, or bridge within the same watershed or another watershed determined by DNREC to be in greater need of water quality control.

#### **1.2 Definitions**

**Disturbed Area** - The total surface area of land located within the limits of construction of a DelDOT construction project.

**Drainage Area** - The entire geographic area that contributes surface water to a point of discharge. One or more drainage areas comprise a subwatershed.

**Enhancement** - Actions performed in existing waters or wetlands to increase one or more wetland functions and values.

**Practicable** - Available and capable of being completed after taking into consideration cost and feasibility in light of the overall stormwater quality goals.

**Restoration** - Actions performed which reestablish the natural hydrologic and biotic function of a former wetland or degraded stream corridor.

**Stormwater Management Credit** - The actual acreage of land which has been afforded stormwater quality treatment through implementation of a stormwater management facility (e.g. the maximum number of credits which can be accredited to a watershed due to any one stormwater management facility is equivalent to the drainage area to that facility).

**Stormwater Management Debit** - The actual acreage of land within the disturbed area of a construction project which is allowed to go untreated for stormwater quality management.

**Stormwater Management Facility** - A man-made structure built specifically to provide stormwater quality treatment (e.g. stormwater management pond, constructed wetland, etc.); or a natural land feature which has been restored or enhanced to provide stormwater quality benefits (e.g. enhanced existing wetland, restored former wetland).

**Subwatershed** - The entire geographic area that contributes surface water to a tributary of one of Delaware's forty one (41) watersheds (e.g. Pike Creek is a subwatershed of White Clay Creek watershed). One or more subwatersheds comprises a watershed.

**Watershed** - The entire geographic area that contributes surface water to one of Delaware's forty one (41) major drainageways listed as follows:

- |                                 |                          |
|---------------------------------|--------------------------|
| 1. Appoquinimink River          | 22. Indian River Bay     |
| 2. Army Creek                   | 23. Iron Branch          |
| 3. Assawoman Bay                | 24. Leipsic River        |
| 4. Blackbird Creek              | 25. Lewes Rehoboth Canal |
| 5. Brandywine Creek             | 26. Little Assawoman     |
| 6. Broad Creek                  | 27. Little Creek         |
| 7. Broadkill River              | 28. Marshyhope Creek     |
| 8. Buntings Branch              | 29. Mispillion River     |
| 9. Cedar Creek                  | 30. Murderkill River     |
| 10. Chesapeake & Delaware Canal | 31. Naamans Creek        |
| 11. Chesapeake Drainage System  | 32. Nanticoke River      |
| 12. Choptank River              | 33. Pocomoke River       |
| 13. Christina River             | 34. Red Clay Creek       |
| 14. Deep Creek                  | 35. Red Lion Creek       |
| 15. Delaware Bay                | 36. Rehoboth Bay         |
| 16. Delaware River              | 37. Shellpot Creek       |
| 17. Dragon Run Creek            | 38. Smyrna River         |
| 18. Elk Creek                   | 39. St. Jones River      |
| 19. Gravely Branch              | 40. White Clay Creek     |
| 20. Gum Branch                  | 41. Wicomoco River       |
| 21. Indian River                |                          |

## **2.0 Scope**

### **2.1 Applicability to State and Federal Programs**

The terms set forth in this agreement take effect immediately and may be applied to any project reviewed and approved for stormwater management by DelDOT which functions as a Delegated Agency in accordance with Section 5 of the DSSR. Projects reviewed and approved prior to the effective date of this MOA are excluded.

When utilized, the criteria in this MOA will completely fulfill the DSSR's requirements for the roadway project being considered and partially fulfill CZARA, and NPDES MS<sup>4</sup> requirements effective in Delaware.

### **2.2 Implementation of MOA Criteria**

The criteria and procedures outlined by this MOA shall be implemented only after DelDOT has demonstrated that granting of a variance, in accordance with Section 3 of the DSSR, is appropriate and mutually advantageous to DelDOT and the water quality goals of the State and Federal stormwater programs.

The stormwater management approach described by this MOA should be viewed only as an option to the procedures contained in the DSSR. DelDOT retains the right to follow the provisions of the DSSR on any given project, even after the granting of a variance, if the alternatives available under this MOA are later determined to be impractical.

Appendix 'A' provides guidelines on implementing the provisions of this MOA.

### **2.3 Quantity Control Not Covered**

This agreement pertains to stormwater quality management only. This agreement does not relieve DelDOT from the requirement to meet the applicable provisions set forth in the DSSR as to reduction of peak discharge rates.

## **3.0 Terms**

### **3.1 Major Roadway, Bridge, and Surface Transportation Related Projects**

For major roadway widening, new alignments, and surface transportation related projects, DelDOT shall maximize the implementation of stormwater quality management on-site in accordance with the DSSR. Individual drainage areas within a larger project may be considered for eligibility under the terms of this MOA only after traditional approaches have been investigated and ruled out for cost and feasibility reasons. If, based on the information supplied by the project manager, the Stormwater Engineer determines that site conditions warrant the granting of a variance within specific drainage areas of a larger project, the project manager will be notified of the options that are available within the terms of this MOA.



### **3.2 Minor Roadway, Bridge, and Surface Transportation Related Projects**

For minor roadway improvements (e.g. addition of turn lanes at intersections, bridge approach roadway widening, addition of bike lanes, safety improvements, transportation enhancement projects, etc.) DelDOT first shall investigate all possible water quality control options available within the limits of the project being considered. If no practicable alternative is found, the Stormwater Engineer shall consider the validity of a variance from the DSSR for some or all of the disturbed area associated with the project in question. If, based on the information supplied by the project manager, the Stormwater Engineer determines that site conditions warrant granting of a variance, the project manager will be notified of the options that are available within the terms of this MOA. The variance may be extended to all or only a portion of the overall project.

Projects meeting the waiver and exemption criteria established in Section 3 of the DSSR (e.g. roadway restoration, rehabilitation, and reconstruction within the limits of the existing pavement) shall not be construed to be regulated under this MOA to any greater degree than they may be under the DSSR.

### **3.3 Allowable Stormwater Quality Management Alternatives**

The water quality management alternatives listed below comprise the acceptable stormwater management facility options available for consideration under this MOA. In determining the most appropriate water quality management alternative to implement, DelDOT shall take into account the condition and water quality improvement needs of the watershed in which the project is located. The chosen alternative shall be the option which offers the most immediate and discernible improvement to water quality.

#### **1. Structural Control.**

Structural stormwater management facilities providing water quality control for a drainage area equivalent to or exceeding the area requiring treatment at the roadway project location. The acceptable structural control alternatives are as follows:

- a) Construction of a wetland for stormwater treatment;
- b) Wet extended detention pond;
- c) Dry extended detention pond;
- d) Infiltration basin or trench;
- e) Sand filter;
- f) Biofiltration swale;
- g) Other practices which achieve 80% mass reduction in suspended solids.

#### **2. Source Control.**

Control of existing or potential contaminants at their source when this can be identified. The number of pollutant sources which shall be controlled and the overall cost of the control effort shall be commensurate with size and scope of the roadway project under consideration. The acceptable source control alternatives are as follows:

- a) Installation of material storage facilities;
- b) Elimination of illicit connections to the storm drain system;
- c) Other controls meeting the goals of the State and Federal stormwater quality programs and deemed appropriate by the Stormwater Engineer.

### 3. **Enhancement & Restoration.**

Water quality and habitat enhancement or restoration projects. As a minimum, the drainage area treated by the enhancement or restoration project shall be equivalent to or exceed the area requiring treatment at the roadway project location. The acceptable alternatives are as follows:

- a) Restoration or enhancement of the hydrologic and biotic properties of degraded tidal or non-tidal wetlands;
- b) Reforestation of cut woodlands and/or exposed bare earth;
- c) Removal of existing roadway or parking lot pavement and replacement with a pervious material, preferably grass. The section of existing pavement shall be similar in character as the section of new pavement in terms of the quantity and type of pollutants generated. This shall be determined by comparing land uses and traffic volumes at each location;
- d) Retrofitting existing stormwater management facilities to provide extended detention for the first inch of runoff. The cumulative drainage area of one or more existing facilities slated to be retrofitted shall equal or exceed the area requiring treatment at the roadway project location. Multiple existing facilities may be replaced with one larger facility provided it is designed to meet both the water quantity and quality control requirements of the DSSR. The design of any facility proposed to replace several existing ponds shall include a downstream analysis to a point of natural or man-made constriction to verify that the new facility does not cause a flooding problem or aggravate an existing one.

#### 3.4 **DNREC Oversight**

The DNREC, Division of Soil & Water Conservation, Sediment & Stormwater Management Program shall have primary oversight of this MOA. The effectiveness of this agreement will be reviewed during their triennial review of the DelDOT Sediment & Stormwater Program at which time they will recommend to DelDOT whether to continue or alter this agreement.

The DelDOT Stormwater Engineer will send written notification to the manager of the Sediment & Stormwater Management Program at DNREC when DelDOT proposes to employ the terms of this agreement for a single project or a group of projects. This notification will invite all interested environmental resource and permitting authorities to participate in the selection of an alternative water quality management measure. A meeting time, date, and location to review project(s) proposing to follow the terms of this MOA will be listed in the notification.

The role of the various environmental resource and permitting authorities shall be to provide expert advice and guidance to DelDOT in the location and selection of appropriate sites and projects by prioritizing the water quality efforts which are needed within the various watersheds to mitigate the

water quality impacts related to stormwater runoff. The final choice of the available alternatives shall be made by DelDOT considering cost and feasibility.

DelDOT shall provide to DNREC an annual statement of the stormwater quality credits and debits broken down by watershed.

### **3.5 Accounting Procedures**

DelDOT shall keep an accounting by watershed of the actual acreage of land in each watershed afforded stormwater quality control as a "credit" and balance this against the actual acreage of land developed but left untreated as a "debit". The credits and debits shall be accredited as they are made and kept in such format as will be most accessible to both parties (e.g. computer database with network connection).

Credits and debits shall be accumulated and withdrawn in acres or fractions thereof. Both credits and debits will be accredited according to watershed as defined herein. Projects can only deposit or withdraw acreage within their respective watershed or another watershed determined by DNREC to be in greater need of water quality control.

Debits may be taken from one or more watersheds in advance of implementing a stormwater management facility up to a statewide limit of 5 acres, measured by taking the cumulative sum of all outstanding debits in all watersheds.

DelDOT will be required to construct a stormwater management facility upon exceeding the 5 acre statewide limit, or when a debit balance of less than five (5) acres has been carried in any watershed for a period exceeding three (3) years.

DelDOT agrees to initiate a project for stormwater management and secure a funding source within three (3) years of the first debit accredited to any watershed.

### **3.6 Maintenance**

Nothing in this agreement shall be construed to alter or eliminate DelDOT's ongoing responsibility under the DSSR to inspect annually and maintain all stormwater management facilities owned by DelDOT.

### **3.7 Modifications**

The terms of this MOA may be modified upon written agreement of both parties.

### **3.8 Termination**

This MOA shall be terminated upon written notification by either party at which time any remaining credits accrued within a watershed shall be void and any outstanding debits shall be mitigated by

immediate initiation of a project to provide stormwater quality management in conformance with this agreement or the DSSR.

Approved:

This agreement shall become effective upon the last date signed.

Feb, 8, 1996  
(Date)

3.11.96  
(Date)

Amiel Coney  
Secretary, Delaware Department of Transportation

Christopher A. Cullen  
Secretary, Department of Natural Resources &  
Environmental Control

## STORMWATER MANAGEMENT AGREEMENT

THIS STORMWATER MANAGEMENT AGREEMENT ("Agreement") is entered into this 3<sup>rd</sup> day of May, 2012, by and between Odessa National Golf Course, LLC, 1131 Fieldsboro Road, Townsend, DE 19734, party of the first part, (hereinafter referred to as "Odessa National"), its successors, heirs or assigns, and the State of Delaware, Department of Transportation, P.O. Box 778, Dover, DE 19903, (hereinafter referred to as "DelDOT"), part of the second part.

### WITNESSETH:

WHEREAS, DelDOT is an agency of the State of Delaware charged with responsibility for creating and maintaining transportation infrastructure, including roads and their appurtenances; and

WHEREAS, a stormwater facility (the "SWM Facility") is located on the property owned by Odessa National which is abutting Fieldsboro Road ("Exhibit A"); and

WHEREAS, Odessa National, when designing and constructing improvement to Fieldsboro Road, required the SWM Facility for treatment of runoff from Fieldsboro Road and from the Odessa National Club House parcel to be constructed on that certain lot, piece, or parcel of land that is described and identified by the New Castle County taxing authorities as Tax Parcel No. 14-013.00-001 (the "Property"); and

WHEREAS, DelDOT required Odessa National to construct the improvements to Fieldsboro Road as part of the roadway improvements for the development of Odessa National, constructed in and around 2004; and

WHEREAS, the SWM Facility was required as part of the improvements to Fieldsboro Road for water quality management; and

WHEREAS, the documentation for the calculations for the SWM Facility are included in the Stormwater Management Report for the Fieldsboro Road improvements, dated March 9, 2001; and

WHEREAS, DelDOT and Odessa National have reached an agreement as to the form of a Stormwater Management Shared Use and Easement Agreement pursuant to which DelDOT will secure rights in the Shared Facility in perpetuity; and

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and for other good and valuable consideration, both parties agree to the following maintenance responsibilities:

1. DelDOT shall be responsible for:

- (a) Inspections of SWM Facility, biennially and after major storm events.
  - (b) Periodic removal of sediment near the inflow areas and outlet structures, cleaning of outlet pipes, and adding or replacing riprap in the SWM Facility.
  - (c) Repair and/or replacement of outlet structures.
- 2. Odessa National shall be responsible for:
  - (a) Mowing, trash removal, landscaping and maintenance of vegetation within and around the SWM Facility.
- 3. Future changes to the respective lands of either party to this Agreement that may require a reconfiguration or retrofit of the said SWM Facility shall be subject to the written approval of the appropriate stormwater regulatory authority and notification to the other party. Written notification to DelDOT shall be sent to the DelDOT Stormwater Engineer.
- 4. Any cost associated with a future changes to the SWM Facility shall be paid for by the party making said changes.
- 5. Odessa National and DelDOT agree to abide by all applicable laws, rules and regulations pertaining to the use and operation of the SWM Facility

**[Signature Page Follows.]**



IN WITNESS WHEREOF, the said parties have executed this agreement the day and year aforesaid.

**The State of Delaware, Department of Transportation**

Approved by:

Natalie Barnhart 5/4/12  
Natalie Barnhart, P.E. Date  
Chief Engineer

Joseph Wright 5/3/12  
Joseph Wright, P.E. Date  
Director, Maintenance and Operations

Approved as to form:

Frederick H. Schranck 4/27/12  
Frederick H. Schranck Date  
Deputy Attorney General

Recommended by:

Vincent W. Davis, P.E. 27 APR 2012  
Vincent Davis, P.E. Date  
DelDOT Stormwater Engineer

Kevin T. Canning 4/30/12  
Kevin T. Canning, P.E.  
Public Works Engineer, Canal District

**Odessa National Golf Course, LLC**

Approved by:

Joseph M. Canning  
Print name of Approving Authority

Joseph M. Canning 5/1/12  
Signature of Approving Authority Date

Attest:

[Signature]  
Notary Public



6/22/14  
Date Commission expires:

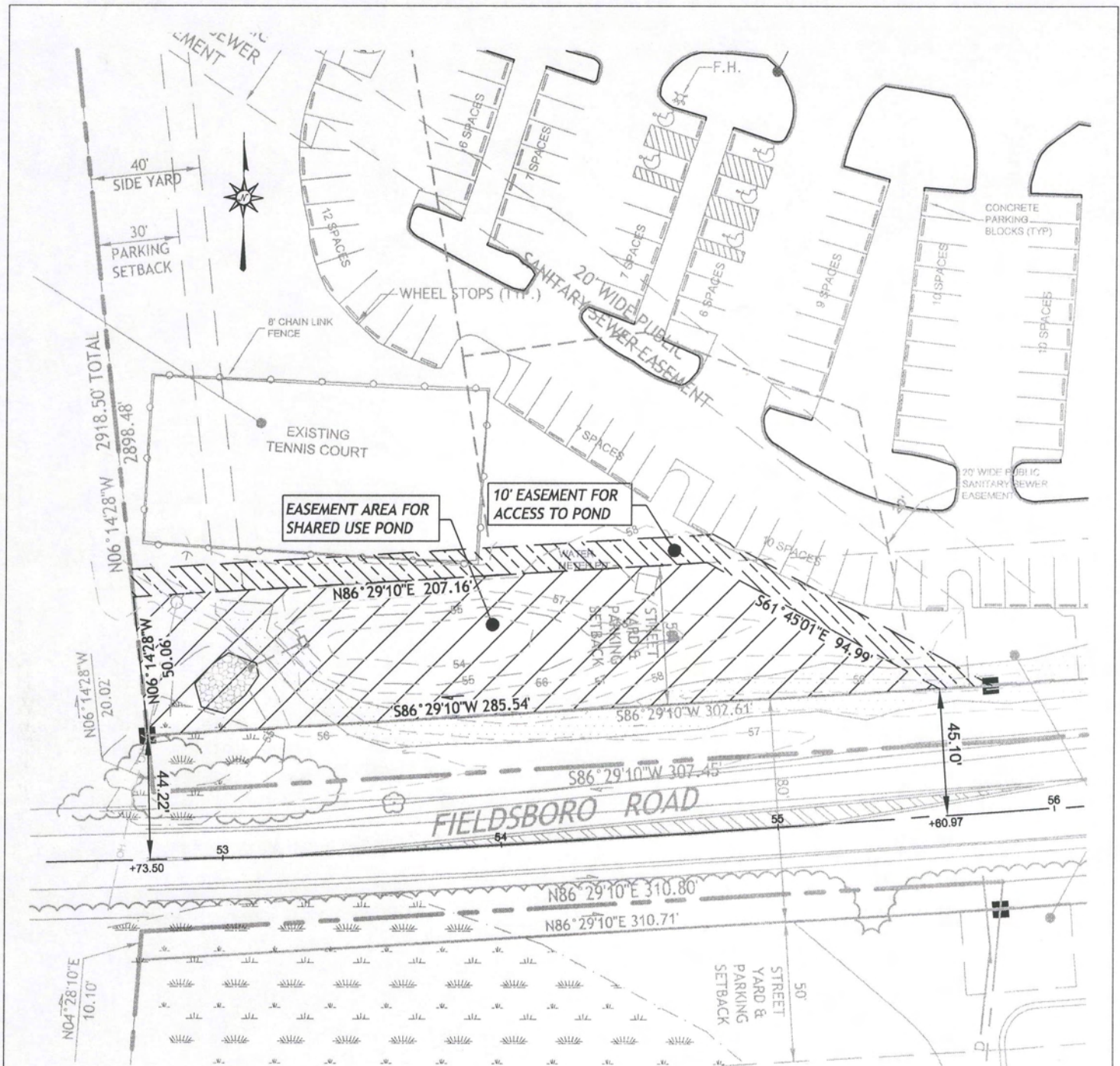



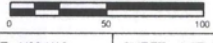
Exhibit "A"

# SHARED USE POND EASEMENT PLAN

FOR

## ODESSA NATIONAL

SITUATE IN: APPOQUINIMINK HUNDRED, NEW CASTLE COUNTY, DELAWARE

DATE	CHECKED	DRAWN	DESIGNED	OWNER	 <b>Karins and Associates</b> ENGINEERS • PLANNERS • SURVEYORS NEWARK, DE www.karinsengineering.com
17 POLLY DRUMMOND CENTER • SUITE 201 NEWARK, DELAWARE 19711 PHONE: (302) 369-2900 FAX: (302) 369-2975	ODESSA NATIONAL DEVELOPMENT CO LLC 105 FOULK ROAD WILMINGTON, DELAWARE 19803		SCALE: 1" = 50' 		
SURVEY BY: KARINS	DATE: 4/03/12		SHEET 1 OF 1		
DESIGNED BY: K.A.	DRAWN BY: C.A.B. \B.F.K.		DRAWING NO. 16801ClubhouseX01		
CHECKED BY: J.M.G.					



Delaware  
Sediment and Stormwater Program  
Technical Document

Article 2.  
Policies and Procedures

## 2.01

### Delegated Agencies

#### **Background**

The Delaware Sediment and Stormwater Law and *Delaware Sediment and Stormwater Regulations* (“*Regulations*”) apply throughout the state regardless of county or municipal jurisdiction. The Sediment and Stormwater Program is implemented statewide by the Department’s Division of Watershed Stewardship. However, in order to more fully integrate with local requirements and procedures, implementation of the Sediment and Stormwater Program may be delegated to a local agency.

Once a local agency has been granted implementation authority, it is known as a Delegated Agency. The Delegated Agency receives delegation for a three-year period, after which time the agency’s efforts are evaluated to determine whether the agency should continue as a Delegated Agency for an additional three-year period.

Based on their long history of working with landowners on soil and water conservation efforts, Conservation Districts are given first consideration in delegation of program implementation. However, any state agency, county or municipal government may request delegation to implement the Sediment and Stormwater Program locally. Jurisdictions having an MS4 permit are uniquely suited to implement the Sediment and Stormwater Program locally. A list of current Delegated Agencies can be found on the DNREC Division of Watershed Stewardship Sediment and Stormwater Program website.

#### **Requests for Delegation**

Requests for delegation are submitted to the Department Cabinet Secretary by January 1<sup>st</sup> of the year preceding the State fiscal year for which delegation is being sought. Based on information submitted with the request for delegation, the Department evaluates the agency’s ability to provide implementation of the Sediment and Stormwater Program and the request for delegation is either granted or denied by the Department Secretary no later than April 1<sup>st</sup> of the same year. If the agency requesting delegation is currently a Delegated Agency, and the Department does not respond to the request by the April 1<sup>st</sup> deadline, the agency may continue to operate as a Delegated Agency of the Sediment and Stormwater Program.

Agencies requesting delegation must demonstrate their ability to provide effective implementation of the Sediment and Stormwater Program in accordance with the *Delaware Sediment and Stormwater Regulations*. The agency must show that they have the staffing resources to implement the program. Program personnel must have

the necessary education and training to perform their duties. The agency must have documented procedures, checklists, forms, and fee schedules as necessary to accomplish plan review and approval, construction review, and maintenance reviews in accordance with the *Delaware Sediment and Stormwater Regulations*. A Delegated Agency may submit procedures to the Department for determination that the Delegated Agency's documented procedures are functionally equivalent to the procedures set forth in the *Delaware Sediment and Stormwater Regulations*. The Department maintains a list of items that must be submitted by the agency when requesting delegation.

Prior to re-delegation to current Delegated Agencies, the Department conducts a delegation review and provides documentation of the review with recommendations for program improvement as necessary. When an agency is granted delegation the delegation authority becomes effective July 1<sup>st</sup> of the State fiscal year for which delegation has been requested. Delegation is granted for a period not to exceed three years. If the Department believes that the Delegated Agency needs to be re-evaluated sooner than three years, the Department establishes a probationary delegation period of less than three years. The Department will provide the Delegated Agency with specific improvement items that must be addressed during the probationary delegation period. The Department will meet with the Delegated Agency as necessary during the probationary period to ensure that the improvement items are addressed.

### **Responsibilities**

A Delegated Agency assumes all responsibilities for implementation of the Sediment and Stormwater Program for all private residential, commercial, industrial, and institutional, as well as county and municipal land development and construction within their specified county or municipal boundaries. A Delegated Agency reviews and approves Sediment and Stormwater Management Plans prior to the start of construction, provides oversight of plan implementation during construction, and performs regular maintenance reviews of the permanent stormwater management facilities once construction is complete.

The Delegated Agency follows all Department guidance and directives as it relates to the implementation of 7 Del. C. Ch. 40, and the *Delaware Sediment and Stormwater Regulations*, and as contained in this manual. Delegated agencies' personnel are required to maintain certification in Department-sponsored training courses to include Contractor Certification and Certified Construction Reviewer.

In addition to implementation of 7 Del. C. Ch. 40, the Delegated Agency is responsible for checking for compliance of construction sites with the requirements of the *Regulations Governing the Control of Water Pollution*, Section 9.1.02, known as Special

Conditions for Stormwater Discharges Associated with Construction Activities.

Checking for compliance includes the following tasks:

- Prior to the Delegated Agency approving a Sediment and Stormwater Management Plan, the Delegated Agency reviewer will verify that a Notice of Intent (NOI) to discharge stormwater from the construction activity has been submitted to the Department and is being tracked in the NOI database.
- During the pre-construction meeting the Delegated Agency construction reviewer will notify or remind the owner's representative of the responsibility to maintain a copy of the approved plan and completed NOI on site.
- During the pre-construction meeting the Delegated Agency construction reviewer will notify or remind the owner's representative of the responsibility to provide maintenance inspections of erosion and sediment controls and constructed stormwater management measures. These inspections must be completed by the owner weekly and the next business day following a rainfall event that results in runoff. These inspections may be kept as a log in the construction trailer.
- During the course of regular construction reviews, the Delegated Agency construction reviewer will verify that the NOI and approved plan are on site and that the owner's weekly self-inspections are being completed and records are being kept on site.
- Verifying that construction site stormwater discharge turbidity monitoring logs are being maintained on site for projects that require discharge monitoring.
- When the Delegated Agency becomes aware that ownership of the project has changed, the Delegated Agency will notify or remind the owner(s) of their responsibility to submit Transfer of Authorization and/or Co-Permittee applications to the Department.
- At the completion of the project, the Delegated Agency will verify that conditions have been met prior to the owner submitting the Notice of Termination (NOT) for the project.

Education and training in the requirements of *Regulations* is the responsibility of the Department, however the Delegated Agencies may participate in the development and delivery of Department-sponsored education and training materials, courses and workshops. In addition, Delegated Agencies may perform their own outreach efforts.

Enforcement of violations of the *Regulations* is the responsibility of the Department and is not the responsibility of the Delegated Agency. However, if the Delegated Agency has adopted the *Regulations* into their municipal or county code, the Delegated Agency may choose to pursue enforcement actions under that code. Some Delegated Agencies, including Conservation Districts, do not have the ability to enforce the *Regulations* directly through fines or stop work orders, but the Delegated Agency may

coordinate with the county or municipality for this result. When a violation has been referred to the Department for enforcement, the Delegated Agency coordinates with the Department on the enforcement action. This coordination is covered in Article 4.02 Enforcement and Penalties.

### **Delegated Agency Program Changes**

Delegated Agencies may impose fees to support their program implementation. Development of any proposed fee schedule, including changes to a fee schedule, must include the input of the regulated community through an advisory committee established by the Delegated Agency with concurrence of the Department. An opportunity for public review and comment must be provided for any proposed fee schedule prior to adoption.

A Delegated Agency may adopt alternative requirements that are compatible with or more restrictive than the Regulations or the requirements of this document. Alternative requirements established by the Delegated Agency are not effective until they have been approved by the Department following a public review and comment period.

A Delegated Agency may sub-delegate elements of their delegated authority to another responsible entity. Sub-delegation shall not be effective until it has been approved by the Department following a public review and comment period.

When applicable, Delegated Agencies may follow local public notice procedures for adopting new codes and ordinances to fulfill the public review and comment period requirement for program changes as listed above. However, in the absence of local procedures the following procedure shall be utilized:

1. The agency shall advertise the proposed program change in a newspaper of general circulation in the county in which the change is proposed and in a daily newspaper of general circulation throughout the State. The advertisement shall include (1) a description of the agency as a Delegated Agency of the Department's Sediment and Stormwater Program, (2) the nature of the proposed program change (i.e. fee schedule change), (3) a brief description of the proposed program change, and (4) the place at which a copy of the proposed program changes may be reviewed.
2. If a meritorious request is made to the Department or Delegated Agency within 15 days or a reasonable time specified in the advertisement, a public hearing shall be held on the proposed change. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the proposed program change and a reasoned statement of the proposed program change's probable impact.
3. All public hearings shall be conducted in accordance with 7 Del. C. Ch. 60 §6006.

4. The Delegated Agency shall be responsible for the cost of the advertisement and of any public hearings.

#### **Failure to Implement Program**

At any time during the delegation period, if the Department determines that the Delegated Agency is not performing its duties of implementing the Sediment and Stormwater Program, delegation may be suspended or revoked, following the prescribed procedure:

1. The Department provides a written notice of violation to the Delegated Agency containing requirements for correcting the infraction.
2. Within 60 days the Delegated Agency will provide a written response to the Department explaining how the Delegated Agency has corrected the infraction in accordance with Department requirements.
3. After 120 days from the original notice of violation, if the Delegated Agency has not made satisfactory improvements, as viewed by the Department, to meet the requirements of the original notice of violation, the Department will provide a written notice of suspension or revocation of delegation.
4. At any time, if suspension or revocation of delegation is being considered, the Delegated Agency will be provided an opportunity for a hearing before the Secretary or Secretary's designee prior to suspension or revocation.

During a period of suspension or revocation the authority for implementation of the Sediment and Stormwater Program for that agency's area reverts to the Department.

## 2.02

### Plan Policies and Procedures

#### **Background**

Unless an activity is exempt based upon Section 1.4 of the *Delaware Sediment and Stormwater Regulations*, a Sediment and Stormwater Management Plan (Plan) must be approved prior to any land disturbance taking place on the project. When a building or grading permit is required for the project, the Plan approval should precede issuance of the building or grading permit. This process must be agreed upon by the Department or Delegated Agency and the agency responsible for issuing building or grading permits.

The Plan provides details for construction site stormwater best management practices (BMPs) to be implemented during construction as well as permanent stormwater management systems. The Plan also includes all computations to support the design of the construction site stormwater BMPs and permanent stormwater management systems.

The Plan is developed by a licensed professional in the State of Delaware and addresses all applicable elements of the *Regulations*. The Plan includes the seal of the licensed professional in accordance with the requirements of the licensing board.

A signed owner's certification statement is included on the plan. By signing the statement, the owner certifies that (1) all land clearing, grading, construction and development shall be done pursuant to the approved Plan, (2) responsible personnel certified by the Department will be in charge of all land clearing, grading, construction, or development, and (3) Department or Delegated Agency personnel shall have access to the site at reasonable times for the purposes of review and enforcement. The owner's certification must contain the original signature of the owner on the approved Plan.

The Department or the Delegated Agency reviews the Plan for compliance with the *Regulations* and once it is found acceptable, the Plan is approved. The approval date and expiration dates are stamped onto the Plan and an approval letter is issued.

#### **Plan Life**

Regardless of the level of activity on the project site, the approved Plan remains valid for three years following the date of approval of the Plan. The three year limit for a Plan approval allows for the incorporation of improved sediment and stormwater management technology to be into approved Plans. All approved Plans, including those for which construction has commenced and/or is ongoing, are subject to re-

evaluation after three years. If construction on the project site has not been completed and the project closed out within three years of the approval date, the approval must be extended, or a revised Plan must be re-approved by the approval agency, either the Department or the Delegated Agency. The approval agency sets the criteria, including fees, for extension or re-approval of a Plan.

It is the responsibility of the project owner to contact the Department or the Delegated Agency prior to Plan expiration to discuss necessary measures to extend or re-approve the Plan. When the Plan expires, it is no longer valid. In the absence of a valid Plan, the NPDES general permit requirements to discharge stormwater from a construction activity are not met and the project may be subject to enforcement.

If, at the three-year Plan expiration date, the Department or the Delegated Agency determines that the design criteria are unchanged and no Plan revisions are necessary from the original approval, Plan approval may be extended for a time frame not to exceed an additional three years. The cases when a Plan approval may be extended include large projects for which the construction period is expected to be longer than three years, and projects which have been delayed in the start of construction due to funding or other permitting requirements.

Plans approved for sites where construction has not commenced will be granted one three-year extension of the plan approval. As long as construction is ongoing on a project, the plan approval may continue to be extended at three-year intervals following a review by the Department or Delegated Agency. However, if construction ceases for an entire three-year approval period, that project's plan approval may no longer be extended. A new plan must be developed to continue construction.

Sediment and Stormwater Management Plans for phased projects may be extended for the entire project area that has been previously approved as long as construction has commenced on any part of that plan. Project phases that have not commenced construction may be extended when the Sediment and Stormwater Management Plan for that phase has been approved with the overall plan.

Phases shown on a conceptual plan that have not been reviewed for compliance with the Sediment and Stormwater Management Plan requirements will not be eligible for extension. A Sediment and Stormwater Management Plan must be developed for those phases separately.



### **Plan Revisions**

At any time, if the approved Plan needs to be modified, additional sediment and stormwater control measures may be required as deemed necessary by the Department or the Delegated Agency. If such modifications are not approved within the time period specified by the Department or Delegated Agency, the original approval will be rescinded and the Plan will be considered invalid. Any proposed changes to the approved Plan, including those initiated by the owner, prior to the three-year expiration date shall be reviewed by the Department or the Delegated Agency to determine whether a formal Plan revision is needed or whether a field change will suffice.

When a revision of a portion of the Plan is approved by the Department or Delegated Agency, the original approval and expiration dates for the project stand. A new approval date is issued only when the entire Plan is reviewed for compliance.

### **Grandfathering**

Plans in the review process prior to the effective date of the regulations where Plan approval is granted within one year of the effective date of the regulations shall not be subject to the requirements of the regulations. These Plans are subject to the previous regulations unless the owner chooses to comply with the current regulations. Once approved, the approved Plan remains valid for three years.

Plans in the review process prior to the effective date of the regulations where the approval is not granted within one year of the effective date of the regulations shall be considered invalid. The project must be resubmitted to the Department or the Delegated Agency and will be subject to the full requirements of the regulations.

Plans are considered to be “in the review process” when they have documented completion the first plan review step, such as a project application meeting or the first formal submittal step if a project application meeting is not required. Determination of what qualifies as the first plan review step is described by each Delegated Agency’s plan review policies and procedures. A compilation of all Delegated Agency policies has been provided in the December 2011 DNREC policy: “Review, Approval, and Extension of Projects Submitted Prior to the Effective Date of Revised *Delaware Sediment and Stormwater Regulations*”.

To provide an example of the grandfathering provision, if the effective date of the revised regulations is August 11, 2012, a project in review prior to the effective date is subject to the previous regulations if it is approved before August 11, 2013. Every project approved on or after August 11, 2013 must comply with the requirements of the revised regulations, regardless of when it entered the review process.

When a Plan revision is necessary for a Plan that has been approved prior to the effective date of the regulations, those revisions shall be subject to the requirements of the previous regulations. When a revision of a portion of the Plan is approved by the Department or Delegated Agency, the original approval and expiration dates for the project stand. A new approval date is issued only when the entire Plan is reviewed for compliance.

### **Sunseting**

Plans that have been approved prior to the effective date of the regulations remain valid for three years from the Plan approval date. After three years, the Plan expires. Projects which have commenced construction prior to the time of Plan expiration may have their Plan approvals extended in accordance with Plan extension procedures developed by the Department or Delegated Agency. The Plan extension will not require revisions to bring the Plan into full compliance with revised regulations.

Commencement of construction means the construction of the approved Plan is visible with the construction of a structure or infrastructure, roads, water and sewer lines, stormwater management systems, etc. General earth moving is not considered commencement of construction.

Plans that have been approved prior to the effective date of the regulations where construction has not commenced prior to Plan expiration may have the plan approval extended under the requirements of the previous regulations for a maximum of one additional three year time period. If construction has not commenced following the second three-year approval period, the approved plan will expire and a new plan compliant with the current version of the *Delaware Sediment and Stormwater Regulations* will be required to be approved by the Department or Delegated Agency prior to construction beginning on the project.

### **Pre-development Condition**

When considering the pre-development condition of a project site for the purposes of compliance with RPs and/or redevelopment criteria, the pre-development condition of the site shall be based upon the most current aerial photography available for the project site location.

Section 1.4.2 of the *Delaware Sediment and Stormwater Regulations* exempts disturbances of less than 5,000 square feet, except in cases where cumulative disturbances exceed a total of 5,000 square feet. The Department or Delegated Agency will use best available aerial imagery and/or field measurements to determine

the cumulative disturbances that would not be exempt. In no case will the review of cumulative disturbances extend back in time prior to the effective date of the current *Delaware Sediment and Stormwater Regulations*.

### **Technical Document**

All activities subject to the *Delaware Sediment and Stormwater Regulations* shall follow the *Regulations* as well as Department policy, procedures and guidelines established in this Technical Document. Any additions, corrections or revisions to this Technical Document require public notice prior to adoption of the change. The following procedure shall be utilized for public notice:

1. The Department shall advertise the proposed change in a newspaper of general circulation in the county in which the change is proposed, if applicable, and in a daily newspaper of general circulation throughout the State. The advertisement shall include (1) a brief description of the Department's Sediment and Stormwater Program, (2) the nature of the proposed change (i.e. Technical Document revision), (3) a brief description of the proposed change, and (4) the place at which a copy of the proposed changes may be reviewed.
2. If a meritorious request is made to the Department or Delegated Agency within 15 days or a reasonable time specified in the advertisement, a public hearing shall be held on the proposed change. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the proposed change and a reasoned statement of the proposed program change's probable impact.
3. All public hearings shall be conducted in accordance with 7 Del. C. Ch. 60 §6006.
4. The Department shall be responsible for the cost of the advertisement and of any public hearings.

2.03

Fees and Financial Guarantees

**Fees to Support Program Implementation**

Agencies responsible for carrying out the Sediment and Stormwater Program may impose fees to support their program implementation, to include program management, plan review and approval, construction review, compliance assistance, maintenance reviews, and education and training. If the Delegated Agency has a source of funding that is provided through State General or local revenues, then the implementation of the Sediment and Stormwater Management Program will not necessitate the imposition of a fee to cover the cost of program implementation.

Delegated Agencies may develop their own fee schedules to provide for administration and management of the Delegated Agency, and the unfunded costs of plan review, construction review, compliance assistance, maintenance review, and education and training. The number of needed personnel and the direct and indirect expenses associated with those personnel shall be developed by Delegated Agencies with the concurrence of the Department. Those expenses will then form the basis for determining unit plan review, construction review and maintenance review costs which will be utilized in development of a fee schedule.

The fee schedule may include phased payment of fees. The owner must pay the fee as prescribed by the Department or Delegated Agency. The Department or Delegated Agency shall be responsible for the collection of fees at appropriate times. When the Department is the approval agency, the fee is \$80 per disturbed acre to the nearest 0.1 acre, to be paid in full prior to plan approval.

**Financial Guarantees**

The Department or Delegated Agency may develop procedures to require a financial guarantee for construction of the elements of the approved Sediment and Stormwater Management Plan. The financial guarantee will ensure that action can be taken by the Department or Delegated Agency to make corrections, at the owner's expense, should the owner fail to initiate or maintain those measures identified in the approved Sediment and Stormwater Management Plan after being given proper notice and within the time specified by the Department or Delegated Agency.

When required, the owner shall submit to the Department or Delegated Agency a financial guarantee in accordance with accepted Department or Delegated Agency procedures prior to the onset of construction activities. The financial guarantee, or the

unexpended or unobligated portion thereof, shall be returned to the owner following issuance by the Department or Delegated Agency of a Notice of Completion.

At the discretion of the Department or Delegated Agency, and as specified in accepted procedures, the financial guarantee may be extended beyond the time period specified above to cover a reasonable period of time, not to exceed one year, for testing the practices during storm events and for initial maintenance activities. The Department or Delegated Agency shall have the discretion to adopt provisions for a partial release of the financial guarantee upon the completion of specified stages or phases of development as outlined in accepted procedures.

### **Public Review and Comment Period Requirements**

An opportunity for public review and comment must be provided for any proposed fee schedule or financial guarantee procedure prior to adoption. When applicable, Delegated Agencies may follow local public notice procedures for adopting new codes and ordinances to fulfill the public review and comment period requirement for fee schedule development or changes or financial guarantee procedure.

Development of any proposed fee schedule, including changes to a fee schedule, or financial guarantee procedures must include the input of the regulated community through an advisory committee established by the Delegated Agency with concurrence of the Department. In the absence of local public notice procedures the following steps shall be utilized:

1. The agency shall advertise the proposed fee schedule, fee schedule change, or financial guarantee procedure in a newspaper of general circulation in the county in which the change is proposed and in a daily newspaper of general circulation throughout the State. The advertisement shall include (1) a description of the agency as a Delegated Agency of the Department's Sediment and Stormwater Program, (2) the nature of the proposal (i.e. fee schedule change), (3) a brief description of the proposal, and (4) the place at which a copy of the proposal may be reviewed.
2. If a meritorious request is made to the Department or Delegated Agency within 15 days or a reasonable time specified in the advertisement, a public hearing shall be held on the proposal. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the proposal and a reasoned statement of the proposal's probable impact.
3. All public hearings shall be conducted in accordance with 7 Del. C. Ch. 60 §6006.
4. The Delegated Agency shall be responsible for the cost of the advertisement and of any public hearings.

## 2.04 Offset Provisions

### **Background**

With any regulatory program, it is inevitable that situations will arise in which a project will not be able to achieve full compliance with the requirements. The variance process has been established for those cases in which a hardship condition exists. However, in other cases failure to achieve full compliance may be due to site conditions or other limiting factors. The Department recognizes a fair and equitable process must be in place to address these situations. The Offset Provisions of the Delaware Sediment & Stormwater Regulations (DSSR) allows the Department to develop such a program. A local jurisdiction or Delegated Agency may also develop such a process with Departmental approval and/or oversight.

### **Types of Offsets**

Offsets for stormwater management purposes can include fees-in-lieu, trading, retrofitting legacy non-compliant sites, mitigation, construction of off-site management measures, banking and other similar techniques. All offset programs require elements to determine when an offset should be provided, the technical protocols to determine what the offset should be and a management framework to oversee the process. In order to ensure at least one offset option is available upon initial promulgation of the revised DSSR, the Department has developed a fee-in-lieu program for qualifying projects.

### **Fee-In-Lieu Program**

The fee-in-lieu program is based on the costs to construct an off-site practice to manage the equivalent stormwater runoff that cannot be managed on-site. Bioretention was chosen as the preferred stormwater management practice to use as the basis for the fee-in-lieu due to its wide applicability and proven effectiveness in meeting the goals of the DSSR. The Center for Watershed Protection (CWP) was contracted by the Department to perform the cost analysis. (See Appx. 2.04.1.)

The fee-in-lieu would be applied in cases where a project has a shortfall in meeting the runoff reduction requirements for the Resource Protection Event under the DSSR. If there is also a shortfall in meeting a Total Maximum Daily Load (TMDL), additional stormwater treatment BMPs may be installed on-site to partially reduce the amount of the runoff reduction fee-in-lieu. The adjustment to the fee-in-lieu shall be equivalent to the sum of the percentage of reduction in Total Nitrogen (TN) concentration attributed to the treatment practices. An example of how the fee-in-lieu process works is included as Appx. 2.04.2.

The fee-in-lieu shall be collected prior to Sediment and Stormwater Management Plan approval.

**Alternative Offset and Mitigation Programs**

The Department shall review alternative offset programs as the need arises. Final approval of alternative programs is dependent on the Department's findings as to whether the proposed program meets the goals of the DSSR and may be subject to public notice requirements.

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## Introduction

The Center for Watershed Protection (CWP) has been asked to evaluate available resources and propose a cost basis for an in-lieu fee structure to be implemented by Delaware Department of Natural Resources and Environmental Control (DNREC) for new and re-development projects that are unable to manage the entire stormwater volume associated with the Resource Protection Event (RPE) as may be required by regulation or permit on the development site. The ideal cost basis for an in-lieu fee program should reflect the typical costs of implementing the on-site accepted Best Management Practices (BMPs) on new and re-development projects, including such factors as:

- Capital cost of constructing the BMP;
- Opportunity cost of the land area encumbered by the BMP;
- Long-term operation and maintenance (O&M) of the BMP; and
- Design and engineering costs (in order to support DNREC's implementation of equivalent regional or off-site strategies with the collected fees).

In an effort to synthesize the variety of BMP types and cost data, and develop a simple metric for a fee structure, DNREC has elected, for the purposes of this in-lieu fee assessment, to reflect the typical capital and long term operation and maintenance costs of stormwater BMP implementation with a fee structure based on those of Bioretention Filters (Bioretention). The use of a single surrogate BMP for a cost basis helps to simplify the wide range in potential costs (and corresponding fees) that could be assessed on any given development site (as compared with a fee structure based on or influenced by site specific BMP selection).

DNREC has also elected to defer the application of a land value adjustment that would reflect the opportunity cost of the land otherwise encumbered by a stormwater BMP. Independent of the actual acreage of developable land impacted by the BMP, there is a direct relationship between the cost of the BMP and the foregone opportunity of using the land. The opportunity cost in commercial or urban areas may be the largest cost factor of a BMP (Wossink and Hunt, 2003). A fee adjustment based on a determination of land values may be addressed in the future.

The use of a single surrogate BMP for a cost basis is further refined by the use of the design treatment volume measured in cubic feet as the unit of measure: dollars per cubic feet (as opposed to impervious acres or other sizing parameter). The design RPE treatment volume will be defined by DNREC.

## In-Lieu Fee Recommendation

Based on the review of available literature (as noted in Table 3), we recommend that DNREC adopt an in-lieu fee of **\$23 per cubic foot of treatment volume that is not managed on-site**. This fee range represents a rounding of the most recent and seemingly reliable construction and maintenance cost estimates, and includes a present value for 20 years of Operation and maintenance costs (O&M). Table 1 provides a summary of some of the more useful resources, and Table 4 provides a more complete list of



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references with notes. Emphasis was placed on the data collected from Williamsburg Environmental Group (WEG, 2010) and Raleigh, NC (2010). This proposed in-lieu fee amount was also supported by the data provided for the DELDOT Middletown Yard Bioretention Cost Estimate (Trout 2010).

It is also recommended that DNREC establish an additional fee amount based on a per-project basis rather than a per-cubic foot basis. This recommendation results from the understanding that site assessment, engineering and design, and permit acquisition costs rarely correspond with project size or corresponding BMP size or treatment volume.

Finally, we recommend that DNREC establish criteria for when the in-lieu fee is allowed. This would include any requirements for a minimum on-site volume management or other requirements that must be met prior to allowing the in-lieu fee. (See In Lieu Fee Benefits section below for further discussion of this issue.)

Table 1. Bioretention Construction Costs			
Source	Construction Costs <sup>1</sup> (\$/ft <sup>3</sup> )	Basis for Costs	Notes
Weiss (2007)	18.39 <sup>2</sup>	Cost formula	Formula based on WQv; <b>Includes present costs of 20-year O&amp;M</b>
City of Raleigh, NC (2010)	15.15 <sup>3</sup>	Project costs	Cost/ft <sup>2</sup> converted w/ typical section; <b>No long term O&amp;M included</b>
WEG (2010)	14.65 <sup>3</sup>	Project costs	Cost/ft <sup>2</sup> converted w/ typical section; <b>No long term O&amp;M included</b>
Chavez (2007)	8.86	Project costs	Average costs of 4 urban (paved catchment) installations in OK; total costs, volume, drainage area and surface area provided; <b>No long term O&amp;M included</b>
CWP (2007)	8.35 <sup>4</sup>	Cost formula	updates Brown and Schueler (1997); <b>No long term O&amp;M included</b>
Brown & Schueler (1997)	7.45 <sup>4</sup>	Cost Formula	Base Construction costs, <b>No long term O&amp;M included</b>
Wossink & Hunt (2003)	5.45 <sup>2</sup>	Cost formula	Clay soils; <b>Includes present costs of 20-year O&amp;M</b>

<sup>1</sup> Costs are provided in units of 2010 dollars per cubic foot of treatment or water quality volume.

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<sup>2</sup> Construction Costs include present value of long term (20 year) operation and maintenance (O&M); Cost formula solved using WQv derived from Simple Method with 1 ac. drainage area; Rv =.95; 100% impervious, P=1"

<sup>3</sup> Construction costs in units of \$/ft<sup>2</sup> were applied to a typical cross section (Table 2) to determine the treatment volume capacity in ft<sup>3</sup>.

<sup>4</sup> Cost formula solved using WQv derived from Simple Method with 1 ac. drainage area; Rv =.95; 100% impervious, P=1"

#### Available BMP Construction Cost Data

The trail of relevant and available BMP cost data appears to start in 1997 with *The Economics of Stormwater BMPs in the Mid-Atlantic Region* (Brown & Schueler, 1997). This report is cited numerous times in subsequent cost studies, and provides cost formulas for bioretention base construction costs (defined as the sum of the excavation, control structure, and appurtenances costs) and total construction costs (includes the base construction cost plus design and engineering). These costs are reported in terms of the water quality volume (WQv) and are therefore directly related to the size of the contributing drainage area and overall footprint of the practice.

Several observations regarding the source studies should be considered when comparing the wide range of reported and predicted construction costs. Several of the cost studies reference the use of cost data based on a blend of engineer estimates, contractor bids, bond prices, and property owner interviews. Lump sum amounts that are typical of bond prices may be orders of magnitude different from engineer estimates or contractor bids due to line items for individual materials or labor costs often included in engineer estimates. In addition, contractor bids may reveal numerous design or project-specific options related to bioretention soil mix components and substitutions, or design enhancements to improve hydraulic performance (Chavez et al. 2007) that may significantly influence the cost.

In general, the variability observed in the cost data for all stormwater BMPs is most likely due to factors such as evolving regulations and water quality volume requirements, different BMP design and construction specifications in different jurisdictions, and variable site specific conditions such as location, soil conditions, topography, etc. Additional variability can be attributed to regional or situational contractor costs such as initial clearing, seasonal schedules, and peripheral costs such as mobilization and material availability (i.e.: bioretention soil media being blended on site or imported). As such, attempts to minimize the number of undocumented variables may be difficult if not impossible; however, referencing cost data based on the water quality or treatment volume rather than drainage area size has been observed in most cases to have less scatter (Weiss et al. 2007). While this does not eliminate the variability, it does help support the use of the design treatment volume as an appropriate basis for an in-lieu fee program.

In reviewing the available literature and resources, questions were raised regarding the consistency of terms such as contributing drainage area (impervious cover or total area?), capture volume of practice (total volume including porosity of soil media and stone or surface storage volume only?), etc. In some

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cases it appeared that the reference to these terms and design parameters was not consistent, even within the same report. This is important when attempting to normalize the data to a consistent unit value such as drainage area or treatment volume. For example, some studies refer to the water quality volume without defining how the volume may have been calculated. In order to maintain consistency, cost formulas that required a WQv or contributing drainage area were evaluated using the Simple Method to determine the water quality volume from a 1 acre drainage area, with an  $R_v = .95$  (100% impervious) and  $P = 1"$ . In some cases, the drainage area was incrementally increased to evaluate the equations sensitivity to increased drainage area.

Where cost data was provided in terms of surface area (cost per square foot), the unit cost was converted to a cost per cubic foot of treatment volume available using the typical sections described in **Table 2**.

<b>Table 2: Typical Bioretention Cross Section</b>			
<b>Layer</b>	<b>Depth (ft)</b>	<b>Porosity</b>	<b>Effective Storage Depth (ft)</b>
Surface Ponding	0.75	1.0	0.75
Bioretention Soil Media	2.0	.25	0.5
Gravel	1.0	0.4	0.4
<b>Total</b>	<b>3.75</b>		<b>1.65</b>

#### Operation and Maintenance

Long term O&M data is very limited outside the few source studies such as EPA (1999) and Wossink and Hunt (2003). While long term O&M can be a significant cost factor when selecting a BMP, there is very little data on actual costs. In most cases, available data consists of expected O&M costs of recently constructed BMPs based on general guidelines presented as a percentage of the total construction costs (Weiss et al. 2007). However there appears to be no statistically relevant data to support the majority of these claims, and the regression-based equations for calculating the anticipated annual maintenance costs associated with various BMPs found in state manuals and EPA fact sheets are almost always derived from the same handful of studies performed in the early to mid 1990s (Young, 2006).

Numerous studies reference the annual cost of maintenance for bioretention systems as 5% to 7% of construction costs from EPA (1999). Using the low end of this annual cost range (5%), and evaluating a 20-year maintenance period (while ignoring interest rates, inflation, and other factors related to present value) one would expect the present value of the 20-year maintenance costs to approximate 100% of the construction costs (20 years x 5%/yr). Weiss et al. (2007) computed the present value of 20 years of O&M of 5% of the construction cost using a 20-year running average of municipal bond yield rates for interest rate values and historical consumer price index (CPI) based inflation rates, yielding a present value (in 2003 dollars) of approximately 93% of construction costs (or a total cost of approximately 1.93 times the construction costs).

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Using the construction costs as an indicator of O&M costs implies a relationship between construction costs and practice surface area. Interestingly, the O&M costs formula developed by Wossink and Hunt is directly correlated to practice size since it is based on the contributing drainage area; However, the computed 20-year present value ranges from approximately \$3,000 for a half acre impervious drainage area to \$3,800 for a 2 acre impervious drainage area (20-year present cost =  $3,437(DA)^{0.152}$ ) indicating a an insignificant increase in the annual cost as a function of practice size. This also suggests an extremely low annual cost for bioretention O&M, although possibly an accurate annual cost for residential raingardens.

**Note:** *The term raingarden has evolved to describe a lower cost and simpler practice, typically built on individual lots in relatively permeable soils (requiring no underdrain or other hydraulic structures) by volunteers or individual homeowners (CWP, 2007). Alternatively, bioretention requires an engineered design, materials specifications, and construction inspections. This distinction may have evolved naturally as stormwater programs and design specifications have become more sophisticated. This may also explain the significant hierarchy in the reported unit costs in Table 1: \$5 to \$10 per cubic foot of treatment volume in earlier cost studies, and \$15 to \$20 per cubic foot in later studies.*

An alternative to predictive cost formulas for commercial development and redevelopment is to consider maintenance service provider estimates: maintenance service providers rarely have construction costs on which to base an estimate, and indicate that surface area of the practice is the primary driver of annual maintenance costs, currently assessed at approximately \$0.50 to \$0.75 per square foot of surface area per year (assuming no extraneous factors such as extreme disrepair due to lack of previous maintenance, plant mortality, etc.)(personal communication with Stormwater Maintenance LLC). Assuming an average of \$0.63/ft<sup>2</sup>/yr and a 1 acre impervious drainage area, this translates to a 20-year present value of \$7.60/ft<sup>3</sup> for O&M costs. By comparison, the present value of 20 years of annual O&M costs equivalent to of 5% of construction costs per year is approximated by Weiss as \$8.87/ft<sup>3</sup>. While this is in the same general range as the contractor defined unit present value, it is based on a percentage of a predicted construction cost of approximately \$9.52/ft<sup>3</sup>, which may be considered low when compared to more recent cost estimates (WEG, Raleigh, 2010).

#### Design and Engineering Costs

Design and Engineering costs are itemized in Brown and Schueler, 1997. These costs can be highly variable and in many cases actual project specific costs can be significantly different (both higher and lower) than those noted. It should be noted that the design costs for bioretention tend to be more consistent on a per practice basis (rather than based on practice size), meaning the size of the practice will not significantly influence the base design and engineering costs. Likewise, costs related to permitting and obtaining approvals is very site specific and difficult to quantify on a unit cost basis. While the costs noted by Brown and Schueler have not been disputed, we recommend that the design and engineering surcharge be studied further and a lump sum fee based on a per-project basis be established.

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In Lieu Fee Benefits

The main purpose for implementing an in lieu fee program is to address the fact that implementation of stormwater management practices can be considerably more costly in dense, high-imperviousness developments, than in low density, low-imperviousness developments. Further, on these dense development sites, it may be cost effective to provide stormwater management practices for a portion of the required management volume, but achieving compliance for the entire volume could, in some cases, become disproportionately expensive. Allowing an in lieu payment for a portion of the required management volume and installing stormwater management practices in a more cost effective manner or location will therefore reduce the overall cost of compliance.

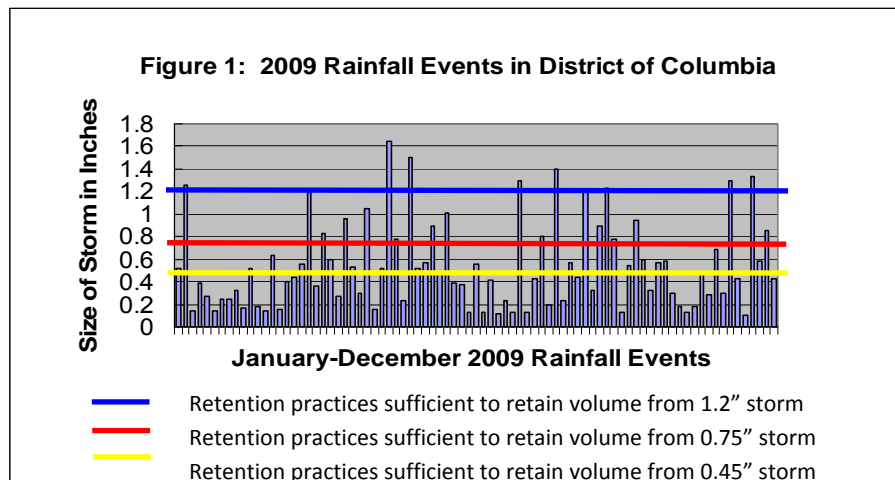
Improved cost effectiveness is not the only benefit possible from an in lieu fee program, however. If implemented properly, an in lieu fee program can also lead to an overall increase in the volume of stormwater management provided from a given development project. The District of Columbia has performed preliminary analysis of this phenomenon. Their analysis, based on the District's proposed 1.2" stormwater retention requirement, is shown in Table 3 and Figure 1 below.

<b>Table 3: Preliminary Comparison of Cost Savings and Retention</b>			
	<b><u>Scenario A</u></b> <b>(No Trading)</b>  <b>1.2" Retention on Site 1</b>	<b><u>Scenario B</u></b> <b>(Trading)</b>  <b>Site 1 - 0.75" Retention Site 2 - 0.45" Retention</b>	<b>% Change via Trading</b>
<b>1.2" Storm Volume Retained</b>	7,739 gal.	7,739 gal.	0
<b>Annual Volume Retained*</b>	280,280	428,675	53%

\*Annual volume retained, based on 2009 rainfall data. Both site 1 and site 2 are .25 acres and 100% impervious. (Excerpted from Van Wye, 2011)

When all of the required stormwater from the example site is retained on-site, it leads to an annual retention volume of 280,280 gallons. However, if a portion (0.45") of the required 1.2" is retained at an off site location, the annual retention volume will increase to 428,675 gallons – a 53% increase. This occurs because: 1. the total amount of impervious surface treated has doubled from 0.25 acres to 0.50 acres, and 2. Most rainfall events are less than 1.2", so the full capacity of the stormwater management practices in Scenario A are rarely utilized. When smaller stormwater management practices are spread between two sites, their capacity is utilized more frequently, leading to a greater annual retention volume. Figure 1, which is a graph of the rainfall events in the District in 2009 illustrates this concept more clearly. The blue line indicates the 1.2" management level. Most storm events do not reach this

level. The red and yellow lines, representing 0.75" and 0.45", respectively, are reached much more often. (Van Wye, 2011)



(Excerpted from Van Wye, 2011)

#### Conclusions and Recommendations: Bioretention Total Costs

The Construction Costs (\$/ft<sup>3</sup> of Treatment Volume) provided in table 1 represent the values derived from the references listed. The design treatment volume is taken as reported, calculated using the Simple Method and a 1 acre impervious drainage area, or calculated based on the treatment volume capacity of a typical bioretention cross section as represented in Table 2. The construction costs were then converted to 2010 dollars using the Engineering News-Record Construction Cost Index History (ENR).

The unit cost data provided by WEG and the City of Raleigh represent a reliable cost estimate of \$14.65 to \$15.15 per cubic foot of treatment volume based on the typical section provided (derived from the per square foot cost of bioretention surface area). These values can be further supported and refined with additional project bid estimates. In the meantime, we recommend that the base construction cost of \$15 per cubic foot of treatment volume be used as the base construction costs for an in-lieu fee.

The present cost of long term O&M should be assessed based on actual costs as provided by maintenance providers. Based on an initial (and unscientific) survey, we recommend that the in-lieu fee include the present value of a 20-year O&M program assessed as \$7.60/ft<sup>3</sup> of treatment volume.

The Design and Engineering costs are not adequately defined and should be considered further, to be applied on a per project basis.

It may also be helpful to review the following references for additional information on incorporating land opportunity costs into the fee if so desired:

- Sharma (2006)
- Sample (2003)

In-Lieu Fee Proposal for On-Site Stormwater Management  
Prepared for the  
Delaware Department of Natural Resources and Environmental Control  
Division of Soil and Water conservation  
DRAFT 2 7 2011

- EPA(1999)

**Based on the above discussion, we recommend a total in-lieu fee based on the referenced sources of \$23/ft<sup>3</sup> of treatment volume.** It is also recommended that the in-lieu fee be periodically adjusted to reflect inflation, changes in design standards, or other factors that influence construction or long term O&M costs.

DRAFT

# Proposed Revisions to Delaware Sediment & Stormwater Regulations

## Fee-In-Lieu Example



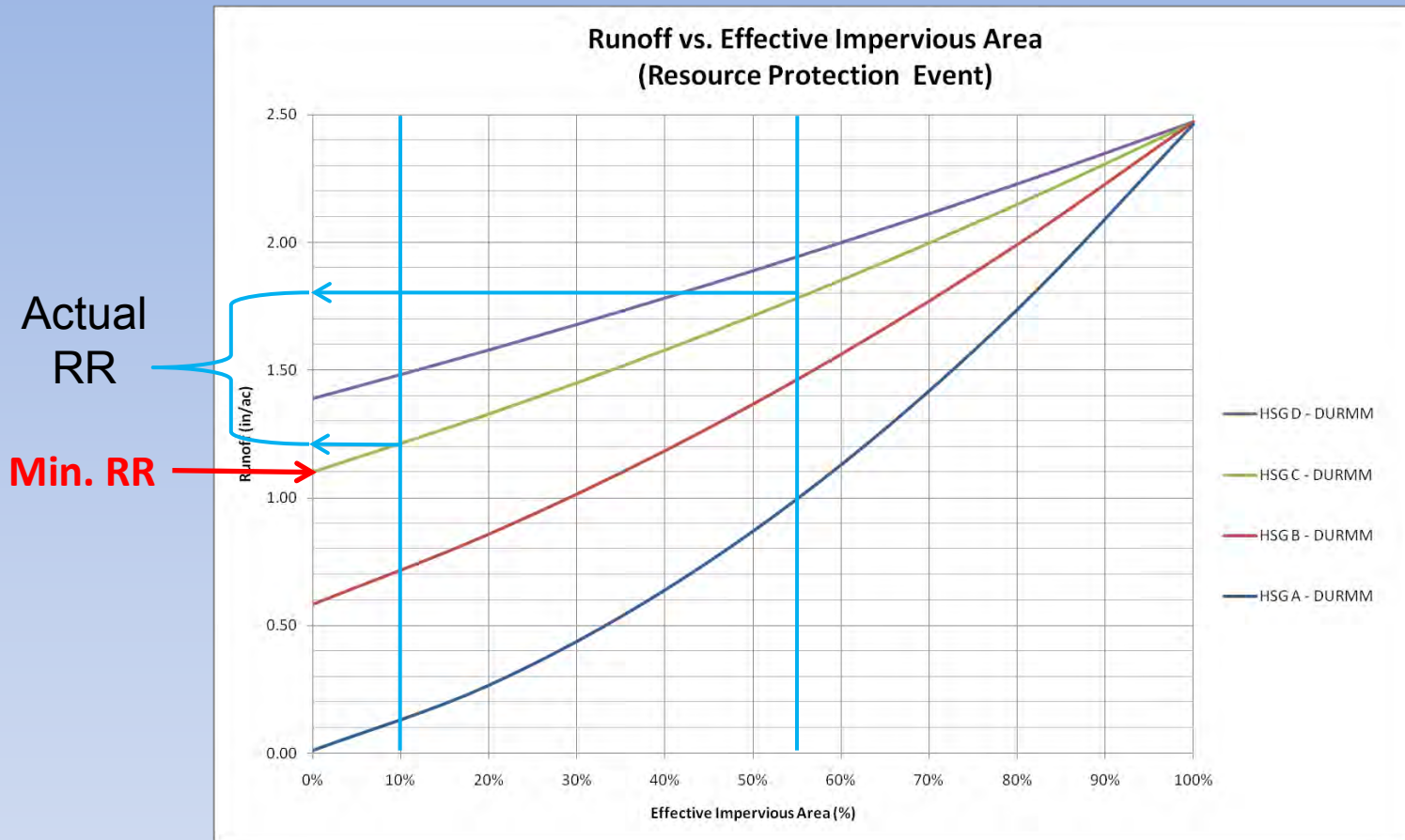
# Proposed Revisions to Delaware Sediment & Stormwater Regulations: Fee-In-Lieu

- Equivalent to cost to treat runoff volume not managed
- Based on land acquisition, construction, and maintenance costs for bioretention
- Analysis was performed by Center for Watershed Protection using regional data
- Fee = **\$23/cu.ft.** runoff volume not managed

# Example Site



- Site Data
  - 55% Imperviousness
  - HSG C Soils
- After Runoff Reduction
  - 10% Effective Imperviousness

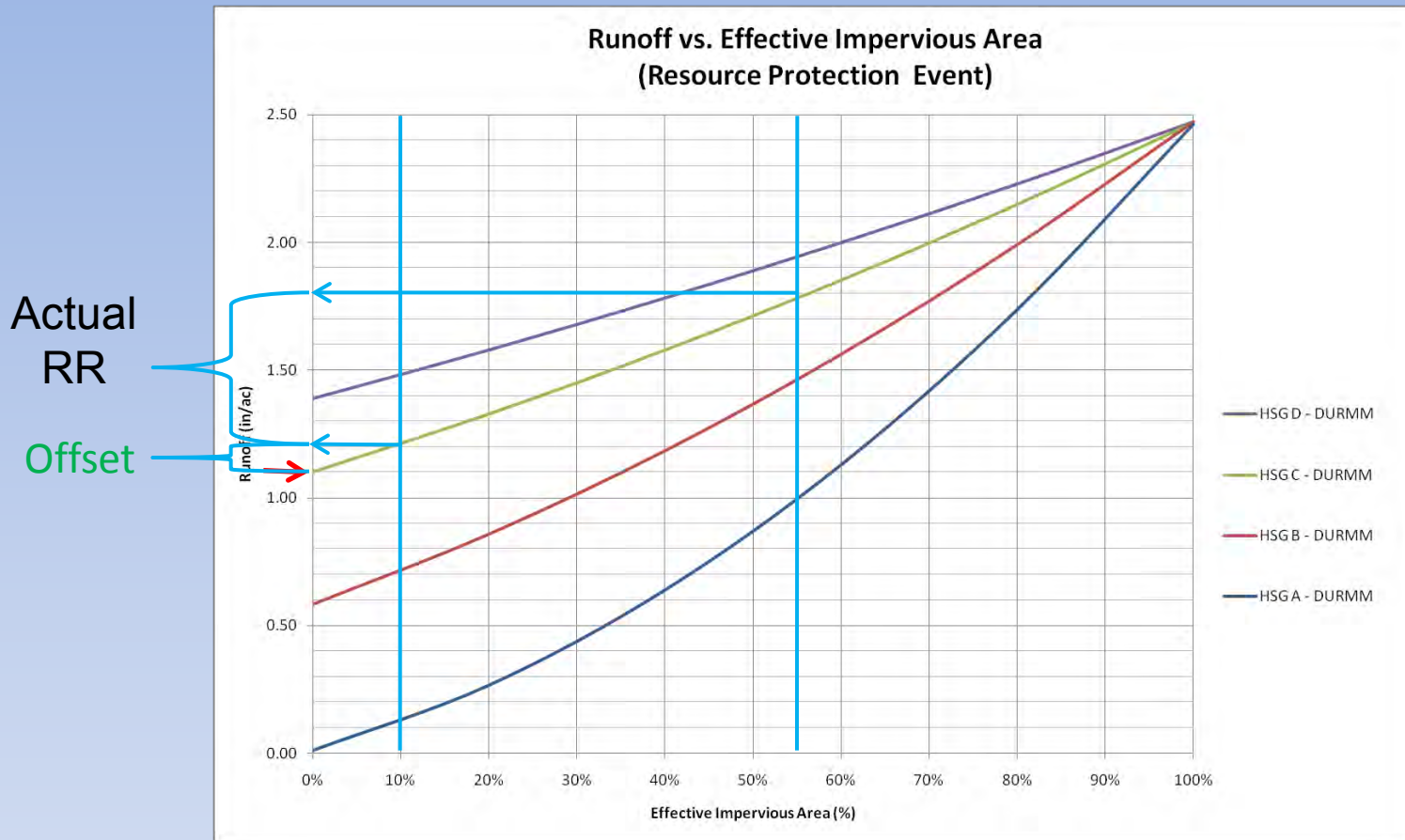


Site Data: 55% Impervious, HSG C Soil, 10% Effective Impervious after RR

Runoff = 1.8"

Minimum RR = 1.8" – 1.1" = 0.7" (38% Reduction)

Actual RR = 1.8" – 1.2" = 0.6" (33% Reduction)



Site Data: 55% Impervious, HSG C Soil, 10% Effective Impervious after RR

Runoff = 1.8"

Minimum RR = 1.8" – 1.1" = 0.7" (38% Reduction)

Actual RR = 1.8" – 1.2" = 0.6" (33% Reduction)

Offset Volume = 1.2" – 1.1" = 0.1" = 0.1 ac-in/ac = 363 cf/ac

Offset Fee = \$23/cf x 363 cf/ac = \$8,349/ac

# Proposed Revisions to Delaware Sediment & Stormwater Regulations: Fee-In-Lieu Option

- R Pv offset fee-in-lieu may be further reduced by implementing additional water quality treatment practices
- Offset fee-in-lieu reduction shall be equivalent to the combined **TN** removal for those practices

# Treatment BMP Removal Efficiencies\*

## BMP Standards and Specifications

## Detention Practices

### 10.0 Detention Practices

**Definition:** Detention Practices are storage practices that are explicitly designed to provide stormwater detention for the Conveyance Event, Cv (10-year) and Flooding Event, Fv (100-year). Design variants include:

- 10-A Dry Detention Pond
- 10-B Dry Extended Detention Basin
- 10-C Underground Detention Facilities

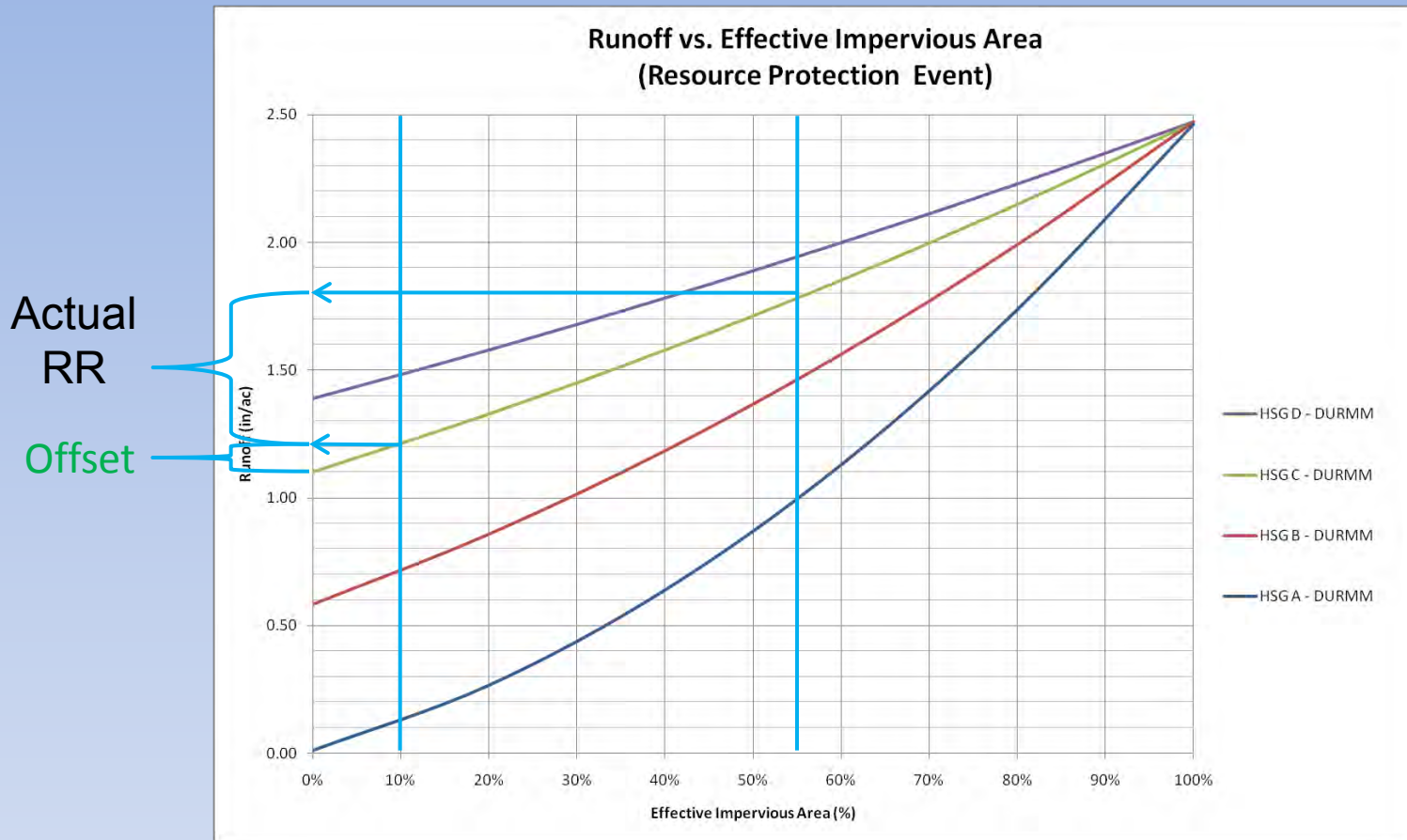


Dry Detention Ponds and Dry Extended Detention Basins are widely applicable for most land uses and are best suited for larger drainage areas. An outlet structure restricts stormwater flow so it backs up and is stored within the basin. The temporary ponding reduces the maximum peak discharge to the downstream channel, thereby reducing the effective shear stress on the bed and banks of the receiving stream. Dry Detention Ponds receive some credit for pollutant removal, while Dry Extended Detention Basins receive both runoff reduction and pollutant removal credits.

The key difference between Dry Detention Ponds and Dry Extended Detention Basins is that, in addition to management of the Cv and Fv, a Dry Extended Detention Basin provides up to a 24-hour detention of all or a portion of the Resource Protection Volume (RPV). An under-sized outlet structure restricts stormwater flow so it backs up and is stored within the basin. The temporary ponding enables particulate pollutants to settle out and reduces the maximum peak discharge to the downstream channel, thereby reducing the effective shear stress on banks of the receiving stream. Extended detention differs from a Dry Detention Pond's stormwater detention, since it is designed to achieve a minimum drawdown time, rather than a maximum peak rate of flow. Dry Detention Ponds, which are designed only to manage the larger Conveyance Event and Flooding Event will often detain smaller storm events for only a few minutes or hours.

Underground Detention Facilities include vaults and tanks. Underground Detention Vaults are box-shaped underground stormwater storage facilities typically constructed with reinforced concrete. Underground Detention Tanks are underground storage facilities typically constructed with large diameter metal or plastic pipe. Both serve as an alternative to surface dry detention for stormwater quantity control, particularly for space-limited areas where there is not adequate land for a dry detention basin or multi-purpose detention area. Prefabricated concrete vaults are available from commercial vendors. In addition, several pipe manufacturers have developed packaged detention systems. Underground detention vaults do not receive any runoff reduction or pollutant removal credit, and should be considered only for management of larger storm events.

- **TN: 20%**
- **TP: 20%**
- **TSS: 60%**



Original Offset Fee =  $\$23/\text{cf} \times 363 \text{ cf}/\text{ac} = \$8,349/\text{ac}$

Offset Fee w/Dry Extended Detention Treatment BMP

Removal Efficiency for TN = 20%

Fee Adjustment =  $0.20 \times \$8,349 = \$1,670$

Adjusted Fee =  $\$8,349 - \$1,670 = \$6,679/\text{ac}$



2.05

Regulatory Interpretation and Variances

**Regulatory Interpretation - Background**

7 Del. C. §4006 clearly defines the Department's role in developing a state stormwater management program. §4006 (b) gives the Department the authority to provide technical assistance to local agencies in implementing this chapter, and also to develop standards, guidelines and criteria for program elements.

*(b) In carrying out this chapter, the Department shall have the authority to:*

*(1) Provide technical and other assistance to districts, counties, municipalities and state agencies in implementing this chapter;*

*(2) Develop and publish, as regulation components, minimum standards, guidelines and criteria for delegation of sediment and stormwater program components, and model sediment and stormwater ordinances for use by districts, counties and municipalities;*

The Department's role in providing technical assistance extends to the technical interpretation of the standards, guidelines and criteria supporting the *Regulations* when necessary or as requested by Delegated Agencies. Because of the different types of Delegated Agencies, including municipal governments, State agencies and Conservation Districts, there is a need for different methods of clarifying the requirements of the Regulations.

Local municipalities are governed by codes and ordinances and some local governments contain references to state requirements or set local standards that meet or exceed the state requirements. When local codes and ordinances are in conflict with the state requirements, the conflict should be brought to the attention of the Department to determine whether the conflict needs a legal opinion for resolution or whether the technical interpretation may be made by the Department program experts to resolve the conflict.

More commonly, Department and Delegated Agency staff are asked during the plan review and approval process or during construction to interpret the *Regulations* or Technical Document and offer an interpretation or a decision based on that review.



### **Local Review and Interpretation**

Because program implementation is delegated by the Department to local agencies, an initial request by an owner or owner representative to clarify a program requirement should be made to the local Delegated Agency. A written response to requests for interpretations of a program requirement will be provided to the owner or owner representative making the request.

The Department meets with each Delegated Agency on a regular basis and there is constant contact between the Department and Delegated Agencies to answer questions, interpret standards, and make decisions regarding interpretations. The Department will offer guidance to the Delegated Agency to render a local decision on an issue having local implications.

If a local Delegated Agency is unable to interpret a requirement of the regulations or any other program issue, or if the interpretation will have greater than local implications, the Delegated Agency will request a Department interpretation. Conversely, if an owner or owner representative has a program concern, policy question or conflict with a local interpretation of the Regulations or standards, they may seek an interpretation from the Department as well.

### **Department Review and Interpretation**

When the Department is asked to provide an interpretation of the *Regulations* or Technical Guidance document, a simple and straightforward issue will be handled with an informal request procedure. An e-mail request for interpretation will be accepted and an e-mail response will be provided to all affected parties, including the local Delegated Agency. When an informal interpretation has more than local implications, all Delegated Agencies will be provided with a copy of the response, so that future requests for interpretation of the same issue may be handled locally.

When the interpretation is more complex, including those cases when a legal interpretation is necessary to assist the program staff, the request for a Department decision must be made in writing with supporting documentation as necessary to evaluate the request. When necessary, based upon the opinion of Department Sediment and Stormwater Program staff, the Division Director will respond to the interpretation request. Further discussion within the Department may also involve a consultation with legal counsel or an informal opinion from the Secretary.

All formal interpretations of the regulations and supporting Technical Documents will be memorialized in writing and distributed to the owner or owner representative making the request for interpretation as well as all affected parties and all Delegated Agencies.

### **Professional Judgment Disputes**

If an impasse over interpretation of technical and/or policy issues related to the Delaware Sediment & Stormwater Regulations occurs between the design consultant and the Delegated Agency, the consultant may request through the Delegated Agency to have DNREC intercede. The consultant will itemize the issues in writing along with their position on each issue and forward the document and any supporting plans or computations to the Department and the appropriate Delegated Agency. DNREC will review the itemized list of issues and include the issues on the agenda for discussion at the next regularly scheduled meeting of DNREC and the Delegated Agency. DNREC will coordinate a written response to the consultant through the Delegated Agency. The process may include a meeting among all affected parties if deemed necessary.

### **Alternative Compliance Review Requests**

An owner or owner representative who cannot achieve strict compliance with an element of the policy, procedure, guideline or standard included in Technical Guidance document may offer an alternative method of compliance and request an alternative compliance review by the Department or Delegated Agency. Documentation of the acceptance or rejection of the alternative compliance will be made in writing through an e-mail, memorandum, or plan review comment correspondence.

When a written decision of the program staff supported by legal review, Division Director or Secretary's decision is not sufficient to satisfy the Delegated Agency or owner requesting the alternative compliance review, the variance process in 7 Del. C. §6011 should be followed.

### **Variances and Appeals**

Compliance with the requirements of the *Delaware Sediment and Stormwater Regulations* is expected of all projects subject to the regulations. Section 5 of the Regulations provides alternative methods to comply with the post construction stormwater management requirements, including an offset provision. However, if none of the methods to comply with the Regulations can be met by a particular site, an owner may apply for a variance through the 7. Del C. §6011 procedure.

The variance application requires public notice, public hearing, and finally the approval of the Department Secretary. Any party may appeal the Secretary's decision to the Environmental Appeals Board.

A temporary emergency variance to the requirements of the Regulations may be granted by the Department Secretary under the 7. Del C. §6012 procedure when the emergency is unforeseeable and severe hardship would be caused by the time period involved in obtaining a variance in accordance with the §6011 procedure. Temporary emergency variances are granted for a period not to exceed 60 days, and may not be extended more than one time. A temporary emergency variance may be granted in the case of a dam break, for example.

## **APPENDIX C: New York State Department of Transportation MS4 Permit**

New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)

Selections:

Part VII.A.5.a.ii. Post-Construction Stormwater Management – SWMP  
Development/Implementation, p. 41

Part VIII.A.5. Post-Construction Stormwater Management SWMP  
Development/Implementation, pp. 61-63

**(Part VII.A.5.a.)**

- vii. ensures adequate long-term operation and maintenance of management practices identified in Part VII.5.a.vi by trained staff, including inspection to ensure that practices are performing properly.
  - The inspection shall include inspection items identified in the maintenance requirements (NYS Stormwater Management Design Manual, *SWPPP*, or other maintenance information) for the practice. *Covered entities* are not required to collect *stormwater* samples and perform specific chemical analysis;
- viii. Covered entities may include in the SWMP Plan provisions for development of a banking and credit system. MS4s must have an existing watershed plan based on which offsite alternative stormwater management in lieu of or in addition to on-site stormwater management practices are evaluated. Redevelopment projects must be evaluated for pollutant reduction greater than required treatment by the state standards. The individual project must be reviewed and approved by the *Department*. Use of a banking and credit system for new development is only acceptable in the impaired watersheds to achieve the no net increase requirement and watershed improvement strategy areas to achieve pollutant reductions in accordance with watershed plan load reduction goals. A banking and credit system must at minimum include:
  - Ensure that offset exceeds a standard reduction by factor of at least 2
  - Offset is implemented within the same watershed
  - Proposed offset addresses the POC of the watershed
  - Tracking system is established for the watershed
  - Mitigation is applied for retrofit or redevelopment
  - Offset project is completed prior to beginning of the proposed construction
  - A legal mechanism is established to implement the banking and credit system
- b. *Develop (for newly authorized MS4s), implement, and provide adequate resources for a program to inspect development and re-development sites by trained staff and to enforce and penalize violators;*
- c. *Develop (for newly authorized MS4s), record, annually assess and modify as needed measurable goals; and*
- d. Select and implement appropriate post-construction *stormwater BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *stormwater discharges* to the *MEP*.

**(Part VIII.A.)**

**5. Post-Construction Stormwater Management SWMP Development / Implementation**

At a minimum, all *covered entities* must:

- a. *Develop (for newly authorized MS4s), implement, and enforce* a program that:
  - i. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities, unless more stringent requirements are contained within this *SPDES general permit*;
  - ii. addresses *stormwater* runoff from new development and redevelopment projects to the *small MS4* from projects that result in a land disturbance of greater than or equal to one acre. Control of *stormwater discharges* from projects of less than one acre must be included in the program if:
    - that project is part of a *larger common plan of development or sale*;
    - if controlling such activities in a particular watershed is required by the *Department*;
  - iii. incorporates enforceable mechanisms for post-construction runoff control from new development and re-development projects to the extent allowable under *State* or local law that meet the *State's* most current technical standards:
    - through available mechanisms (i.e. tenant lease agreements, bid specifications, requests for proposals, standard contract provisions, connection permits, maintenance directives / BMPs, access permits, consultant agreements, internal policies);
    - procedures or policies must be developed for implementation and enforcement of the mechanisms;
    - a written directive from the person authorized to sign the NOI stating that updated mechanisms must be used and who (position(s)) is responsible for ensuring compliance with and enforcing the mechanisms for construction projects that occur on property owned by the *covered entity* or within the maintenance jurisdiction of the MS4; and
    - the mechanisms and directive must assure compliance with the requirements of the NYS SPDES General Permit for Stormwater Discharges from Construction Activities;
  - iv. includes a combination of structural or non-structural management practices (according to standards defined in the most current version of the NYS Stormwater management Design Manual) that will reduce the *discharge* of pollutants to the MEP. In the development of environmental plans such as watershed plans, open space preservation programs, local laws, and ordinances covered entities must incorporate principles of *Low Impact Development (LID)*, *Better Site Design (BSD)* and other *Green Infrastructure* practices to the MEP.

**(Part VIII.A.5.a.iv.)**

Covered entities must consider natural resource protection, impervious area reduction, maintaining natural hydrologic condition in developments, buffers or set back distances for protection of environmentally sensitive areas such as streams, wetlands, and erodible soils in the development of environmental plans.

- if a *stormwater* management practice is designed and installed in accordance with the New York State Stormwater Management Design Manual or has been demonstrated to be equivalent and is properly operated and maintained, then *MEP* will be assumed to be met for the post construction *stormwater* discharged by the practice;
- v. establish and maintain an inventory of post-construction stormwater management practices to include at a minimum practices discharging to the *small MS4* that have been installed since March 10, 2003, those owned by the small MS4, and those found to cause water quality standard violations.
  - the inventory shall include, at a minimum: location of practice (street address or coordinates); type of practice; maintenance needed per the NYS Stormwater Management Design Manual, *SWPPP*, or other provided documentation; and dates and type of maintenance performed; and
- vi. ensures adequate long-term operation and maintenance of management practices by trained staff, including assessment to ensure that the practices are performing properly.
  - The assessment shall include the inspection items identified in the maintenance requirements (NYS Stormwater Management Design Manual, *SWPPP*, or other maintenance information) for the practice. *Covered entities* are not required to collect *stormwater* samples and perform specific chemical analysis;
- vii. Covered entities may include in the SWMP Plan provisions for development of a banking and credit system. MS4s must have an existing watershed plan based on which offsite alternative stormwater management in lieu of or in addition to on-site stormwater management practices are evaluated. Redevelopment projects must be evaluated for pollutant reduction greater than required treatment by the state standards. The individual project must be reviewed and approved by the *Department*. Use of a banking and credit system for new development is only acceptable in the impaired watersheds to achieve the no net increase requirement and watershed improvement strategy areas to achieve pollutant reductions in accordance with watershed plan load reduction goals. A banking and credit system must at minimum include:

(Part VIII.A.5.a.vii.)

- Ensures offset exceeds standard reduction by factor of at least 2
  - Offset is implemented within the same watershed
  - Proposed offset addresses the POC of the watershed
  - Tracking system is established for the watershed
  - Mitigation is applied for retrofit or redevelopment
  - Offset project is completed prior to beginning the proposed construction
  - A legal mechanism is established to implement the banking and credit system
- b. *Develop (for newly authorized MS4s), implement, and provide adequate resources for a program to inspect development and re-development sites by trained staff and to enforce and employ sanctions;*
- c. *Develop (for newly authorized MS4s), record, annually assess and modify as needed measurable goals; and*
- d. *Select and implement appropriate post-construction stormwater BMPs and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.*

**Required SWMP Reporting**

- e. Program *implementation* reporting for continuing *covered entities* (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:
- i. number and type of sanctions;
  - ii. number and type of post-construction stormwater management practices;
  - iii. number and type of post-construction stormwater management practices inspected;
  - iv. number and type of post-construction stormwater management practices maintained;
  - v. status of regulatory mechanism, equivalent mechanism, that regulatory mechanism is equivalent ; and
  - vi. report on effectiveness of program, *BMP* and *measurable goal* assessment, and implementation of a banking and credit system, if applicable.
- f. Program reporting for **newly regulated covered entities** (MS4s covered for less than 3 years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:



## **APPENDIX D: Oregon Department of Transportation Intergovernmental Agreements**

Intergovernmental Agreement entered into by and between the City of Portland acting by and through its Bureau of Environmental Services and the State of Oregon, acting by and through its Oregon Department of Transportation

Master Intergovernmental Agreement entered into by and between the City of Portland, acting by and through its Bureau of Environmental Services and the State of Oregon, acting by and through its Oregon Department of Transportation

**INTERGOVERNMENTAL AGREEMENT**  
**ODOT Service Yard Stormwater Management**

This Intergovernmental Agreement (IGA) is entered into by and between the City of Portland (CITY) acting by and through its Bureau of Environmental Services, hereafter called "BES" and the State of Oregon, acting by and through its Oregon Department of Transportation, hereafter called "ODOT."

**RECITALS**

1. By the authority granted in ORS 190.110, state agencies may enter into agreements with units of local government for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

**NOW THEREFORE**, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

**TERMS OF AGREEMENT**

1. BES and ODOT desire to work together to retrofit existing parking areas and buildings at ODOT's Service Yard located at 9637 SW 35th Drive to manage stormwater runoff to provide for water quality treatment and mitigation of stormwater flows, hereinafter referred to as "Project". These actions will improve water quality in Tryon Creek, help protect and improve habitat in Tryon Creek for ESA listed species. Construction of this Project will also help ODOT meet its obligation under a settlement agreement with the Northwest Environmental Defense Center (NEDC). BES will obtain any required City permits at its own expense.
2. The Project will be financed at an estimated cost of \$375,000. The cost for the design portion of this Project is \$75,000 and was paid for at BES expense. BES will provide the engineering design documents for construction of the proposed Project at no cost to ODOT. ODOT agrees to fund the remaining activities for the Project, which include construction, construction management, and future operation and maintenance, which is estimated at \$300,000 with funds available to ODOT from the NEDC Settlement. In the event NEDC funding is not allocated to this Project, this IGA is terminated.
3. This Project has a BES project number E09106. BES agrees to explore expenditure of funds that would have been used for construction of Project number E09106 to further development of stormwater retrofit projects.

## GENERAL PROVISIONS

1. Effective Date and Duration. This IGA is effective from the date of execution by both parties. Unless earlier terminated or extended, this IGA shall expire September 30, 2012 or upon completion of Project construction by ODOT, whichever is later.
2. Statement of Work. The statement of work, (the "Work") including the delivery schedule for such Work, is contained in Exhibit A, attached hereto and by this reference made a part hereof. ODOT agrees to fund and construct this Project in accordance to approved Project design drawings and construction specifications and in accordance with the terms and conditions of this IGA.
3. Consideration. BES agrees to provide engineering design documents for construction of the proposed water quality facilities as described in Exhibit A. BES will fund and provide ODOT with approved engineering Project design drawings, construction specifications and cost-estimate, as listed in Exhibit B, attached hereto and by this reference made a part hereof.
4. Design Modifications ODOT agrees to notify the BES design engineer of any modifications to the approved engineering design documents and any modifications shall be approved to the satisfaction of the design engineer.
5. Project Representatives. Each party has designated a Project manager to be the formal representative for this Project. All reports, notices, and other communications required under or relating to this IGA shall be directed to the appropriate individual.

### BES

Project Manager: Eugene Lampi  
Organization: City of Portland  
Address: 1120 SW Fifth Ave., Suite 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Fax: (503) 823-5344  
Email: eugene.lampi@portlandoregon.gov

### ODOT

William C. Miller  
Oregon Department of Transportation  
9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
(503) 229-5303  
(503) 229-6946  
William.C.Miller@odot.state.or.us

6. IGA Documents. This IGA consists of the following documents, which are listed, in descending order of precedence: This IGA less all exhibits, attached Exhibit A "Work Statement" and Exhibit B "Budget".
7. Amendments. The terms of this IGA shall not be waived, altered, modified, supplemented, or amended, in any manner whatsoever, except by written amendment signed by both parties.

8. Termination.
- A. The parties may agree to an immediate termination of this IGA or at a time certain upon mutual written consent.
  - B. Either party may terminate this IGA effective not less than thirty (30) days from delivery of written notice.
  - C. Either party may terminate this IGA effective not less than ten (10) days from written notice or at such other date as may be established by both parties under any of the following conditions:
    - 1) If funding is not obtained and continued at levels sufficient to allow for purchase of the specified services. When possible, and when agreed upon, the IGA may be modified to accommodate a reduction in funds.
    - 2) If federal or state regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this IGA, or are no longer eligible for the funding proposed for payments authorized by this IGA.
  - D. Either party may terminate this IGA in the event of a breach by the other party. Prior to such termination, however, the party seeking termination shall give the other party written notice of the party's intent to terminate. If the party has not cured the breach within ten (10) days or a longer period as granted in the cure notice, the party seeking compliance may terminate this IGA.
  - E. Any termination of this IGA shall not prejudice any rights or obligations accrued to the parties prior to termination.
9. Funds Available and Authorized. Both parties certify that at the time the IGA is written that sufficient funds are available and authorized for expenditure to finance costs of this IGA within either party's current appropriation and limitation. Both parties understand and agree that payment of amounts under this IGA attributable to work performed after the last date of the current budget period is contingent on either party receiving appropriations, limitations, or other expenditure authority.
10. Captions. The captions or headings in this IGA are for convenience only and in no way define, limit or describe the scope or intent of any provisions of this IGA.
11. Choice of Venue. Oregon law shall govern this IGA and all rights, obligations and disputes arising out of the IGA. Venue for all disputes and litigation shall be in Multnomah County, Oregon.
12. Severability/Survival. If any of the provisions contained in this IGA are held unconstitutional or unenforceable, the enforceability of the remaining provisions shall not be impaired. All provisions concerning the limitation of liability, indemnity and conflicts of interest shall survive the termination of this IGA for any cause.

13. Ownership of Work Product. ODOT agrees that it owns the stormwater facilities constructed under this IGA and the stormwater facilities will become part of ODOT's managed capital assets. After completion of construction, the stormwater facilities shall not be removed without consultation with BES.
14. Right of Access: ODOT agrees to grant access to BES staff or designees to make observations or monitor stormwater facility performance. This right of access will continue for the duration of this IGA.
15. Operation and Maintenance of Stormwater Facilities. ODOT agrees that ODOT will be responsible for operation and maintenance of the stormwater facilities constructed under this Agreement.
16. Access to Records. Both parties acknowledge and agree that each party, the Oregon Secretary of State's Office, the federal government and their duly authorized representatives shall have access to the books, documents, papers, and records which are directly pertinent to the specific IGA for the purpose of making audit, examination, excerpts, and transcripts for a period of six (6) years after final payment (or completion of Project -- if applicable.) Copies of applicable records shall be made available upon request.
17. Compliance with Applicable Law. Both parties shall comply with all federal, state, and local laws, regulations, executive orders, and ordinances applicable to the Work under this IGA.

All employers, that employ subject workers who work under this Agreement in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage unless such employers are exempt under ORS 656.126. The parties shall ensure that each of its subcontractors complies with these requirements.

18. No Third Party Beneficiary. BES and ODOT are the only parties to this IGA and as such, are the only parties entitled to enforce its terms. Nothing contained in this IGA gives or shall be construed to give or provide any benefit, direct, indirect, or otherwise to third parties unless third persons are expressly described as intended to be beneficiaries of its terms.
19. Indemnification. To the extent permitted by the Oregon Tort Claims Act, codified at ORS 30.260 through 30.300 and the Oregon Constitution, each party agrees to indemnify and defend the other and its officers, employees, agents and representatives from and against all claims, demands, penalties and causes of action of any kind or character relating to or arising from this IGA, including the cost of defense, attorney fees arising in favor of any person on account of personal injury, death or damage to property and arising out of or resulting from the negligent or other legally culpable acts or omissions of the indemnitor, its employees, agents, subcontractors or representatives omissions of the indemnitor, its officers, employees or agents.

Notwithstanding the foregoing defense obligations under the paragraph above, neither party nor any attorney engaged by either party shall defend any claim in the name of the other party or any agency/department/division of such other party, nor purport to act as legal representative of the other party or any of its agencies/departments/divisions, without the prior written consent of

the legal counsel of such other party. Each party may, at anytime at its election assume its own defense and settlement in the event that it determines that the other party is prohibited from defending it, or that other party is not adequately defending its interests, or that an important governmental principle is at issue or that it is in the best interests of the party to do so. Each party reserves all rights to pursue any claims it may have against the other if it elects to assume its own defense.

20. Merger Clause. This IGA constitutes the entire agreement between the parties. No waiver, consent, modification or change of terms of this IGA shall bind either party unless in writing and signed by both parties. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this IGA.
21. This IGA may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this IGA so executed shall constitute an original.

Executed in triplicate by the duly authorized representatives of the parties.

**THE PARTIES**, by execution of this IGA, hereby acknowledges that its signing representatives have read this IGA, understand it, and agree to be bound by its terms and conditions.

The Oregon Transportation Commission on December 29, 2008, approved Delegation Order No. 2, which authorizes the Director to approve and execute agreements for day-to-day operations.

On September 15, 2006, the Director of the Oregon Department of Transportation approved Subdelegation Order No. 2, Paragraph 1, in which authority is delegated to the Deputy Director, Highways, to approve and sign agreements over \$75,000 when the work is related to a project included in the Statewide Transportation Improvement Program or in other system plans approved by the Oregon Transportation Commission, or in a line item in the biennial budget approved by the Director.

CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_  
By *Dean Mank*  
Bureau Director

Date 7/30/10  
By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

**APPROVED AS TO LEGAL FORM**

By APPROVED AS TO FORM  
City Attorney *Paula Menzies*  
Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By \_\_\_\_\_  
Interim Administrator, Highway Division

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By *[Signature]*  
Region 1 Manager

By 8/3/10  
District 2A Manager

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
Assistant Attorney General

Date: \_\_\_\_\_

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us

CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_

By *Dea Mung*  
Bureau Director

Date 7/30/10

By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

**APPROVED AS TO LEGAL FORM**

By APPROVED AS TO FORM  
City Attorney *Andrea Menzies*

Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By \_\_\_\_\_  
Interim Administrator, Highway Division

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By *[Signature]*  
Region 1 Manager

By 8/3/10  
District 2A Manager *Ron Kroop*

Date 9 AUG 10

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
Assistant Attorney General

Date: \_\_\_\_\_

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us



CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_

By *Dean Mank*  
Bureau Director

Date 7/30/10

By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

APPROVED AS TO LEGAL FORM

By APPROVED AS TO FORM  
City Attorney

*Paula Mungo*  
Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By *A. M. Nk*  
Interim Administrator, Highway Division

Date 8-10-10

APPROVAL RECOMMENDED

By *[Signature]*  
Region 1 Manager

By 8/3/10  
District 2A Manager

Date \_\_\_\_\_

APPROVED AS TO LEGAL  
SUFFICIENCY

By *[Signature]*  
Assistant Attorney General

Date: 8/4/10

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us

## ORDINANCE No. 183882

\*Authorize Intergovernmental Agreement with the Oregon Department of Transportation to implement stormwater retrofits at the Baldock Service Yard (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. On March 8, 2006, the City Council adopted the 2005 Portland Watershed Management Plan, which describes actions necessary for improvement of watershed health in Portland. An important strategy within that Plan is stormwater management for both improved hydrologic function and stormwater quality. Site design and retrofits of existing development were identified as actions needed to reduce the amount of stormwater runoff and the pollutants that it might otherwise carry.
2. Tryon Creek Watershed in Southwest Portland is a water quality impaired and has Total Maximum Daily Loads (TMDLs) issued by the Oregon Department of Environmental Quality (DEQ) for both temperature and bacteria. It is also critical habitat for ESA-listed species, but those uses are affected by urban impacts and transportation corridor stormwater discharges in its upper reaches (I-5 and Barbur Blvd.) and facilities (such as the Oregon Department of Transportation (ODOT) Baldock Service Yard).
3. The Fanno/Tryon Water Quality and TMDL Predesign completed in 2008 by the Bureau of Environmental Services (BES) in collaboration with the Tryon Creek Watershed Council and other members of the public, identifies priority stormwater and watershed projects and actions needed to protect and restore Tryon Creek. The ODOT Baldock Service Yard at 9637 SW 35<sup>th</sup> Drive in the headwaters of Tryon Creek was one of those priority stormwater retrofit projects. Subsequently the project was also identified as a priority for implementation under the Watershed Investment Fund (WIF) program.
4. The proposed project will manage stormwater from approximately 130,000 square feet (3 acres) of existing impervious surfaces, providing both water quality treatment and mitigation of stormwater flows from the service yard.
5. On September 24, 2009, ODOT entered into an agreement with the Northwest Environmental Defense Center (NEDC) to settle NEDC's claims regarding ODOT's management of stormwater under its National Pollutant Discharge Elimination System (NPDES) permit. That agreement provided in part, for \$2.1 million in stormwater retrofits per year associated with highway projects in the Willamette River Watershed from FY2011 through FY2014.
6. The Baldock Service Yard stormwater retrofit project will now be constructed using funding from the NEDC agreement, currently estimated to cost \$300,000. In partnership with ODOT, BES has provided completed project designs as a contribution to the project estimated at \$75,000 of staff in-kind services principally expended within FY2010.

7. The Baldock project is only the first of several partnership opportunities expected between the City of Portland and ODOT for transportation related stormwater retrofits of common interest to improving watershed health conditions.
8. The estimated construction cost of the project is \$300,000, funded by ODOT through its NEDC settlement agreement. Prior budgeted funds expended by BES designing the facility came from the Sewer System Operating Fund, FY 2010 Budget, Bureau of Environmental Services, Cost Center ESWS000009, Project Number E09106.

NOW, THEREFORE, the council directs:

- a. The Director of the Bureau of Environmental Services is authorized to execute an intergovernmental agreement with ODOT for the purpose described in Section 1, for construction by ODOT estimated at \$300,000 and in consideration of design services provided by BES in the estimated amount of \$75,000, and generally in the form and substance of the agreement as shown in Attachment "A".
- b. The Mayor and Auditor are hereby authorized to draw and deliver warrants chargeable to the Sewer System Operating Fund Budget, as needed for completion of the Baldock project up to a 10% contingency for additional engineering design assistance (\$7,500), when demand is presented and approved by the proper authority.

Section 2. The Council declares that an emergency exists because the IGA is necessary to commit existing ODOT funding to construction this year and to provide immediate mitigation of stormwater impacts to the Tryon Creek Watershed. Therefore, this ordinance shall be in full force and effect from and after its passage by the Council.

Passed by the Council, **JUN 09 2010**  
Dan Saltzman  
Commissioner of Public Affairs

Dave Kliever  
May 25, 2010

ESWS000009, 529000- ord

**LaVonne Griffin-Valade**  
Auditor of the City of Portland

By *Emily Matasar*

Deputy

858

Agenda No.  
**ORDINANCE NO. 183882**  
 Title

\*Authorize Intergovernmental Agreement with the Oregon Department of Transportation to implement stormwater retrofits at the Baldock Service Yard (Ordinance)

INTRODUCED BY Commissioner/Auditor: <u>Dan Saltzman</u>	CLERK USE: DATE FILED <u>JUN 04 2010</u>
COMMISSIONER APPROVAL Mayor—Finance and Administration - Adams Position 1/Utilities - Fritz Position 2/Works - Fish Position 3/Affairs - Saltzman <u>Dan Saltzman</u> Position 4/Safety - Leonard	LaVonne Griffin-Valade Auditor of the City of Portland  By: <u>[Signature]</u> Deputy  ACTION TAKEN:
BUREAU APPROVAL Bureau: Environmental Services Bureau Head: <u>[Signature]</u> Prepared by: Dave Kliever Date Prepared: May 25, 2010 Financial Impact Statement Completed <input checked="" type="checkbox"/> Amends Budget <input type="checkbox"/> Not Required <input type="checkbox"/> Portland Policy Document If "Yes" requires City Policy paragraph stated in document. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Council Meeting Date <u>June 9, 2010</u> City Attorney Approval <u>[Signature]</u>	

<b>AGENDA</b> <b>TIME CERTAIN</b> <input type="checkbox"/> Start time: _____ Total amount of time needed: _____ (for presentation, testimony and discussion) <b>CONSENT</b> <input type="checkbox"/> <b>REGULAR</b> <input checked="" type="checkbox"/> Total amount of time needed: <u>5min</u> (for presentation, testimony and discussion)
---

FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:	
	YEAS	NAYS
1. Fritz	<input checked="" type="checkbox"/>	
2. Fish	<input checked="" type="checkbox"/>	
3. Saltzman	<input checked="" type="checkbox"/>	
4. Leonard	<input checked="" type="checkbox"/>	
Adams	<input checked="" type="checkbox"/>	

**EXHIBIT A**  
**ODOT M.C.A. 26,709**

**Statement of Work**

BES is partnering with the Oregon Department of Transportation (ODOT) to implement stormwater retrofits to existing parking areas and buildings to manage stormwater runoff at the ODOT Service Yard.

**Project Location**

ODOT Service Yard  
9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219

**Project Description**

1. The Oregon Department of Transportation (ODOT) service yard is located in the upper Tryon Creek watershed. The Project entrance is located approximately 11,000 feet on SW 35<sup>th</sup> Drive, southwest from the intersection of SW Taylors Ferry Road and SW 35<sup>th</sup> Drive.
2. The ODOT service yard consists of 290,599 square feet, which is approximately 61 percent impervious. The site contains 10 shop and storage buildings; it is used primary for storage of maintenance equipment and large maintenance vehicles. Stormwater runoff from this site currently flows untreated into Falling and Tryon Creeks. This Project will install vegetated swales throughout the site (mainly southerly boundary), treating stormwater runoff from approximately 130,000 square feet of impervious surface area.
3. BES has completed design documents for the proposed stormwater facilities. ODOT will be responsible for construction of stormwater facilities including construction management. ODOT will own the constructed facilities and be responsible for future operation and maintenance of the stormwater facilities.

**Scope of Work**

The water quality facilities described above will be designed and constructed in accordance with this IGA as follows:

1. *The City of Portland, BES shall:*
  - a. Provide stamped engineering design documents for construction of proposed stormwater facilities.
2. *Oregon Department of Transportation (ODOT) shall:*
  - a. Provide for the purchase of all required materials and carryout construction of the stormwater facilities.
  - b. Provide for all construction management.
  - c. Maintain all Project elements on ODOT property.

- d. Complete all Project construction by October 2010. In the event construction cannot be contracted/completed in the 2010 construction season, construction will be completed by July 2011\*\*.

**Schedule**

Activity	Date
Predesign	Completed
Design	Completed
Construction	July 2010 - October 1010 (July 2011**)

**EXHIBIT B**  
**ODOT M.C.A. 26,709**

**Estimated Project Budget**

BES will provide engineering design services. ODOT will be responsible for Project construction.

<b>Party</b>	<b>Cost</b>
Design (BES)	\$ 75,000
Construction (ODOT)	\$300,000
<b>Total</b>	<b>\$375,000</b>

## **INTERGOVERNMENTAL AGREEMENT**

### **Stormwater Retrofit Program Implementation**

This Master Intergovernmental Agreement (Agreement) is entered into by and between the City of Portland, acting by and through its Bureau of Environmental Services, hereafter referred to as "City," and the State of Oregon, acting by and through its Oregon Department of Transportation, hereafter referred to as "ODOT," individually and collectively referred to as the "Party" or "Parties."

#### **RECITALS**

1. By the authority granted in ORS 190.110, state agencies may enter into agreements with units of local government for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.
2. The State of Oregon's aging infrastructure, including ODOT's highway system and associated water quality treatment facilities, is in need of updating. Future regulatory requirements will very likely include a requirement to conduct a stormwater retrofit assessment of that infrastructure.
3. ODOT has initiated a Stormwater Retrofit Program and committed \$8.4 million towards stand-alone stormwater retrofit projects over the next four years (ODOT's fiscal years 2011 through 2014). These projects will be in urbanized areas within the Willamette Valley Watershed. A retrofit prioritization plan has been prepared for this program. Project screening and selection will focus on identifying projects that will have the greatest benefits to water quality and quantity relative to cost.

**NOW THEREFORE**, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

#### **TERMS OF AGREEMENT**

1. City and ODOT will collaborate to retrofit stormwater facilities of mutual interest and benefit for watershed health within City's jurisdictional areas. These actions will improve water quality, restore stormwater volume and rates of discharge from transportation related facilities to more natural flows, and improve conditions for Endangered Species Act (ESA) listed species and other biological communities.



2. City and ODOT will provide mutual support to accomplish specific stormwater retrofit projects. That support may take the form of payment for elements of work; provision of planning, design, construction, establishment or maintenance services in connection with specific projects; exchanges of material goods or products; or allocation of staff time. This Agreement provides the vehicle for those exchanges; however, the specific projects and their scopes will be determined via Work Order Agreements entered into by mutual consent of both Parties as project details are developed over the term of this Agreement. ODOT expenditures under this Agreement shall not exceed \$4,000,000 in state funds.
3. Effective Date and Duration. This Agreement is effective beginning immediately upon complete execution by the Parties. Unless earlier terminated or extended by written mutual amendment, this Agreement will expire June 30, 2014, or upon completion of all projects paid for with funds committed for stormwater retrofits as described in this Agreement, whichever occurs first. The individual Work Order Agreements shall contain beginning and ending dates for the specific work.
4. Work Order Agreements. All work performed under this Agreement shall be determined by Work Order Agreements entered into by mutual consent of both Parties. The Work Order Agreement is attached hereto as Exhibit A and by this reference made a part hereof. Work Order Agreements shall include the project scope, delivery schedule, and budget for each project. Both Parties shall sign the Work Order Agreement before commencement of work. Each Work Order Agreement that is issued pursuant to this Agreement shall become a part of this Agreement. If the total cost of all Work Order Agreements under this Agreement exceeds \$150,000, the Oregon Department of Justice must approve each subsequent Work Order Agreement prior to performance of any work.
5. Project Representatives. Each Party has designated a project manager to be its formal representative for this project. All reports, notices, and other communications required under or relating to this Agreement shall be directed to the appropriate individual.

City

Mike Rosen, Watershed Division Mgr  
City of Portland  
1120 SW 5<sup>th</sup> Avenue Room 1000  
Portland, OR 97204-1912  
503-823-5708  
Mike.Rosen@PortlandOregon.gov

ODOT

Frannie Brindle, Natural Resources Mgr.  
ODOT Geo-Environmental Section  
4040 Fairview Industrial Dr SE MS #6  
Salem, OR 97302-1142  
503-986-3370  
Frances.Brindle@odot.state.or.us

6. Agreement Documents. This Agreement consists of the following documents, in descending order of precedence: This Agreement and attached Exhibit A "Work

Order Agreement." Each Work Order Agreement that is issued pursuant to this Agreement shall become a part of this Agreement.

7. The Work Order Agreement form shall be signed by the ODOT project manager and the City project manager or, in their absence, their designees. Each Party shall notify the other Party in writing of any contact information changes during the term of this Agreement.
8. Amendments. The terms of this Agreement shall not be waived, altered, modified, supplemented, or amended, in any manner whatsoever, except by written instrument signed by both Parties.
9. Termination.
  - A. The Parties may terminate this Agreement or any individual Work Order Agreement immediately or at a time certain upon mutual written consent.
  - B. Either Party may terminate this Agreement or any individual Work Order Agreement effective not less than thirty (30) days from delivery of written notice.
  - C. Either Party may terminate this Agreement or any individual Work Order Agreement effective not less than ten (10) days from written notice or at such other date as may be established by the terminating Party under any of the following conditions:
    - 1) If funding is not obtained and continued at levels sufficient to allow for purchase of the specified services. When possible, and when agreed upon, the Agreement or any individual Work Order Agreement may be modified to accommodate a reduction in funds.
    - 2) If federal or state regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Agreement or any individual Work Order Agreement, or are no longer eligible for the funding proposed for payments authorized by this Agreement.
  - D. Either Party may terminate this Agreement or any individual work order in the event of a breach by the other Party. Prior to such termination, however, the Party seeking termination shall give the other Party written notice of the Party's intent to terminate. If the Party has not cured the breach within ten (10) days or a longer period as granted in the cure notice, the Party seeking compliance may terminate this Agreement or any individual work order.

- E. Any termination of this Agreement shall not prejudice any rights or obligations accrued to the Parties prior to termination. Termination of this Agreement will also terminate all outstanding Work Order Agreements.
10. Funds Available and Authorized. The Parties will ensure that, at the time a Work Order Agreement is executed under the terms of this Agreement, sufficient funds will be available and authorized for expenditure to finance the costs of that Work Order Agreement. Payment for work performed after the last date of a budget period is dependent on the sufficiency of the paying Party's appropriations, limitations, or other expenditure authority.
11. If City performs work under this Agreement that will be reimbursed by ODOT, City shall present invoices for 100 percent of actual costs incurred to ODOT's Project Manager for review and approval. Such invoices shall be in a form identifying the work performed, the Agreement number and the Work Order Agreement number and shall itemize and explain all expenses for which reimbursement is claimed. Invoices shall be presented for periods of not less than one month in duration. Travel expenses shall not be reimbursed. ODOT shall pay City within forty-five (45) days of receipt of approved invoices.
12. Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions of this Agreement.
13. Choice of Law and Venue. Oregon law shall govern this Agreement and all rights, obligations and disputes arising out of the Agreement. Venue for all disputes and litigation shall be in Multnomah County, Oregon.
14. Severability/Survival. If any of the provisions contained in this Agreement are held unconstitutional or unenforceable, the enforceability of the remaining provisions shall not be impaired. All provisions concerning the limitation of liability, indemnity and conflicts of interest shall survive the termination of this Agreement for any cause.
15. Ownership of Work Product. The Parties shall mutually determine ownership of each stormwater facility constructed under this Agreement at the time of execution of the applicable Work Order Agreement. Each stormwater facility will become part of the owner's managed capital assets unless otherwise determined by separate and mutual agreement. After completion of construction, the stormwater facilities shall not be removed without notice and mutual written consent of both Parties.
16. Right of Access. ODOT and City shall grant to the other's staff or designees access to property and facilities to make observations or monitor stormwater facility performance. This right of access will continue for the duration of this

Agreement, but may be extended by separate written mutual agreement. City shall contact ODOT's representative via email or US Mail requesting consent for its contractors to enter onto state right-of-way for the work performed under this Agreement.

17. Operation and Maintenance of Stormwater Facilities. The owner of each facility, as determined under Paragraph 15 above, will be responsible for operation and maintenance of that facility, unless determined otherwise in the applicable Work Order Agreement or separate mutual written agreement.
18. Access to Records. Both Parties, the Secretary of State's Office of the State of Oregon, the federal government, and the duly authorized representatives of each shall have access to the books, documents, papers, and records of both Parties which are directly pertinent to a particular Work Order Agreement for the purpose of audits, examinations, excerpts, and transcripts for a period of six (6) years after final payment under that Work Order Agreement. Copies of applicable records shall be made available upon request. The requesting Party shall pay reasonable copying costs.
19. Compliance with Applicable Law. Both Parties shall comply with all federal, state, and local laws, regulations, executive orders, and ordinances applicable to the work under this Agreement.
20. Neither Party shall enter into any subcontracts for any of the work scheduled under this Agreement without obtaining prior written approval from the other Party.
21. City shall perform the work under this Agreement as an independent contractor and shall be exclusively responsible for all costs and expenses related to its employees' performance of the work under this Agreement including, but not limited to, retirement contributions, workers' compensation, unemployment taxes, and state and federal income tax withholdings.
22. Each Party shall ensure that each of its subcontractors under this Agreement complies with ORS 656.017 and provides workers' compensation coverage unless such subcontractors are exempt under ORS 656.126.
23. No Third Party Beneficiary. City and ODOT are the only Parties to this Agreement and, as such, are the only Parties entitled to enforce its terms. Nothing contained in this Agreement gives or shall be construed to give or provide any benefit, direct, indirect, or otherwise, to third parties unless such parties are expressly described in this Agreement as intended beneficiaries of the terms of this Agreement.

24. Indemnification.

- A. If any third party makes any claim or brings any action, suit or proceeding alleging a tort as now or hereafter defined in ORS 30.260 ("Third Party Claim") against State or City with respect to which the other Party may have liability, the notified Party must promptly notify the other Party in writing of the Third Party Claim and deliver to the other Party a copy of the claim, process, and all legal pleadings with respect to the Third Party Claim. Each Party is entitled to participate in the defense of a Third Party Claim, and to defend a Third Party Claim with counsel of its own choosing. Receipt by a Party of the notice and copies required in this paragraph and meaningful opportunity for the Party to participate in the investigation, defense and settlement of the Third Party Claim with counsel of its own choosing are conditions precedent to that Party's liability with respect to the Third Party Claim.
- B. With respect to a Third Party Claim for which the State is jointly liable with the City (or would be if joined in the Third Party Claim), the State shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by the City in such proportion as is appropriate to reflect the relative fault of the State on the one hand and of the City on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of the State on the one hand and of the City on the other hand shall be determined by reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. The State's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if the State had sole liability in the proceeding.
- C. With respect to a Third Party Claim for which the City is jointly liable with the State (or would be if joined in the Third Party Claim), the City shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by the State in such proportion as is appropriate to reflect the relative fault of the City on the one hand and of the State on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of the City on the one hand and of the State on the other hand shall be determined by

reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. The City's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if it had sole liability in the proceeding.

- D. City shall require its contractor(s) and subcontractor(s) that are not units of local government as defined in ORS 190.003, if any, to indemnify, defend, save and hold harmless the State of Oregon, Oregon Transportation Commission and its members, Department of Transportation and its officers, employees and agents from and against any and all claims, actions, liabilities, damages, losses, or expenses, including attorneys' fees, arising from a tort, as now or hereafter defined in ORS 30.260, caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of City's contractor or any of the officers, agents, employees or subcontractors of the contractor ("Claims"). It is the specific intention of the Parties that the State shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the State, be indemnified by the contractor and subcontractor from and against any and all Claims.
  - E. Any such indemnification shall also provide that neither the City's contractor and subcontractor nor any attorney engaged by City's contractor and subcontractor shall defend any claim in the name of the State of Oregon or any agency of the State of Oregon, nor purport to act as legal representative of the State of Oregon or any of its agencies, without the prior written consent of the Oregon Attorney General. The State of Oregon may, at anytime at its election assume its own defense and settlement in the event that it determines that City's contractor is prohibited from defending the State of Oregon, or that City's contractor is not adequately defending the State of Oregon's interests, or that an important governmental principle is at issue or that it is in the best interests of the State of Oregon to do so. The State of Oregon reserves all rights to pursue claims it may have against City's contractor if the State of Oregon elects to assume its own defense.
25. The Parties shall attempt in good faith to resolve any dispute arising out of this Agreement. In addition, the Parties may agree to utilize a jointly selected mediator or arbitrator (for non-binding arbitration) to resolve the dispute short of litigation.
26. Merger Clause. This Agreement, attached exhibits, and successive Work Order Agreements constitute the entire agreement between the Parties on the subject

matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. No waiver, consent, modification, or change of terms of this Agreement shall bind either Party unless in writing and signed by both Parties and all necessary approvals have been obtained. Such waiver, consent, modification, or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of ODOT to enforce any provision of this Agreement shall not constitute a waiver by ODOT of that or any other provision.

27. City certifies and represents that the individual or individuals signing this Agreement has or have been authorized to enter into and execute this Agreement on behalf of City, under the direction or approval of its governing body, commission, board, officers, members or representatives, and to legally bind City.
28. This Agreement may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this Agreement so executed shall constitute an original.

**THE PARTIES**, by execution of this Agreement, hereby acknowledge that their signing representatives have read this Agreement, understand it, and agree to be bound by its terms and conditions.

The Oregon Transportation Commission on December 29, 2008, approved Delegation Order No. 2, which authorizes the Director to approve and execute agreements for day-to-day operations. Day-to-day operations include those activities required to implement the biennial budget approved by the Legislature, including activities to execute a project in the Statewide Transportation Improvement Program.

Signature Page to Follow

City of Portland / ODOT  
Agreement No. 27145

On September 15, 2006, the Director of the Oregon Department of Transportation approved Subdelegation Order No. 2, Paragraph 1, in which authority is delegated to the Deputy Director, Highways; Deputy Director, Central Services; and the Chief of Staff, to approve and sign agreements over \$75,000 when the work is related to a project included in the Statewide Transportation Improvement Program or in other system plans approved by the Oregon Transportation Commission such as the Oregon Traffic Safety Performance Plan, or in a line item in the biennial budget approved by the Director.

[Final ODOT Approval at bottom of this column]

CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By Dean M. Mans

Date 2/14/11

By \_\_\_\_\_

Date \_\_\_\_\_

APPROVED AS TO LEGAL  
SUFFICIENCY

By Tim R. Shaffer

Deputy City Attorney

Date 2/11/2011

**City Contact:**

Mike Rosen, Watershed Division Manager  
City of Portland  
1120 SW 5<sup>th</sup> Avenue Room 1000  
Portland, OR 97204-1912  
503-823-5708  
Mike.Rosen@PortlandOregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By Ann M. N.

Technical Services Mgr./Chief Engineer

Date 2-25-11

APPROVAL RECOMMENDED

By H. L. C.

Geo-Environmental Section Manager

Date 22 Feb 2011

APPROVED AS TO LEGAL  
SUFFICIENCY

By W. K. W.

Assistant Attorney General

Date 2/15/11

**ODOT Contact:**

Frannie Brindle, Natural Resources Unit  
Manager  
Oregon Department of Transportation  
4040 Fairview Industrial Drive SE MS#6  
Salem, OR 97302-1142  
503-986-3370  
Frances.Brindle@odot.state.or.us

STATE OF OREGON, by and through  
its Department of Transportation

By D. R. A.

Highway Division Administrator

Date 3/2/11



**EXHIBIT A**

**WORK ORDER AGREEMENT**

Master Agreement No. 27145 Work Order Agreement No. \_\_\_\_\_

Under the terms of the Intergovernmental Agreement, Stormwater Retrofit Program Implementation (the "Master Agreement"), between ODOT and the City of Portland, dated \_\_\_\_\_, which is hereby incorporated by reference, the following project work is authorized:

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Project Property Owner: \_\_\_\_\_

Project Description: \_\_\_\_\_

ODOT Project Manager: \_\_\_\_\_

City Project Manager: \_\_\_\_\_

Total Authorized Amount of this Work Order \$ \_\_\_\_\_ Expenditure Acct. No. \_\_\_\_\_

Work Order Start Date: \_\_\_\_\_ Work Order End Date: \_\_\_\_\_

<b>Effective Date: No Work shall occur until signed by all Parties.</b>	<b>Totals</b>
Expenditure Account No.	No.
A. Amount authorized for this Work Order Agreement	\$
B. Amount authorized on prior Work Order Agreements	\$
C. Total Amount authorized for all Work Order Agreements(A+B=C)	\$
D. Agreement Not-to-Exceed amount	\$
E. Amount remaining on Agreement (D-C=E)	\$

**Scope of Work**

The project described above will be designed and constructed in accordance with this Work Order Agreement including the following assumptions, expectations, and responsibilities:

1. City shall:
  - a.

- b.
- c.
- d.

2. Oregon Department of Transportation (ODOT) shall:

- a.
- b.
- c.
- d.

**Schedule and Budget**

Tasks and Deliverables	Due Date	Hours	Budget
Pre-design			
Design			
Construction			

**Standards of Acceptance of Work**

\_\_\_\_\_

If this project includes an engineered design, the design must meet the standards of ODOT and City and the drawings must be stamped by a certified engineer.

This Work Order Agreement may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this Work Order Agreement so executed shall constitute an original.

ACCEPTANCE OF TERMS AND ACTION APPROVED BY ODOT: I acknowledge and certify that the work in this Work Order Agreement is within the scope of work of the Master Agreement.

\_\_\_\_\_  
Name/Title

\_\_\_\_\_  
Date

ACCEPTANCE OF TERMS BY CITY:

\_\_\_\_\_  
Name/Title

\_\_\_\_\_  
Date

City of Portland / ODOT  
Agreement No. 27145

APPROVED AS TO LEGAL SUFFICIENCY: If work order exceeds \$150,000 signature required

\_\_\_\_\_  
Assistant Attorney General

\_\_\_\_\_  
Date

cc: ODOT Project Manager  
City Project Manager  
OPO AGREEMENTS, Support Services Branch for General Files (*original*)

**INTERGOVERNMENTAL AGREEMENT**  
**ODOT Service Yard Stormwater Management**

This Intergovernmental Agreement (IGA) is entered into by and between the City of Portland (CITY) acting by and through its Bureau of Environmental Services, hereafter called "BES" and the State of Oregon, acting by and through its Oregon Department of Transportation, hereafter called "ODOT."

**RECITALS**

1. By the authority granted in ORS 190.110, state agencies may enter into agreements with units of local government for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

**NOW THEREFORE**, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

**TERMS OF AGREEMENT**

1. BES and ODOT desire to work together to retrofit existing parking areas and buildings at ODOT's Service Yard located at 9637 SW 35th Drive to manage stormwater runoff to provide for water quality treatment and mitigation of stormwater flows, hereinafter referred to as "Project". These actions will improve water quality in Tryon Creek, help protect and improve habitat in Tryon Creek for ESA listed species. Construction of this Project will also help ODOT meet its obligation under a settlement agreement with the Northwest Environmental Defense Center (NEDC). BES will obtain any required City permits at its own expense.
2. The Project will be financed at an estimated cost of \$375,000. The cost for the design portion of this Project is \$75,000 and was paid for at BES expense. BES will provide the engineering design documents for construction of the proposed Project at no cost to ODOT. ODOT agrees to fund the remaining activities for the Project, which include construction, construction management, and future operation and maintenance, which is estimated at \$300,000 with funds available to ODOT from the NEDC Settlement. In the event NEDC funding is not allocated to this Project, this IGA is terminated.
3. This Project has a BES project number E09106. BES agrees to explore expenditure of funds that would have been used for construction of Project number E09106 to further development of stormwater retrofit projects.

## GENERAL PROVISIONS

1. Effective Date and Duration. This IGA is effective from the date of execution by both parties. Unless earlier terminated or extended, this IGA shall expire September 30, 2012 or upon completion of Project construction by ODOT, whichever is later.
2. Statement of Work. The statement of work, (the "Work") including the delivery schedule for such Work, is contained in Exhibit A, attached hereto and by this reference made a part hereof. ODOT agrees to fund and construct this Project in accordance to approved Project design drawings and construction specifications and in accordance with the terms and conditions of this IGA.
3. Consideration. BES agrees to provide engineering design documents for construction of the proposed water quality facilities as described in Exhibit A. BES will fund and provide ODOT with approved engineering Project design drawings, construction specifications and cost-estimate, as listed in Exhibit B, attached hereto and by this reference made a part hereof.
4. Design Modifications ODOT agrees to notify the BES design engineer of any modifications to the approved engineering design documents and any modifications shall be approved to the satisfaction of the design engineer.
5. Project Representatives. Each party has designated a Project manager to be the formal representative for this Project. All reports, notices, and other communications required under or relating to this IGA shall be directed to the appropriate individual.

### BES

Project Manager: Eugene Lampi  
Organization: City of Portland  
Address: 1120 SW Fifth Ave., Suite 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Fax: (503) 823-5344  
Email: eugene.lampi@portlandoregon.gov

### ODOT

William C. Miller  
Oregon Department of Transportation  
9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
(503) 229-5303  
(503) 229-6946  
William.C.Miller@odot.state.or.us

6. IGA Documents. This IGA consists of the following documents, which are listed, in descending order of precedence: This IGA less all exhibits, attached Exhibit A "Work Statement" and Exhibit B "Budget".
7. Amendments. The terms of this IGA shall not be waived, altered, modified, supplemented, or amended, in any manner whatsoever, except by written amendment signed by both parties.

8. Termination.
- A. The parties may agree to an immediate termination of this IGA or at a time certain upon mutual written consent.
  - B. Either party may terminate this IGA effective not less than thirty (30) days from delivery of written notice.
  - C. Either party may terminate this IGA effective not less than ten (10) days from written notice or at such other date as may be established by both parties under any of the following conditions:
    - 1) If funding is not obtained and continued at levels sufficient to allow for purchase of the specified services. When possible, and when agreed upon, the IGA may be modified to accommodate a reduction in funds.
    - 2) If federal or state regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this IGA, or are no longer eligible for the funding proposed for payments authorized by this IGA.
  - D. Either party may terminate this IGA in the event of a breach by the other party. Prior to such termination, however, the party seeking termination shall give the other party written notice of the party's intent to terminate. If the party has not cured the breach within ten (10) days or a longer period as granted in the cure notice, the party seeking compliance may terminate this IGA.
  - E. Any termination of this IGA shall not prejudice any rights or obligations accrued to the parties prior to termination.
9. Funds Available and Authorized. Both parties certify that at the time the IGA is written that sufficient funds are available and authorized for expenditure to finance costs of this IGA within either party's current appropriation and limitation. Both parties understand and agree that payment of amounts under this IGA attributable to work performed after the last date of the current budget period is contingent on either party receiving appropriations, limitations, or other expenditure authority.
10. Captions. The captions or headings in this IGA are for convenience only and in no way define, limit or describe the scope or intent of any provisions of this IGA.
11. Choice of Venue. Oregon law shall govern this IGA and all rights, obligations and disputes arising out of the IGA. Venue for all disputes and litigation shall be in Multnomah County, Oregon.
12. Severability/Survival. If any of the provisions contained in this IGA are held unconstitutional or unenforceable, the enforceability of the remaining provisions shall not be impaired. All provisions concerning the limitation of liability, indemnity and conflicts of interest shall survive the termination of this IGA for any cause.

13. Ownership of Work Product. ODOT agrees that it owns the stormwater facilities constructed under this IGA and the stormwater facilities will become part of ODOT's managed capital assets. After completion of construction, the stormwater facilities shall not be removed without consultation with BES.
14. Right of Access: ODOT agrees to grant access to BES staff or designees to make observations or monitor stormwater facility performance. This right of access will continue for the duration of this IGA.
15. Operation and Maintenance of Stormwater Facilities. ODOT agrees that ODOT will be responsible for operation and maintenance of the stormwater facilities constructed under this Agreement.
16. Access to Records. Both parties acknowledge and agree that each party, the Oregon Secretary of State's Office, the federal government and their duly authorized representatives shall have access to the books, documents, papers, and records which are directly pertinent to the specific IGA for the purpose of making audit, examination, excerpts, and transcripts for a period of six (6) years after final payment (or completion of Project -- if applicable.) Copies of applicable records shall be made available upon request.
17. Compliance with Applicable Law. Both parties shall comply with all federal, state, and local laws, regulations, executive orders, and ordinances applicable to the Work under this IGA.

All employers, that employ subject workers who work under this Agreement in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage unless such employers are exempt under ORS 656.126. The parties shall ensure that each of its subcontractors complies with these requirements.

18. No Third Party Beneficiary. BES and ODOT are the only parties to this IGA and as such, are the only parties entitled to enforce its terms. Nothing contained in this IGA gives or shall be construed to give or provide any benefit, direct, indirect, or otherwise to third parties unless third persons are expressly described as intended to be beneficiaries of its terms.
19. Indemnification. To the extent permitted by the Oregon Tort Claims Act, codified at ORS 30.260 through 30.300 and the Oregon Constitution, each party agrees to indemnify and defend the other and its officers, employees, agents and representatives from and against all claims, demands, penalties and causes of action of any kind or character relating to or arising from this IGA, including the cost of defense, attorney fees arising in favor of any person on account of personal injury, death or damage to property and arising out of or resulting from the negligent or other legally culpable acts or omissions of the indemnitor, its employees, agents, subcontractors or representatives omissions of the indemnitor, its officers, employees or agents.

Notwithstanding the foregoing defense obligations under the paragraph above, neither party nor any attorney engaged by either party shall defend any claim in the name of the other party or any agency/department/division of such other party, nor purport to act as legal representative of the other party or any of its agencies/departments/divisions, without the prior written consent of

the legal counsel of such other party. Each party may, at anytime at its election assume its own defense and settlement in the event that it determines that the other party is prohibited from defending it, or that other party is not adequately defending its interests, or that an important governmental principle is at issue or that it is in the best interests of the party to do so. Each party reserves all rights to pursue any claims it may have against the other if it elects to assume its own defense.

20. Merger Clause. This IGA constitutes the entire agreement between the parties. No waiver, consent, modification or change of terms of this IGA shall bind either party unless in writing and signed by both parties. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this IGA.
21. This IGA may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this IGA so executed shall constitute an original.

Executed in triplicate by the duly authorized representatives of the parties.

**THE PARTIES**, by execution of this IGA, hereby acknowledges that its signing representatives have read this IGA, understand it, and agree to be bound by its terms and conditions.

The Oregon Transportation Commission on December 29, 2008, approved Delegation Order No. 2, which authorizes the Director to approve and execute agreements for day-to-day operations.

On September 15, 2006, the Director of the Oregon Department of Transportation approved Subdelegation Order No. 2, Paragraph 1, in which authority is delegated to the Deputy Director, Highways, to approve and sign agreements over \$75,000 when the work is related to a project included in the Statewide Transportation Improvement Program or in other system plans approved by the Oregon Transportation Commission, or in a line item in the biennial budget approved by the Director.



CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_  
By Dean Mank  
Bureau Director

Date 7/30/10

By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

**APPROVED AS TO LEGAL FORM**

By APPROVED AS TO FORM  
City Attorney Paula Menzies  
Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By \_\_\_\_\_  
Interim Administrator, Highway Division

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By for Ben  
Region 1 Manager

By 8/3/10  
District 2A Manager

Date \_\_\_\_\_

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
Assistant Attorney General

Date: \_\_\_\_\_

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us

CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_

By *Dea Mung*  
Bureau Director

Date 7/30/10

By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

**APPROVED AS TO LEGAL FORM**

By APPROVED AS TO FORM  
City Attorney *Andrea Menzies*

Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By \_\_\_\_\_  
Interim Administrator, Highway Division

Date \_\_\_\_\_

**APPROVAL RECOMMENDED**

By *[Signature]*  
Region 1 Manager

By 8/3/10  
District 2A Manager *Ron Kroop*

Date 9 AUG 10

**APPROVED AS TO LEGAL  
SUFFICIENCY**

By \_\_\_\_\_  
Assistant Attorney General

Date: \_\_\_\_\_

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us

CITY OF PORTLAND, by and through its  
Bureau of Environmental Services

By \_\_\_\_\_  
Elected Official or Delegate

Date \_\_\_\_\_

By *Dean Mank*  
Bureau Director

Date 7/30/10

By \_\_\_\_\_  
City Auditor

Date \_\_\_\_\_

APPROVED AS TO LEGAL FORM

By APPROVED AS TO FORM  
City Attorney

*Paula Menzies*  
Date CITY ATTORNEY 7/30/10

BES Contact:  
Eugene Lampi  
City of Portland  
1120 SW Fifth Avenue, Room 1000  
Portland, OR 97204  
Phone: (503) 823-7097  
Email: eugene.lampi@portlandoregon.gov

STATE OF OREGON, by and through  
its Department of Transportation

By *A. M. Nk*  
Interim Administrator, Highway Division

Date 8-10-10

APPROVAL RECOMMENDED

By *[Signature]*  
Region 1 Manager

By 8/3/10  
District 2A Manager

Date \_\_\_\_\_

APPROVED AS TO LEGAL  
SUFFICIENCY

By *[Signature]*  
Assistant Attorney General

Date: 8/4/10

Project Manager: William C. Miller  
Organization: Oregon Department of  
Transportation  
Address: 9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219  
Phone: (503) 229-5303  
Email: William.C.Miller@odot.state.or.us

## ORDINANCE No. 183882

\*Authorize Intergovernmental Agreement with the Oregon Department of Transportation to implement stormwater retrofits at the Baldock Service Yard (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. On March 8, 2006, the City Council adopted the 2005 Portland Watershed Management Plan, which describes actions necessary for improvement of watershed health in Portland. An important strategy within that Plan is stormwater management for both improved hydrologic function and stormwater quality. Site design and retrofits of existing development were identified as actions needed to reduce the amount of stormwater runoff and the pollutants that it might otherwise carry.
2. Tryon Creek Watershed in Southwest Portland is a water quality impaired and has Total Maximum Daily Loads (TMDLs) issued by the Oregon Department of Environmental Quality (DEQ) for both temperature and bacteria. It is also critical habitat for ESA-listed species, but those uses are affected by urban impacts and transportation corridor stormwater discharges in its upper reaches (I-5 and Barbur Blvd.) and facilities (such as the Oregon Department of Transportation (ODOT) Baldock Service Yard).
3. The Fanno/Tryon Water Quality and TMDL Predesign completed in 2008 by the Bureau of Environmental Services (BES) in collaboration with the Tryon Creek Watershed Council and other members of the public, identifies priority stormwater and watershed projects and actions needed to protect and restore Tryon Creek. The ODOT Baldock Service Yard at 9637 SW 35<sup>th</sup> Drive in the headwaters of Tryon Creek was one of those priority stormwater retrofit projects. Subsequently the project was also identified as a priority for implementation under the Watershed Investment Fund (WIF) program.
4. The proposed project will manage stormwater from approximately 130,000 square feet (3 acres) of existing impervious surfaces, providing both water quality treatment and mitigation of stormwater flows from the service yard.
5. On September 24, 2009, ODOT entered into an agreement with the Northwest Environmental Defense Center (NEDC) to settle NEDC's claims regarding ODOT's management of stormwater under its National Pollutant Discharge Elimination System (NPDES) permit. That agreement provided in part, for \$2.1 million in stormwater retrofits per year associated with highway projects in the Willamette River Watershed from FY2011 through FY2014.
6. The Baldock Service Yard stormwater retrofit project will now be constructed using funding from the NEDC agreement, currently estimated to cost \$300,000. In partnership with ODOT, BES has provided completed project designs as a contribution to the project estimated at \$75,000 of staff in-kind services principally expended within FY2010.

7. The Baldock project is only the first of several partnership opportunities expected between the City of Portland and ODOT for transportation related stormwater retrofits of common interest to improving watershed health conditions.
8. The estimated construction cost of the project is \$300,000, funded by ODOT through its NEDC settlement agreement. Prior budgeted funds expended by BES designing the facility came from the Sewer System Operating Fund, FY 2010 Budget, Bureau of Environmental Services, Cost Center ESWS000009, Project Number E09106.

NOW, THEREFORE, the council directs:

- a. The Director of the Bureau of Environmental Services is authorized to execute an intergovernmental agreement with ODOT for the purpose described in Section 1, for construction by ODOT estimated at \$300,000 and in consideration of design services provided by BES in the estimated amount of \$75,000, and generally in the form and substance of the agreement as shown in Attachment "A".
- b. The Mayor and Auditor are hereby authorized to draw and deliver warrants chargeable to the Sewer System Operating Fund Budget, as needed for completion of the Baldock project up to a 10% contingency for additional engineering design assistance (\$7,500), when demand is presented and approved by the proper authority.

Section 2. The Council declares that an emergency exists because the IGA is necessary to commit existing ODOT funding to construction this year and to provide immediate mitigation of stormwater impacts to the Tryon Creek Watershed. Therefore, this ordinance shall be in full force and effect from and after its passage by the Council.

Passed by the Council, **JUN 09 2010**  
Dan Saltzman  
Commissioner of Public Affairs

Dave Kliever  
May 25, 2010

ESWS000009, 529000- ord

**LaVonne Griffin-Valade**  
Auditor of the City of Portland

By *Emily Matasar*

Deputy

858

Agenda No.  
**ORDINANCE NO. 183882**  
 Title

\*Authorize Intergovernmental Agreement with the Oregon Department of Transportation to implement stormwater retrofits at the Baldock Service Yard (Ordinance)

INTRODUCED BY Commissioner/Auditor: <u>Dan Saltzman</u>	CLERK USE: DATE FILED <u>JUN 04 2010</u>
COMMISSIONER APPROVAL Mayor—Finance and Administration - Adams Position 1/Utilities - Fritz Position 2/Works - Fish Position 3/Affairs - Saltzman <u>Dan Saltzman</u> Position 4/Safety - Leonard	LaVonne Griffin-Valade Auditor of the City of Portland  By: <u>[Signature]</u> Deputy
BUREAU APPROVAL Bureau: Environmental Services Bureau Head: <u>[Signature]</u> Prepared by: Dave Kliever Date Prepared: May 25, 2010 Financial Impact Statement Completed <input checked="" type="checkbox"/> Amends Budget <input type="checkbox"/> Not Required <input type="checkbox"/> Portland Policy Document If "Yes" requires City Policy paragraph stated in document. Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Council Meeting Date <u>June 9, 2010</u> City Attorney Approval <u>[Signature]</u>	ACTION TAKEN:

<b>AGENDA</b> <b>TIME CERTAIN</b> <input type="checkbox"/> Start time: _____ Total amount of time needed: _____ (for presentation, testimony and discussion) <b>CONSENT</b> <input type="checkbox"/> <b>REGULAR</b> <input checked="" type="checkbox"/> Total amount of time needed: <u>5min</u> (for presentation, testimony and discussion)
---

FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:	
	YEAS	NAYS
1. Fritz	<input checked="" type="checkbox"/>	
2. Fish	<input checked="" type="checkbox"/>	
3. Saltzman	<input type="checkbox"/>	
4. Leonard	<input checked="" type="checkbox"/>	
Adams	<input checked="" type="checkbox"/>	

**EXHIBIT A**  
**ODOT M.C.A. 26,709**

**Statement of Work**

BES is partnering with the Oregon Department of Transportation (ODOT) to implement stormwater retrofits to existing parking areas and buildings to manage stormwater runoff at the ODOT Service Yard.

**Project Location**

ODOT Service Yard  
9637 SW 35<sup>th</sup> Drive  
Portland, OR 97219

**Project Description**

1. The Oregon Department of Transportation (ODOT) service yard is located in the upper Tryon Creek watershed. The Project entrance is located approximately 11,000 feet on SW 35<sup>th</sup> Drive, southwest from the intersection of SW Taylors Ferry Road and SW 35<sup>th</sup> Drive.
2. The ODOT service yard consists of 290,599 square feet, which is approximately 61 percent impervious. The site contains 10 shop and storage buildings; it is used primary for storage of maintenance equipment and large maintenance vehicles. Stormwater runoff from this site currently flows untreated into Falling and Tryon Creeks. This Project will install vegetated swales throughout the site (mainly southerly boundary), treating stormwater runoff from approximately 130,000 square feet of impervious surface area.
3. BES has completed design documents for the proposed stormwater facilities. ODOT will be responsible for construction of stormwater facilities including construction management. ODOT will own the constructed facilities and be responsible for future operation and maintenance of the stormwater facilities.

**Scope of Work**

The water quality facilities described above will be designed and constructed in accordance with this IGA as follows:

1. *The City of Portland, BES shall:*
  - a. Provide stamped engineering design documents for construction of proposed stormwater facilities.
2. *Oregon Department of Transportation (ODOT) shall:*
  - a. Provide for the purchase of all required materials and carryout construction of the stormwater facilities.
  - b. Provide for all construction management.
  - c. Maintain all Project elements on ODOT property.

- d. Complete all Project construction by October 2010. In the event construction cannot be contracted/completed in the 2010 construction season, construction will be completed by July 2011\*\*.

**Schedule**

Activity	Date
Predesign	Completed
Design	Completed
Construction	July 2010 - October 1010 (July 2011**)



**EXHIBIT B**  
**ODOT M.C.A. 26,709**

**Estimated Project Budget**

BES will provide engineering design services. ODOT will be responsible for Project construction.

<b>Party</b>	<b>Cost</b>
Design (BES)	\$ 75,000
Construction (ODOT)	\$300,000
<b>Total</b>	<b>\$375,000</b>

## **APPENDIX E: Washington State Department of Transportation Stormwater Management Cooperative Agreement**

Regional Cooperative Agreement between Washington State Department of Transportation and the City of Renton providing for construction and maintenance of a stormwater BMP (vault and filter) to treat state highway and city street runoff.

# COOPERATIVE AGREEMENT

## CITY OF RENTON and WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

### **GM 1476**

#### Storm water facilities, landscape and irrigation SR 169 AND I-405

This Agreement is made and entered into between the CITY OF RENTON, 1055 South Grady Way, Renton, WA 98057, a municipal corporation, hereinafter the "CITY," and the STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, hereinafter the "STATE."

WHEREAS, the CITY and STATE developed and constructed a project known as CITY OF RENTON MAPLE VALLEY HIGHWAY (SR169) IMPROVEMENTS: PHASE 2, hereinafter the "PROJECT," which includes construction on and within State Route (SR) 169 and Interstate 405 highway right of way, and

WHEREAS, the CITY and STATE entered into Agreement GCA 5567 on October 15, 2007, whereby the CITY agreed to incorporate additional design elements into the PROJECT intended to improve operations on I-405, and

WHEREAS, the STATE issued General Permit NWK-0709-REN on November 30, 2007 to permit CITY construction within state-owned right of way, and

WHEREAS, the PROJECT included the installation of landscape, landscape irrigation system, and a storm water system, hereinafter the "Facilities," within the limited access of Interstate 405, and

WHEREAS, the STATE and CITY worked together to identify a satisfactory location to both Parties for the Facilities within STATE limited access right of way, and

WHEREAS, the STATE and the CITY desire to clarify the operation and maintenance, for the Facilities within the STATE's limited access right of way, and

WHEREAS, all other portions of the PROJECT not within the STATE's limited access right of way are subject to the ownership and jurisdiction provisions of chapter 47.24 RCW,

NOW, THEREFORE, the above recitals are incorporated herein as if fully set forth below, and in consideration of the terms, conditions, covenants, and performances contained herein, and attached exhibits, IT IS MUTUALLY AGREED AS FOLLOWS:

## **1. GENERAL**

- 1.1 The locations of the Facilities covered by this Agreement are owned by the CITY and are shown on Exhibits A and B, attached hereto and by this reference are made a part hereof.

## **2. CITY RESPONSIBILITY**

- 2.1 The CITY agrees to maintain the following: a storm water system, which includes but is not limited to, the west storm vault oil/water separator; catch basins and pipes; and landscape and landscape irrigation system, all located within the STATE's limited access right of way of Interstate 405.
- 2.2 The CITY agrees to notify the STATE prior to all maintenance or repair of Facilities, except:
- (A) EMERGENCIES: Under emergency conditions, the CITY agrees to notify the STATE within 24 hours of initial incident response.
  - (B) LANDSCAPE: The CITY may weed and mow the landscape area, provided traffic control used for this activity does not impact the traveling public on SR 169 or I-405.

Party contact is pursuant to Section 4. Any damage caused by a CITY action to the Facilities or other state-owned appurtenances shall be reported to the STATE within twenty-four (24) hours. Any damage caused to the Facilities, by the CITY, shall be repaired to the satisfaction of the STATE in a timely manner. The STATE defines timely as no more than thirty (30) working days from notification of the damage, unless otherwise agreed to by the STATE. Repairs shall bring the Facilities to as-built conditions. Modification to the Facilities shall be submitted to the STATE for review and approval. If the STATE determines that the repair is not made in a timely manner, the STATE reserves the right to perform the repair

and bill the CITY for all actual direct and related indirect costs associated with the repair. The CITY agrees to make payment for work performed by the STATE or its contractor within thirty (30) calendar days of receipt of the STATE's detailed invoice.

2.3 The CITY agrees to maintain the storm water system as part of this Agreement in accordance with the CITY's maintenance and operation guidelines.

2.4 The CITY agrees that all maintenance and operation of the landscape and irrigation system as part of this Agreement shall be in accordance with the STATE's Maintenance Manual, as amended. The current Washington State Department of Transportation (WSDOT) Maintenance Manual is located on the internet at the following location:

<http://www.wsdot.wa.gov/Publications/Manuals/M51-01.htm>.

Specific questions about the level of maintenance to be performed as part of this Agreement shall be discussed with the STATE contact identified in Section 4.

2.5 The CITY agrees that all maintenance and operation costs of the Facilities under this Agreement shall be at the sole expense and responsibility of the CITY and at no cost to the STATE.

2.6 If the STATE determines that the landscape maintenance does not meet STATE Maintenance Manual specifications, the STATE will notify the CITY in writing, identifying the deficiencies. The CITY agrees, that if the CITY has not performed the necessary maintenance identified by the STATE, the STATE or its contractor will perform said maintenance to satisfy the deficiencies and bill the CITY for the actual direct and related indirect costs associated with the work performed. The CITY agrees to make payment to the STATE within thirty (30) calendar days upon receipt of a detailed STATE invoice.

- 2.7 The CITY agrees that if payment for the STATE's or its contractor's repairs or work is not made within forty-five (45) calendar days after the CITY has been billed for the repairs or work, the STATE may withhold any monies to which the CITY is entitled to receive from the Motor Vehicle Fund and apply and expend the withheld monies to the amount billed by the STATE until satisfied.
- 2.8 The CITY agrees that all maintenance and operation performed on the Facilities included in this Agreement shall be performed in a manner that will not interfere with the operation and maintenance of the Interstate 405 or SR 169 highway facilities, including not interfering with the safety of the traveling public, unless authorized in writing by the STATE in advance.
- 2.9 In the event the STATE or the CITY deems future relocation or modifications are necessary to the storm water system that is part of the Facilities or if the STATE requires the area within limited access right of way for highway or transportation purposes, each Party shall be afforded the opportunity to review and concur with any relocation or change to ensure that adequate capacity remains available and that no adverse affects to the storm water system's operation occur.
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<b>STATE</b>	<b>CITY</b>
Gerald Althausen Maintenance Superintendent, Area 4 WSDOT 26620 68 <sup>th</sup> Ave S. Kent, WA, 98032	Mike Stenhouse Maintenance Services Director 3555 NE 2 <sup>nd</sup> Street Renton, WA 98056
Phone: 253.372.3901	Phone: 425.430.7200
Email: AlthauG@wsdot.wa.gov	Email: <a href="mailto:mstenhouse@ci.rentonwa.gov">mstenhouse@ci.rentonwa.gov</a> <a href="mailto:phahn@ci.renton.wa.us">phahn@ci.renton.wa.us</a>

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#### **6. EFFECTIVENESS AND DURATION**

- 6.1 This Agreement is effective upon STATE approval of work authorized by General Permit NWK-0709-REN. The terms of this Agreement will remain in effect until otherwise amended or terminated.

## **7. INDEMNIFICATION AND WAIVER**

- 7.1 The CITY shall protect, defend, indemnify, and hold harmless the STATE, its officers, officials, employees, and agents while acting within the scope of their employment as such, from any and all costs, claims, judgments, and/or awards of damages (both to persons and/or property), arising out of, or in any way resulting from, the PROJECT work as referenced in Exhibits A and B, as well as all Facility maintenance and operation pursuant to the provisions of this Agreement. The CITY will not be required to indemnify defend, or save harmless the STATE if the claim, suit, or action for injuries, death, or damages (both to persons and/or property) is caused by the sole negligence of the STATE. Where such claims, suits, or actions result from the concurrent negligence of both Parties, or involves those actions covered by RCW 4.24.115, the indemnity provisions provided herein shall be valid and enforceable only to the extent of each Party's own negligence.
- 7.2 The CITY agrees that its obligations under this section extend to any claim, demand and/or cause of action brought by, or on behalf of, any CITY employees or agents while performing operation and maintenance on the Facilities located on STATE-owned right of way. For this purpose, the CITY, by mutual negotiation, hereby waives with respect to the STATE only, any immunity that would otherwise be available to it against such claims under the Industrial Insurance provisions of chapter 51.12 RCW.
- 7.3 This indemnification and waiver shall survive the termination of this Agreement.

## **8. DISPUTES**

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compliance with aforesaid process shall be a prerequisite to the filing of any litigation concerning the dispute. The Parties shall equally share in the cost of the third disputes board member; however, each Party shall be responsible for its own costs and fees.

## **9. VENUE**

- 9.1 In the event that either Party deems it necessary to institute legal action or proceedings to enforce any right or obligation under this Agreement, the Parties hereto agree that any such action or proceeding shall be brought in the superior court situated in King County, Washington. Further, the Parties agree that each will be solely responsible for payment of their own attorney's fees, witness fees, and costs.

## 10. TERMINATION

10.1 The STATE may terminate this Agreement without further liability or obligation, provided the STATE gives sixty (60) calendar days advanced written notice to the CITY.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the Party's date last signed below.

CITY OF RENTON  
A Washington Municipal Corporation

WASHINGTON STATE DEPARTMENT  
OF TRANSPORTATION

\_\_\_\_\_  
Denis Law  
Mayor

\_\_\_\_\_  
David P. McCormick, P.E.  
Assistant Regional Administrator  
Maintenance & Traffic

Date: \_\_\_\_\_

Date: \_\_\_\_\_

APPROVED TO FORM

APPROVED TO FORM

\_\_\_\_\_  
Print Name: \_\_\_\_\_  
City Attorney

\_\_\_\_\_  
Ann E. Salay  
Assistant Attorney General

Date: \_\_\_\_\_

Date: \_\_\_\_\_

# COOPERATIVE AGREEMENT

## CITY OF RENTON and WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

### **GM 1476**

#### Storm water facilities, landscape and irrigation SR 169 AND I-405

This Agreement is made and entered into between the CITY OF RENTON, 1055 South Grady Way, Renton, WA 98057, a municipal corporation, hereinafter the "CITY," and the STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, hereinafter the "STATE."

WHEREAS, the CITY and STATE developed and constructed a project known as CITY OF RENTON MAPLE VALLEY HIGHWAY (SR169) IMPROVEMENTS: PHASE 2, hereinafter the "PROJECT," which includes construction on and within State Route (SR) 169 and Interstate 405 highway right of way, and

WHEREAS, the CITY and STATE entered into Agreement GCA 5567 on October 15, 2007, whereby the CITY agreed to incorporate additional design elements into the PROJECT intended to improve operations on I-405, and

WHEREAS, the STATE issued General Permit NWK-0709-REN on November 30, 2007 to permit CITY construction within state-owned right of way, and

WHEREAS, the PROJECT included the installation of landscape, landscape irrigation system, and a storm water system, hereinafter the "Facilities," within the limited access of Interstate 405, and

WHEREAS, the STATE and CITY worked together to identify a satisfactory location to both Parties for the Facilities within STATE limited access right of way, and

WHEREAS, the STATE and the CITY desire to clarify the operation and maintenance, for the Facilities within the STATE's limited access right of way, and

WHEREAS, all other portions of the PROJECT not within the STATE's limited access right of way are subject to the ownership and jurisdiction provisions of chapter 47.24 RCW,

NOW, THEREFORE, the above recitals are incorporated herein as if fully set forth below, and in consideration of the terms, conditions, covenants, and performances contained herein, and attached exhibits, IT IS MUTUALLY AGREED AS FOLLOWS:

## **1. GENERAL**

- 1.1 The locations of the Facilities covered by this Agreement are owned by the CITY and are shown on Exhibits A and B, attached hereto and by this reference are made a part hereof.

## **2. CITY RESPONSIBILITY**

- 2.1 The CITY agrees to maintain the following: a storm water system, which includes but is not limited to, the west storm vault oil/water separator; catch basins and pipes; and landscape and landscape irrigation system, all located within the STATE's limited access right of way of Interstate 405.
- 2.2 The CITY agrees to notify the STATE prior to all maintenance or repair of Facilities, except:
- (A) EMERGENCIES: Under emergency conditions, the CITY agrees to notify the STATE within 24 hours of initial incident response.
  - (B) LANDSCAPE: The CITY may weed and mow the landscape area, provided traffic control used for this activity does not impact the traveling public on SR 169 or I-405.

Party contact is pursuant to Section 4. Any damage caused by a CITY action to the Facilities or other state-owned appurtenances shall be reported to the STATE within twenty-four (24) hours. Any damage caused to the Facilities, by the CITY, shall be repaired to the satisfaction of the STATE in a timely manner. The STATE defines timely as no more than thirty (30) working days from notification of the damage, unless otherwise agreed to by the STATE. Repairs shall bring the Facilities to as-built conditions. Modification to the Facilities shall be submitted to the STATE for review and approval. If the STATE determines that the repair is not made in a timely manner, the STATE reserves the right to perform the repair

and bill the CITY for all actual direct and related indirect costs associated with the repair. The CITY agrees to make payment for work performed by the STATE or its contractor within thirty (30) calendar days of receipt of the STATE's detailed invoice.

2.3 The CITY agrees to maintain the storm water system as part of this Agreement in accordance with the CITY's maintenance and operation guidelines.

2.4 The CITY agrees that all maintenance and operation of the landscape and irrigation system as part of this Agreement shall be in accordance with the STATE's Maintenance Manual, as amended. The current Washington State Department of Transportation (WSDOT) Maintenance Manual is located on the internet at the following location:

<http://www.wsdot.wa.gov/Publications/Manuals/M51-01.htm>.

Specific questions about the level of maintenance to be performed as part of this Agreement shall be discussed with the STATE contact identified in Section 4.

2.5 The CITY agrees that all maintenance and operation costs of the Facilities under this Agreement shall be at the sole expense and responsibility of the CITY and at no cost to the STATE.

2.6 If the STATE determines that the landscape maintenance does not meet STATE Maintenance Manual specifications, the STATE will notify the CITY in writing, identifying the deficiencies. The CITY agrees, that if the CITY has not performed the necessary maintenance identified by the STATE, the STATE or its contractor will perform said maintenance to satisfy the deficiencies and bill the CITY for the actual direct and related indirect costs associated with the work performed. The CITY agrees to make payment to the STATE within thirty (30) calendar days upon receipt of a detailed STATE invoice.

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### **3. RIGHT OF ENTRY**

- 3.1 The STATE hereby grants the CITY a right of entry upon all land in which the STATE has an interest, for the purpose of accomplishing the maintenance and operation of the Facilities authorized herein.

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A Washington Municipal Corporation

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Print Name: \_\_\_\_\_  
City Attorney

\_\_\_\_\_  
Ann E. Salay  
Assistant Attorney General

Date: \_\_\_\_\_

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COOPERATIVE AGREEMENT

CITY OF RENTON  
and  
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

**GM 1476**

Storm water facilities, landscape and irrigation

SR 169 AND I-405

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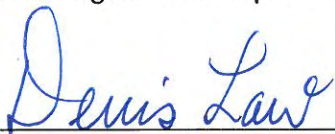
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A Washington Municipal Corporation



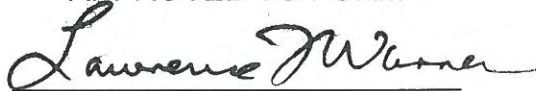
Denis Law  
Mayor

Date: 7/6/10

Attest:

  
Bonnie I. Walton, City Clerk

APPROVED TO FORM



Print Name: Lawrence J. Warren  
City Attorney

Date: 7/6/10

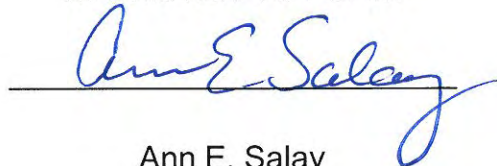
WASHINGTON STATE DEPARTMENT  
OF TRANSPORTATION



David P. McCormick, P.E.  
Assistant Regional Administrator  
Maintenance & Traffic

Date: 9/1/10

APPROVED TO FORM



Ann E. Salay  
Assistant Attorney General

Date: 5-19-10



## FEDERAL AID NO. STPUL 0169 (19)

Sheet 1 of 2

FIRE MARSHALL. DATE

DATE \_\_\_\_\_

DRAWING INDEX		
SHEET NO.	DWG NO.	DESCRIPTION
1	G1	TITLE, DRAWING INDEX, AND VICINITY MAP
2	G2	LEGEND AND ABBREVIATIONS
3-4	SQ1-SQ2	SUMMARY OF QUANTITIES
5	AP1	ALIGNMENT PLAN
6-7	CS1-CS2	CONSTRUCTION SEQUENCING
8-12	TS1-TS5	TESC PLAN AND DETAILS
13-14	RS1-RS2	TYPICAL ROADWAY SECTIONS
15-21	RP1-RP7	PLAN AND PROFILE
22	RD1	ROADWAY DETAILS
23	DW1	DRIVEWAY PROFILES
24-26	DD1-DD3	DRAINAGE DETAILS
27-38	S1-S12	WALL PLAN AND DETAILS
39-42	CH1-CH4	CHANNELIZATION PLAN
43-51	SG1-SG9	SIGNAL PLAN
52-53	SP1-SP2	SIGNAL PRIORITY AND INTERCONNECT PLAN
54-57	IL1-IL4	SIGNING AND ILLUMINATION PLAN
58-64	SB1-SB7	SIGN STRUCTURE PLANS
65-68	LS1-LS4	LANDSCAPE PLAN
69-73	LS5-LS9	IRRIGATION PLAN

General vicinity  
of this agreement

## PROJECT SITE

SR 169

T-405



**Perteet** INC.  
425-252-7700 • 1-800-415-9900  
2701 Getty Avenue, Suite 200  
Fremont, Washington 98122

					SURVIVED	SCALE  NONE   DIE BACK AT FULL SCALE IF NOT DIE NON SCALE PRODUCTION
					DROPPED	
					FIRE	
					DOWN	
					SALES	
					CASE	
NO.	REVISION	BY	DATE	APPR	ATTACHED	

 CITY OF RENTON  
Planning/Building/Public Works Dept.

TITLE, DRAWING INDEX, AND VICINITY MAP

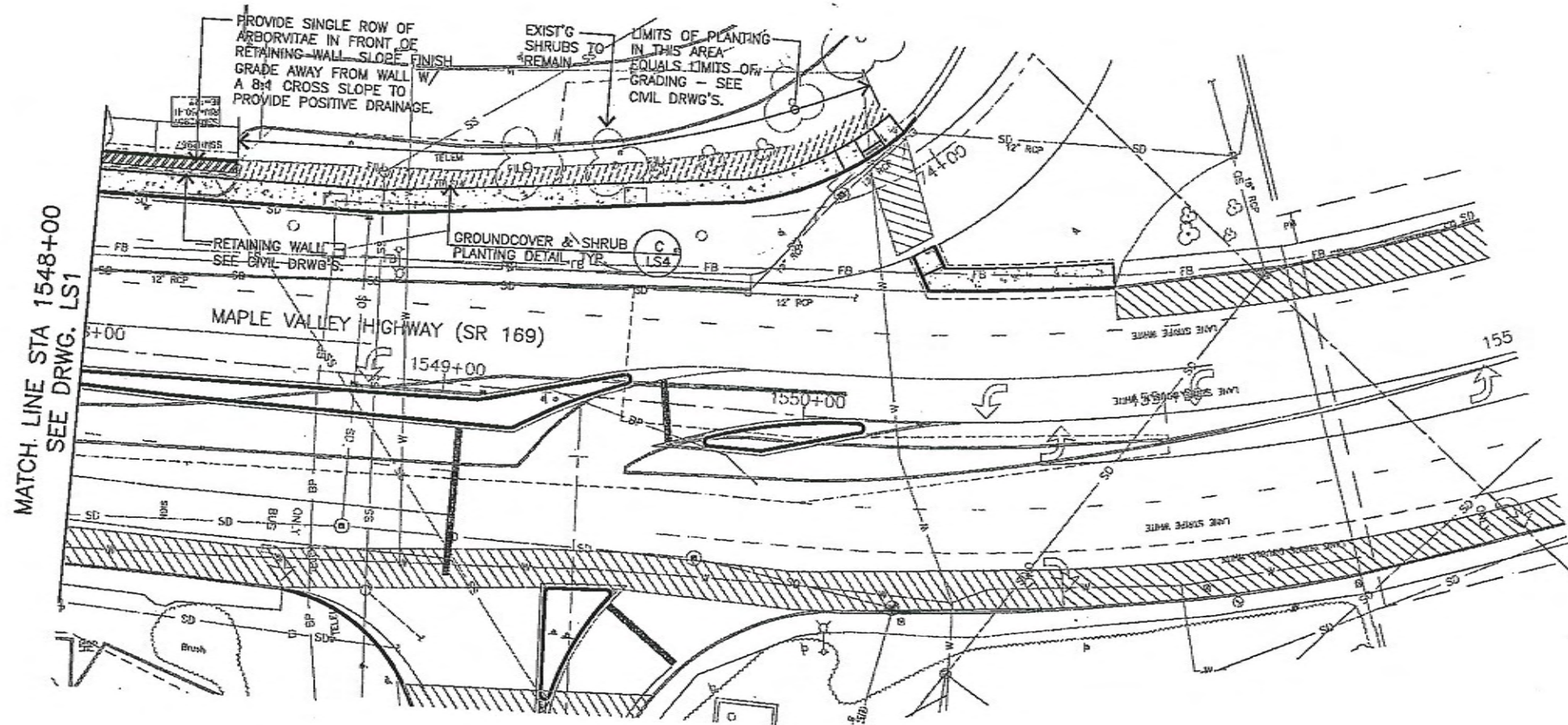
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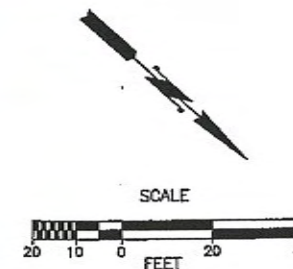






SEE DRWG. LS3 FOR PLANTING  
SCHEDULE. SEE DRWG. LS4 FOR  
ABBREVIATIONS, LEGEND, &  
PLANTING NOTES.

GM 1476  
Exhibit B  
August 2009  
Sheet 1 of 3

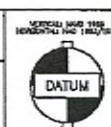


COLEEN R. HOUGH  
CERTIFICATE NO. 318



100% SUBMITTAL

NO.	REVISION	BY	DATE	APPR	APPROVED



CITY OF RENTON  
Planning/Building/Public Works Dept.

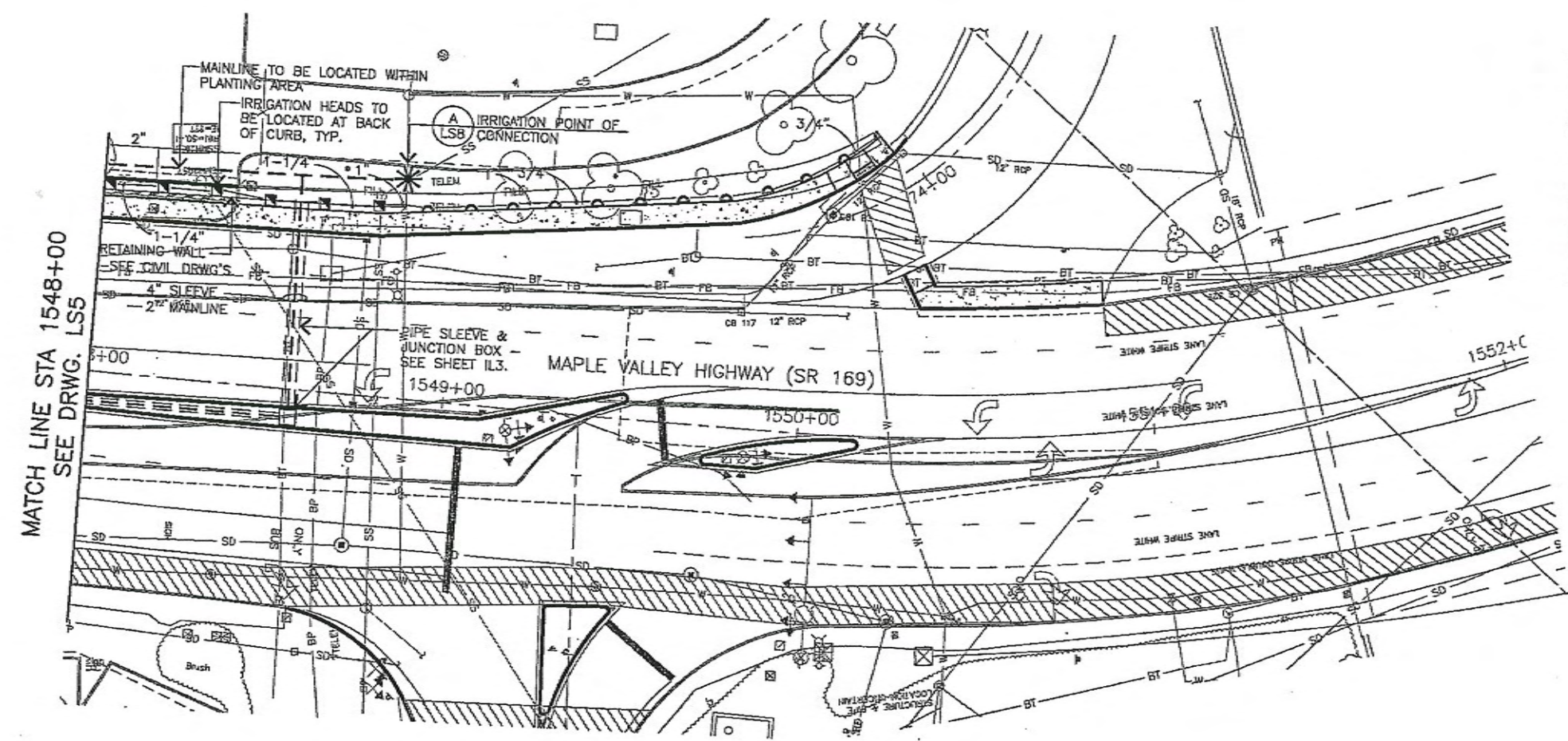
CITY OF RENTON  
MAPLE VALLEY HIGHWAY (SR169)  
IMPROVEMENTS: PHASE 2  
LANDSCAPE PLAN

05-11-07  
LS2  
68 of 76

A-NNNNAA



PROJECT NAME  
MAPLE VALLEY HIGHWAY (SR169)  
PPP-SS-TTTT



SEE DRWG. LS7 FOR  
IRRIGATION NOTES. SEE DRWG.  
LS8 FOR IRRIGATION SCHEDULE &  
LEGEND.

SEE DRWG. LS4 FOR  
ABBREVIATIONS.



COLEEN R. HOUGH  
CERTIFICATE NO. 318



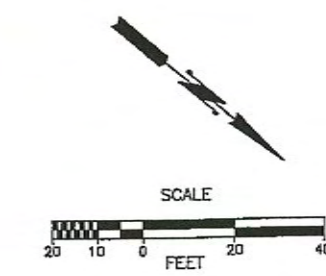
100% SUBMITTAL

NO.	REVISION	BY	DATE	APPR

SCALE  
1"=20'  
ONE INCH  
AT FULL SCALE  
IF NOT ONE INCH  
SCALE, AS SHOWN



CITY OF RENTON  
MAPLE VALLEY HIGHWAY (SR169)  
IMPROVEMENTS: PHASE 2  
IRRIGATION PLAN



GM 1476  
Exhibit B  
August 2009  
Sheet 2 of 3

A-NNNNAA





- SECTION A-A

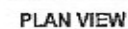


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WEST MANHOLE STORM FILTER AND STORM VAULT

$$1'' = 10'$$

Sheet 3 of 3



660-CPS VAULT OIL WATER SEPARATOR

N.T.S.

 CITY OF  
RENTON  
Planning/Building/Public Works Dept.

## DRAINAGE DETAILS

SEP 28 1978

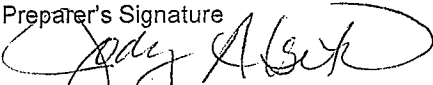
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# Agreement Edit Information

Return this form and original executed agreement to HQ Accounting Services

Agreement Review <input type="checkbox"/> Region Approved and Executed (Standard form UT only) <input checked="" type="checkbox"/> HQ Agreement Review Transmittal Required		Agreement Number <b>GCA 5567</b>		Supplement Number	
Agreement Retention <input type="checkbox"/> Retain Agreement for six (6) years after closure <input checked="" type="checkbox"/> Agreement requires permanent retention (75 years)		Agreement Manager Stacy Trussler		Region Urban Corridors	
Payor/Payee Name and Address City of Renton Attn: Peter Hahn 1055 South Grady Way Renton, WA 98055		Org. Code <b>589216</b>		All Reports will be sent to this Organization Number	
		Start Date <b>10/15/2007</b>		Vouchers will not be paid for work performed before this date	
		End Date		Vouchers will not be paid for work performed after this date	
Federal Employer ID Number OR Social Security Number  91-6001271					
Project Title SR 169 - Maple Valley Improvements - Phase 2					
Project Description Provides for construction funding of additional improvements to City project requested by WSDOT.					
Payable Agreement Work by Others to be PAID by WSDOT			Reimbursable Agreement Work by WSDOT to be REIMBURSED by OTHERS		
Maximum Amount Payable \$292,100			Amount Reimbursable to WSDOT		
Management Reserve Fund (Funds setup when requested)			Reciprocal Overhead Agreement Number (If applicable)		
Allowed Overrun Percent 25			Allowed Overrun Percent		
Preparer's Signature 		Date 10/31/2007		Phone (206) 464-1233	



**Washington State  
Department of Transportation**

<b>State Participating Agreement</b>  Work by Local Agency Actual Cost		Organization and Address City of Renton 1055 South Grady Way Renton, WA 98057-3232
		Section / Location SR 169 mile post 24.83 to mile post 25.23
Agreement Number GCA-5567		Description of Work Construction of additional improvements along SR 169 described as "Group 2" in the City of Renton project entitled "Maple Valley Highway (SR 169) Improvements: Phase 2."
State Route Number 169	Control Section Number 173408	
Region Urban Corridors		

THIS AGREEMENT, made and entered into this 15<sup>th</sup> day of October, 2007, between the STATE OF WASHINGTON, Department of Transportation, acting by and through the Secretary of Transportation, (hereinafter the "STATE") and the above named organization, (hereinafter the "LOCAL AGENCY").

WHEREAS, the LOCAL AGENCY is planning the construction of a project as shown above, and in connection therewith, the STATE has requested that the LOCAL AGENCY perform certain work as herein described, and

WHEREAS, it is deemed to be in the best interest for the STATE to include specific items of work in the LOCAL AGENCY's construction contract proposed for the above-noted project, and

WHEREAS, the STATE is obligated for the cost of work described herein.

NOW THEREFORE, by virtue of RCW 47.28.140 and in consideration of the terms, conditions, covenants, and performances contained herein, or attached and incorporated and made a part hereof, IT IS MUTUALLY AGREED AS FOLLOWS:

## I GENERAL

The LOCAL AGENCY, as agent acting for and on behalf of the STATE, agrees to perform the above "Description of Work".

Plans, specifications and cost estimates shall be prepared by the LOCAL AGENCY in accordance with the current State of Washington Standard Specifications for Road, Bridge, and Municipal Construction, and amendments thereto, and adopted design standards, unless otherwise noted. The LOCAL AGENCY will incorporate the plans and specifications into the LOCAL AGENCY's project and thereafter advertise the resulting project for bid and, assuming bids are received and a contract is awarded, administer the contract.

The LOCAL AGENCY agrees to submit plans and specifications for the described work as shown on Exhibit "B", attached hereto and by this reference made a part of this AGREEMENT, to the STATE for approval prior to advertising the project.

The STATE may, if it desires, furnish an inspector on the project. Any costs for such inspection will be borne solely by the STATE. All contact between said inspector and the LOCAL AGENCY's contractor shall be through the LOCAL AGENCY's representative.

The STATE agrees, upon satisfactory completion of the work involved, to deliver a letter of acceptance which shall include a release and waiver of all future claims or demands of any nature resulting from the performance of the work under this AGREEMENT.

## II PAYMENT

The STATE, in consideration of the faithful performance of the work to be done by the LOCAL AGENCY, agrees to reimburse the LOCAL AGENCY for the actual direct and related indirect cost of the work.

An itemized estimate of cost for work to be performed by the LOCAL AGENCY at the STATE's expense is marked Exhibit "A", and is attached hereto and by this reference made a part of this AGREEMENT.

Partial payments shall be made by the STATE, upon request of the LOCAL AGENCY, to cover costs incurred. These payments are not to be more frequent than one (1) per month. It is agreed that any such partial payment will not constitute agreement as to the appropriateness of any item and that, at the time of the final audit, all required adjustments will be made and reflected in a final payment.

The LOCAL AGENCY agrees to submit a final bill to the STATE within forty-five (45) days after the LOCAL AGENCY has completed the work.

### III DELETION OF WORK

In the event the estimate of cost, Exhibit "A", is in excess of \$10,000 and the total actual bid prices for the work covered by this AGREEMENT exceeds the estimate of cost by more than 15 percent, the STATE shall have the option of directing the LOCAL AGENCY to delete all or a portion of the work covered by this AGREEMENT from the LOCAL AGENCY's contract. Except, that this provision shall be null and void if the STATE's portion of the work exceeds 20 percent of the actual total contract bid price.

The STATE shall have five (5) working days from the date of written notification to inform the LOCAL AGENCY to delete the work. Should the STATE exercise its option to delete work, the STATE agrees, upon billing by the LOCAL AGENCY, to reimburse the LOCAL AGENCY for preliminary engineering costs incurred by the LOCAL AGENCY to include the work covered by this AGREEMENT in the LOCAL AGENCY's contract.

### IV EXTRA WORK

In the event unforeseen conditions require an increase in the cost of 25 percent or more from that agreed to on Exhibit "A", this AGREEMENT will be modified by supplemental AGREEMENT covering said increase.

In the event it is determined that any change from the description of work contained in this AGREEMENT is required, approval must be secured from the STATE prior to the beginning of such work. Where the change is substantial, written approval must be secured.

Reimbursement for increased work and/or a substantial change in the description of work shall be limited to costs covered by a written modification, change order or extra work order approved by the STATE.

### V RIGHT OF ENTRY

The STATE hereby grants and conveys to the LOCAL AGENCY the right of entry upon all land which the STATE has interest, within or adjacent to the right of way of the highway, for the purpose of constructing said improvements.

Upon completion of the work outlined herein, all future operation and maintenance of the STATE's facilities shall be at the sole cost of the STATE and without expense to the LOCAL AGENCY.

### VI LEGAL RELATIONS

No liability shall attach to the LOCAL AGENCY or the STATE by reason of entering into this agreement except as expressly provided herein.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT as of the day and year first above written.

#### LOCAL AGENCY

By Kathy Keolker

Title Kathy Keolker, Mayor

Date October 15, 2007

Attest:

Bonnie I. Walton  
Bonnie I. Walton, City Clerk

#### STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION

By Kim Henry

Title Kim Henry, I-405 Project Director

Date 10/22/07



## Maple Valley Highway(SR 169) Improvements: Phase 2

Exhibit A, Estimate of Cost

Based on Rodarte's Low Bid

Bid Item No.	ITEM	UNITS	WSDOT QUANTITY	CONTRACT UNIT PRICE	GROUP 2 WSDOT	
					AMOUNT	
2	Finish and Cleanup	LS	5%	\$ 8,000	\$	400
3	Roadway Surveying	LS	5%	\$ 50,000	\$	2,500
5	Training	HR	30	\$ 5	\$	150
6	SPCC Plan	LS	5%	\$ 1,000	\$	50
10	Mobilization	LS	5%	\$ 437,000	\$	21,850
11	Traffic Control	LS	5%	\$ 195,000	\$	9,750
18	Roadway Excavation Including Haul	CY	109	\$ 32	\$	3,488
19	Gravel Borrow Incl. Haul	TON	386	\$ 25	\$	9,650
20	Unsuitable Foundation Excavation Incl. Haul	CY	4	\$ 50	\$	200
28	H.M.A. Cl. 1/2" PG 64-22	TON	257	\$ 70	\$	17,990
29	H.M.A. Cl. 1" PG 64-22	TON	574	\$ 70	\$	40,180
46	Storm Drain Pipe 12 In. Diam.	LF	50	\$ 44	\$	2,200
50	Catch Basin Type 1	EA	1	\$ 1,000	\$	1,000
76	SWPPP	LS	5%	\$ 5,000	\$	250
93	Cement Conc. Traffic Curb and Gutter	LF	89	\$ 12	\$	1,068
101	Cement Conc. Sidewalk	SY	56	\$ 35	\$	1,960
103	Cement Conc. Sidewalk Ramp Type 2	EA	3	\$ 1,700	\$	5,100
109	Traffic Signal System Modifications SR169/Cedar River Park Entrance	LS	80%	\$ 150,000	\$	120,000
112	Illumination System #1	LS	20%	\$ 100,000	\$	20,000
115	Illumination System #4	LS	5%	\$ 45,000	\$	2,250
119	Paint Line	LF	257	\$ 0.35	\$	90
121	Plastic Crosswalk Line	SF	50	\$ 7	\$	350
124	Plastic Traffic Arrow	EA	3	\$ 130	\$	390
127	East Storm Vault	LS	25%	\$ 85,000	\$	21,250
128	East Manhole Stormfilter	LS	25%	\$ 35,000	\$	8,750
132	Storm Vault Shoring	SF	220	\$ 1	\$	220
134	Field Office Building	LS	5%	\$ 20,000	\$	1,000
Total Estimated Costs					\$	292,100

**Exhibit A**

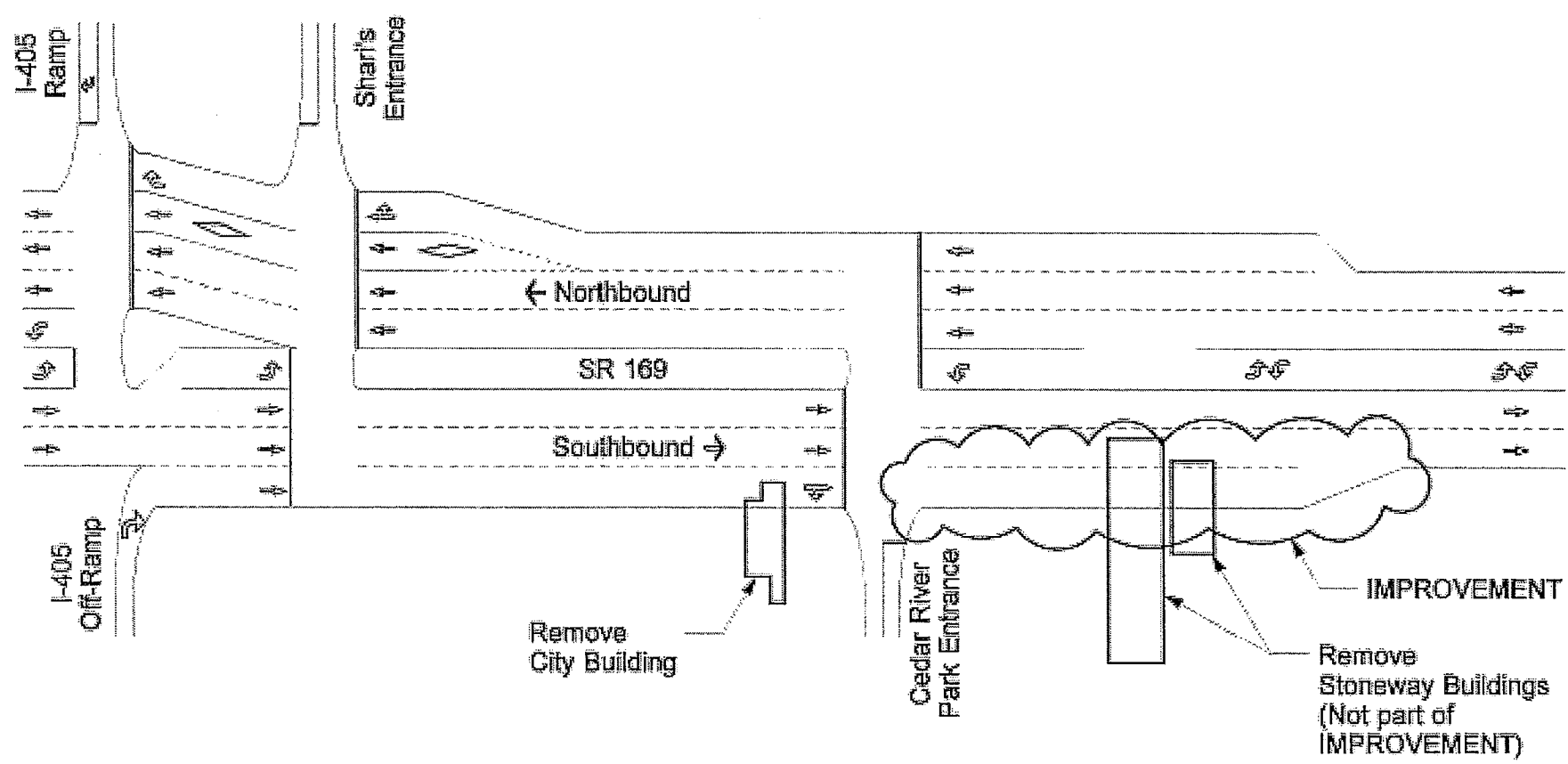


Exhibit B