# UNIVERSITY OF PUERTO RICO - CAROLINA

STORMWATER MANAGEMENT PLAN 2017

**ABSTRACT**

The Stormwater Management Plan of the UPR-Carolina was developed for compliance with the Clean Water Act under the 2016 NPDES Phase I Municipal Stormwater Permit

May 2018

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# 1 Acronyms

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|---|---|
| **BMP** | Best Management Practices |
| **CES** | Control de Erosión y Sedimentación |
| **CWA** | Clean Water Act |
| **EPA** | Environmental Protection Agency |
| **ESA** | Endangered Species Act |
| **GIS** | Global Information Systems |
| **GP** | General Permit |
| **GPS** | Global Positioning System |
| **IDDE** | Illicit Discharge Detection and Elimination |
| **LID** | Low Impact Development |
| **MCM** | Minimum Control Measures |
| **MEP** | Maximum Extent Practicable |
| **MS4** | Municipal Separate Sewer System |
| **NHPA** | National Historic Preservation Act |
| **NOI** | Notice of Intent |
| **NMFS** | National Marine Fisheries Service |
| **NPDES** | National Pollutant Discharge Elimination System |
| **PRASA** | Puerto Rico Aqueduct and Sewer Authority |
| **PRDNER** | Puerto Rico Department of Natural and Environmental Resources |
| **PREQB** | Puerto Rico Environmental Quality Board |
| **SOP** | Standard Operating Procedures |
| **SHPO** | Puerto Rico State Historic Preservation Office |
| **SWMP** | Stormwater Management Plan |
| **TMDL** | Total Maximum Daily Load |

# 2 Definitions

1. **Best Management Practices**: (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
2. **Control Measure**: any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.
3. **Clean Water Act**: (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.
4. **General Permit**: refers to the EPA Region 2 Small MS4 General Permit for Puerto Rico number PRR040000 effective on July 1,2016.
5. **Historic Property**: Historic properties are defined in the NHPA regulations 36 CFR § 800.16(1) to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties.
6. **Illicit Connection**: means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

7. **Illicit Discharge**: is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.

8. **MEP**: an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA §402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34.

9. **MS4**: an acronym for "Municipal Separate Storm Sewer System". It is used to refer to a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Dallas MS4"). The term

is also used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities.

10. **Municipal Separate Storm Sewer**: is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

11. **NOI**: an acronym for “Notice of Intent” to be covered by this permit and is the mechanism used to “register” for coverage under a general permit.

12. **Outfall**: An outfall means a point source as defined by 40 CFR § 122.2 and is the point where the municipal separate storm sewer discharges to waters of the United States. An outfall does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the United States and that are used to convey waters of the United States (40 CFR § 122.26(b)(9)).

13. **Permitting Authority**: means the EPA Regional Administrator or an authorized representative.

14. **Small Municipal Separate Storm Sewer System**: is defined at 40 CFR 122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States, but is not defined as “large"' or

"medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

15. **Storm Water**: is defined at 40 CFR 122.26(b) (13) and means storm water runoff, snow melt runoff, and surface runoff and drainage.

16. **Storm Water Management Program**: (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.

17. **Undertaking**: is defined in the NHPA regulations 36 CFR § 800.16(y) to include a project, activity, or program of a Federal agency including those carried out by or on behalf of a Federal agency, those carried out with Federal financial assistance, and those requiring a Federal permit, license or approval.

18. **Urbanized Area**: comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The "densely settled surrounding territory" adjacent to the place consists of a territory made up of one or more contiguous census blocks having a population density of at least 1,000 people per square mile that it is:

    a. Contiguous with and directly connected by road to other qualifying territory, or

    b. Noncontiguous with other qualifying territory, and:

        i. Within 1 ½ road miles of the main body of the urbanized area and connected to it by one or more non-qualifying census blocks that [a] are adjacent to the connecting road and [b] together with the outlying qualifying territory have a total population density of at least 500 people per square mile, or

        ii. Separated by water or other undeveloped territory from the main body of the urbanized area, but within 5 road miles of the main body of the urbanized area, as long as the 5 miles include no more than 1 ½ miles of otherwise non-qualifying developable territory.

# 3 Basic SWMP Information

The Storm Water Phase II Final Rule (December 8, 1999) requires operators of regulated Small Municipal Separate Storm Sewer Systems (MS4s) to obtain a National Pollutant Discharge Elimination System (NPDES) permit. This Rule also requires the development of a Storm Water Management Plan to satisfy applicable Clean Water Act (CWA) water quality requirements and technology standards.

A Stormwater Master Plan for the University of Puerto Rico – Carolina provides guidance and recommendations for reducing the negative stormwater runoff impacts that are created by the impervious (building and paved) surfaces of the University campus. The purpose of the plan is to aid campus planning by identifying opportunities to incorporate sustainable stormwater management practices into future projects. These opportunities will contribute to the University's goals for increased environmental sustainability, increased green space, and reduced utility costs associated with stormwater runoff.

Stormwater runoff from the vast majority of the campus property and the City/State streets that cross through the campus is drained via City/State-owned combined storm/sanitary sewers to Sewer Treatment Plants (SWTP). During rainfall events, the capacity of the SWTPs may be overwhelmed and a combination of polluted stormwater and raw sewage is discharged directly into the tidal portion of the Atlantic Ocean. Such an event is referred to as a Combined Sewer Overflow (CSO).

This stormwater management program planning document was developed by University of Puerto Rico - Carolina to describe the activities and measures that will be implemented in urbanized areas to meet the terms and conditions of the General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas of the Commonwealth of Puerto Rico.

The University of Puerto Rico-Carolina owns and operates a non-conventional MS4 located in the urban areas of the Municipality of Carolina. Municipality delimitation identifying urban areas within municipal's wards is shown in **Figure No. 1**.

On July 1, 2016, EPA Region 2 issued the final 2016 GP for all Small MS4 in Puerto Rico. This version replaces the previous 2006 GP. This permit and the authorization to discharge shall expire at midnight, June 30, 2021 **(see Appendix M)**.

The University of Puerto Rico-Carolina submitted a Notice of Intent (NOI) on September 29, 2016 requesting coverage under the 2016 GP (PR04000) in accordance with the Storm Water Phase II Rule **(see Appendix A)**.

## 3.1 Staff Organization

The staff consists of university personnel and the offices that must work together to implement, maintain and revise the SWMP. When there is a change in administration or personnel, the designated personnel responsible for the continued implementation of the SWMP must be brief on all aspects of the program before the other administration leaves office. The staff members are the following:

1. Jorge I. Valentín Asencio, Acting Chancelor
2. René Rodríguez Vázquez, Dean of Administrative Affairs
3. Gerardo Perfecto Rivera, Dean of Students Affairs
4. Jimmy Torres Rodríguez, Dean of Academic Affairs
5. Jonathan F Ramos Scharron, Dean of School of Hotel and Restaurant Management
6. Melysa Rodríguez Bonano, Legal Adviser
7. Herman Muñíz Muñoz, Director of Physical Resources
8. Christopher Castillo Cintrón, M. Arq., Design Department Coordinator
9. Miguel A. Gutierrez Martinez, Environmental Health & Safety

The following are basic staff responsibilities:

- To implement the NPDES permit and the SWMP requirements.
- To be aware of changes made to the university operations and determine if any update to the SWMP must be made.
- To implement and oversee the employee training and inspection program.
- To coordinate the implementation of the Best Management Practices (BMP), review the effectiveness of the SWMP, and update it as needed.
- To report and document all activities of the program and any problem encountered.

**Table 1**. SWMP Staff

| Name/Title | Phone | Responsibilities |
|---|---|---|
| Jorge I. Valentín Asencio, Acting Chancelor - Stormwater Management Plan Coordinator | 787-257-0000 Ext. 3340 | • Implement the SWMP requirements and BMP's<br>• Review SWMP effectiveness |
| Herman Muñíz Muñoz, Director of Physical Resources - Stormwater Management Plan Coordinator | (787)-257-0000 Ext. 4675 | • Monitor compliance<br>• Identify and eliminate illicit downloads<br>• Implement good house keeping<br>• Report results and advise of problems encountered<br>• Write letter for prevention of pollution and good practice of order and cleanliness<br>• Collect daily waste drainage system |
| Miguel A. Gutiérrez Martinez– Stormwater Management Plan Coordinator | (787) 257-0000 Ext 4601 | • Implement employee-training program and inspections<br>• Record keeping and reporting<br>• Update SWMP as needed<br>• Perform material inventories and inspections |
| Jonathan F Ramos Scharron, Dean of School of Hotel and Restaurant Management | (787) 000-0000 Ext 3120 | • Write letter for prevention of pollution and good practice of order and cleanliness |
| Jimmy Torres Rodríguez, Dean of Academic Affairs | (787) 000-0000 Ext | • Write letter for prevention of pollution and good practice of order and cleanliness |
| Gerardo Perfecto Rivera, Dean of Students Affairs | (787) 000-0000 Ext 3545 | • Write letter for prevention of pollution and good practice of order and cleanliness |
| René Rodríguez Vázquez, Dean of Administrative Affairs | (787) 000-0000 Ext 3216 | • Write letter for prevention of pollution and good practice of order and cleanliness |
| Christopher Castillo Cintrón, M. Arq., Design Department Coordinator | (787) 000-0000 Ext 3307 | • Check compliance the rainwater map |



The staff will gather at regular meetings held at least quarterly. During these meetings, the staff will discuss the tasks of the SWMP, review its implementation progress, address comments and suggestions received from others, and determine whether changes to the SWMP is needed to meet its objectives. The staff will revise the SWMP as necessary.

## 3.2 **Urbanized Areas**

The University of Puerto Rico - Carolina Campus is located at the Escorial, Avenida Sur 2100 (Old El Comandante Horse track, at the San Antón Ward, Carolina, Puerto Rico. It is located at the approximate coordinates of Latitude 18° 23' 32.93" N and Longitude 65° 59' 23.67" W. The Campus property covers an area of approximately 58.7 acres on which several buildings covering a total area of approximately 160,000 square-feet (sf) are located. The UPR-Carolina Campus' facilities include 55 classrooms, 46 laboratories for different educational subjects, parking areas, several sport facilities and associated infrastructure.

The UPR-Carolina Campus is located in the northeastern part of Puerto Rico in an area of significant industrial and economic development. The UPR-Carolina Campus is a superior education academic institution, designed to principally serve the northeast Region of the Island. The University offers 12 Bachelor Degrees, 5 Associated Degrees as well as 19 Transfer Programs. The main Departments and programs offered by the UPR-Carolina Campus include:

- Business Administration
- Hotel and Restaurants Management School
- Natural Sciences
- Mathematics
- Social Sciences
- Education
- Design
- Engineering Technology
- Human sciences
- Chemistry
- Physics
- Office Systems; and
- Office Systems

The UPR-Carolina Campus has an average annual student enrollment of approximately 3,794 students, approximately 217 faculty members and approximately 191 employees. **(Appendix B)** Urbanized Area Map.

## 3.3 Receiving Waters and Drinking Water Sources

### 3.3.1 Hydrology

The receiving waters for the UPR-Carolina stormwater system are fresh and estuarine coastal areas north of the main campus. Stormwater from the facility runs through the drainage system (culverts, pipes, and open channels) into the stormwater system owned and managed by the City of Carolina and the Puerto Rico Department of Transportation and Public Works. **(Appendix C)** Hydrology Map.

**Table 2**. Receiving Water Data Summary Table

| Receiving Waterbody Segments | WQS Classification | Impairment/Pollutant of Concern | Applicable WLA's | # of Discharging Outfalls |
|---|---|---|---|---|
| PREC14 (Punta Las Marías to Punta Cangrejos) | SB | Marinas and Recreational Boating (7900)<br>Urban Runoff/Storm Sewers (4000)<br>Turbidity (2500)<br>pH (1000) | N/A | Unknown *Some data is available under the City of Carolina MS4 map |

**Table 2a**. Interconnected MS4 Carolina and PRDTOP Receiving Water Data Summary Table

| Receiving Waterbody Segments | WQS Classification | Impairment/Pollutant of Concern | Applicable WLA's | # of Interconnections |
|---|---|---|---|---|
| PREC14 (Punta Las Marías to Punta Cangrejos) | SB | Marinas and Recreational Boating (7900)<br>Urban Runoff/Storm Sewers (4000) Turbidity (2500)<br>pH (1000) | N/A | Unknown |

# 4 Endangered and Threatened Species and Critical Habitat

The Endangered Species Act of 1973 (ESA) as amended thereafter by the U.S. Congress, designated the U.S. Fish and Wildlife service (USFWS) with the responsibility and authority to conserve threatened and endangered species and the ecosystems on which those species depend. The National Marine Fisheries Service (NMFS) also has jurisdiction over marine threatened and endangered species.

The MS4 operated by the University of Puerto Rico - Carolina evaluated if listed threatened or endangered species and critical habitat are present within the MS4 urbanized area. The USFWS official List of Threatened and Endangered Species reports twenty-two (22) species of flora and fauna, which were found to have significant population within the Municipality of Carolina. The listed threatened and endangered species are presented in **Table 3**.

**Table 3**. Threatened and Endangered Species

| SCIENTIFIC NAME | COMMON NAME | COMMON NAME SPANISH | GROUP | STATUS | DISTRIBUTION |
|---|---|---|---|---|---|
| Agelaius xanthomus | Yellow Shouldered Black | Mariquita | Bird | E | Coastal Forest |
| Chelonia mydas | Green Sea Turtle | Peje Blanco | Reptile | T, CH | Coastal Zones |
| Dermochelys coriacea | Leatherback Sea Turtle | Tinglar | Reptile | E, CH | Coastal Zones |
| Epicrates inornatus | Puerto Rican Boa | Boa Puertorriqueña | Reptile | E | Forested Volcanic and Limestone (Karst) Hills |
| Eretmochelys imbricata | Hawksbill Sea Turtle | Carey | Reptile | E, CH | Coastal Zones |
| Pelecanus occidentalis | Brown Pelican | Pelicano Pardo | Bird | D, MP | Coastal Zones, Inland Waterbodies, No Nesting |

| | | | | | |
|---|---|---|---|---|---|
| Trichechus manatus manatus | Antillean Manatee | Manati Antillano | Mammal | E | Coastal Zones |

To satisfy the newly issued NPDES MS4 permit eligibility criteria regarding endangered species, the University of Puerto Rico-Carolina assessed the potential effects of the MS4 known stormwater discharges and discharge-related activities on listed species or critical habitat and followed the steps outlined in Appendix C of the GP. An initial review of UPR-Carolina MS4 discharges and related activities indicates that the Municipality does not adversely affect endangered and threatened species. The UPR-Carolina determined that it meets eligibility under Criterion A: No endangered or threatened species or critical habitats are in proximity to the storm water discharges or discharge related activities.

Consultation with the USFWS office in Puerto Rico was initiated on May 17, 2018. The USFWS reviewed the letter and decided that there are no records of threatened and endangered species at the project area and determined that no further consultation is required (USFWS letter dated Date). A copy of the correspondence is attached in **Appendix D**.

# 5 Historic Properties

The newly issued GP requires that the discharges authorized by the permit should be in compliance with the National Historic Preservation Act. Coordination with the Puerto Rico State Historic Preservation Office (SHPO) does not indicate any cultural resources, or any properties listed or eligible for listing in the National Register of Historic Places within the UPR-Carolina MS4. Previous consultation with SHPO under the 2003 GP indicates that there are no historical sites listed or eligible for listing in the area or close proximity to the MS4. A copy of the letter is attached in **Appendix E**.

**Table 4**. National Historic Properties List within the MS4 Urbanized Area.

| National Historic Properties | Location | Stormwater Control Measures (Potential Impact) |
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Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to consider the effects of Federal "undertakings" on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term Federal "undertaking" is defined in the NHPA regulations to include a project, activity, or program of a Federal agency, including those carried out by or on behalf of a Federal agency, those carried out with Federal financial assistance, and those requiring a Federal permit, license or approval. See 36 CFR § 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR § 800.16(1).

Ground disturbances of 1 acre or more require coverage under the Construction General Permit. Where you have to disturb the land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if you are establishing new or altering existing control measures to manage your stormwater that will involve subsurface ground disturbance of less than 1 acre, you will need to ensure (1) that historic properties will not be impacted by your activities or (2) that you are in compliance with a written agreement with the SHPO that outlines all measures you will carry out to mitigate or prevent any adverse effects on historic properties.

# 6 Map of Separate Storm Sewer System

As required by the General Permit, a copy of the existing storm sewer system map is included in **Appendix F**.

The University of Puerto Rico – Carolina is in the process to develop a full set of the storm sewer system map. The map will include the runoff flow and infrastructure construction details (pipe diameters, construction materials, and inlets location).

# 7 Controls for Targeting Pollutants of Concern

The coastal waters of Carolina are part of the water quality stations network established by the PR Environmental Quality Board. The receiving waters were not included for TMLD development; however, several pollutants of concern were identified in the 2012 305 (b) Report. The station established by the EQB is: PREC14 (Punta Las Marías to Punta Cangrejos). According to the document, the waters are identified as SB and the sources of pollution are: Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000), Turbidity (2500) and pH (1000). The receiving waters are part of the San Juan Bay Estuary. The SJEP developed a CCMP to address many issues related to impacts from runoff and other sources impairing the quality of coastal waters. The report does not propose new means of managing Stormwater but recommends a continuation and expansion of existing practices as well as targeting priority areas. Possible BMPs and structures for controlling these pollutants in the Carolina coastal waters include but are not limited to: retention and detention ponds, infiltration systems, impervious surface reduction, practices such as street sweeping, housekeeping practices, appropriate construction sequencing, maintenance of sediment collection structures, and public education.

The University of Puerto Rico - Carolina already employs some of the recommended BMPs listed in the previous permit and will continue to control the discharge of pollutants by the use of the BMPs listed in the SWMP. Campus Design Standards have provisions for low impact development encouragement which include but are not limited to: water conservation, stormwater runoff reduction, pervious concrete and asphalt designs, minimization of paved and impervious surfaces, site grading to reduce the amount of directly connected impervious surfaces, onsite detention and roof runoff capture.

## 7.1 Controls for Existing Discharges to Impaired Waters with TMDL's

There are no Impaired Waters with TMDL's near the UPR-Carolina Campus.

### 7.1.1 Targeted Controls and Associated Measurable Goals

| | |
|---|---|
| Control Measure | BMP TMDL1 – Control Description |
| Measurable Goal | Does not apply |
| Person or Department Responsible | N/A |

| | |
|---|---|
| Control Measure | BMP TMDL2 – Control Description |
| Measurable Goal | Does not apply |
| Person or Department Responsible | N/A |

### 7.1.2 Assessing Progress Toward Meeting [Insert Pollutant of Concern] Benchmark Goals

This Section does not apply to the University of Puerto Rico – Carolina.

## 7.2 Controls for Existing Discharges to Impaired Waters without TMDL's

This Section does not apply to the University of Puerto Rico - Carolina

Turbidity

The University has targeted those Municipal Operation and Maintenance activities with the potential to result in the discharge of the identified pollutants of concern and developed Standard Operating Procedures (SOPs) for landscape maintenance that are designed to target and reduce the discharge of high temperature waters as well as the other pollutants of concern listed in the SWMP. Further information about good housekeeping and municipal maintenance SOPs can be found in the Appendix of the University's SMWP.

The Outreach and Education program is targeted at specific groups on Campus: Residents, MS4 Staff, Developers and Construction Contractors, and Institutions, Industrial and Commercial Facilities. Information includes: preventing stormwater runoff from becoming polluted and about the University's prohibition against illicit discharges. Outreach and Education efforts from the MS4 Permit are incorporated to reduce Thermal Modifications; further information can be found in the Appendix of the University's SWMP.

Targeted Controls and Associated Measurable Goals

| | |
|---|---|
| Control Measure | BMP – Control Description |
| Measurable Goal | Does not apply |
| Person or Department Responsible | N/A |

| | |
|---|---|
| Control Measure | BMP – Control Description |
| Measurable Goal | Does not apply |
| Person or Department Responsible | [N/A] |

# 8 Legal Authority and Enforcement

The majority of the MS4 is comprised of University of Puerto Rico-Carolina owned and operated facilities. Through its ownership and control, the University controls discharges to and from the MS4, as described in this plan. The University will have the responsibility to implement all measures within this SWMP.

The University of Puerto Rico - Carolina is both responsible for and has legal authority for stormwater discharges from both University owned and non-University facilities. This legal authority includes enforcement of storm water requirements and regulations. The University is not responsible for or in control of the quantity or quality of water flowing into their storm drain system, and other properties within the University.

The UPR-Carolina will issue an Interpretative Letter to require the consideration of all activities that may have an impact on water bodies. This will include illicit discharges, construction and post-construction runoff for new developments and redevelopments. The University of Puerto Rico-Carolina will develop a Standard Operating Procedure for all its activities that may have an impact on water bodies receiving discharges from their MS4 system.

**(Appendix G)** Copy of the Interpretative Letter to be used by the UPR-Carolina.

## 8.1 Targeted Controls and Associated Measurable Goals

| | |
|---|---|
| Control Measure | BMP LA1 – Modify Adequate Legal Authority<br><br>The UPR-C issued the Interpretative Letter in 2018 to oversee daily operations. If needed during the 5-year term, the document can be modified to address any request from the regulator or the UPR Administrators. |
| Measurable Goal | Reduce pollution from University daily operations |
| Person or Department Responsible | Campus Chancellor Office |

# 9 Controls to Reduce Pollutants to the Maximum Extent Practicable

The University of Puerto Rico at Carolina has developed the Storm Water Management Program to meet the regulatory requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II Rule. The components of this program include management practices; control techniques, design and engineering methods for the six minimum control measures that will reduce pollutant discharges to the water bodies. The Storm Water Management Program is designed to reduce to the maximum extent practicable (MEP) the discharge of pollutants from the MS4 to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act and the requirements of the Puerto Rico General NPDES Permit for MS'4.

## 9.1 Public Education and Outreach

The SWMP activities implemented under Minimum Control Measure (MCM) 1 will focus on increasing public awareness of the harmful effects of storm water runoff and its potential to affect the water quality. The outreach program and educational activities must target the following pollutant Sources: sediment deposition caused by construction activities, biological pollutants such as: sediment, bacteria, nutrients, pesticides, metals, organic pollutants and oil and grease. The University shall create new tasks as necessary, implement and modify any existing public education and outreach element to continue reducing to the MEP the discharge of pollutants into the MS4.

### 9.1.1 Targeted Controls and Associated Measurable Goals

| | |
|---|---|
| Control Measure | BMP PE1 – Collect brochures, fact sheets and other educational materials from the EPA and other agencies. |
| Measurable Goal | Number of University students reached (X,000/year), employees and faculty. The administration conducted the task on a yearly basis instead of twice a year due to limited resources. |

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|---|---|
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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|---|---|
| Control Measure | BMP PE2 – Students, employees and faculty. With the support from Name of Organization, Name of newsletter and Name of Organization (student's organizations), materials and information were distributed among groups. |
| Measurable Goal | Number of students, employees and faculty reached (X,000/year). The Committee and students from the Name of Organization, will help to distribute materials and information. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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|---|---|
| Control Measure | BMP PE3 – Modify webpage for the Stormwater Program to add Social Media tools and blog |
| Measurable Goal | General public, students, employees and faculty. The site is part of the UPR-Carolina webpage. The goal is to reach over X,000 students and residents per year. |
| Person or Department Responsible | UPR-Carolina Office of Public Relations |

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| | |
|---|---|
| Control Measure | BMP PE4 – Radio Program? |
| Measurable Goal | General public, students, employees and faculty. The radio program approach was discontinued. The university instead |

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|---|---|
| | created UPRC-Web-radio. They air PSAs related to stormwater information. |
| Person or Department Responsible | UPR-Carolina Communications Department |

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|---|---|
| Control Measure | BMP PE5 – Incorporate university and student organizations into the program. |
| Measurable Goal | Around X organizations will be involved in different activities. |
| Person or Department Responsible | Dean of Students Affairs |

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|---|---|
| Control Measure | BMP PE6 – Evaluate the possibility of including the stormwater pollution control to exiting environmental courses offered at UPR-Carolina. |
| Measurable Goal | Students. Currently several courses at UPRC include the topic of stormwater pollution control. |
| Person or Department Responsible | Dean of Academic Affairs |

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## 9.2 Public Involvement

### 9.2.1 Public Involvement Management Program

The SWMP activities implemented under MCM 2 will focus on increasing public involvement and participation in reducing the harmful effects of storm water runoff and its potential to affect the water quality. The University shall create new tasks as necessary, implement and modify any existing public involvement element to continue reducing to the MEP the discharge of pollutants into the MS4.

### 9.2.2 Targeted Controls and Associated Measurable Goals

| | |
|---|---|
| Control Measure | BMP PI1 – Review SWMP by the university community |
| Measurable Goal | General Public, Students, Employees and Faculty. The SWMP will be available for comments. To reach over 75% of university community. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |
| Control Measure | BMP PI2 – Create events for students, employees and faculty to clean-up the campus |
| Measurable Goal | Through the Campus website the general public will be invited. The activities will be coordinated at the Annual Fair event |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection and Students Affairs Dean |
| Control Measure | BMP PI3 – Involve student's organizations such as Student Council and the Departments of Social Sciences, Natural Sciences, and Engineering Technology. |
| Measurable Goal | Using social media to reach out the community and 100% of student's organizations. Through the Campus website the general public will be invited. The activities will be part of the celebration of Earth Day. |
| Person or Department Responsible | Office of Public Relations and the Department of Health, Occupational Safety and Environmental Protection |

| | |
|---|---|
| Control Measure | BMP PI4 – Respond to verbal inquiries, comments and concerns about illicit disposal of wastes, and/or request of information. |
| Measurable Goal | Respond 100% of the verbal inquiries |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection and Administrative Affairs Dean. |

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| Control Measure | BMP PI5 – Make the SWMP/NOI available to students and faculty. |
| Measurable Goal | To reach out 100% of the university community using existing media outlets including social networks. |
| Person or Department Responsible | Center for Information Technology |

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## 9.3 Illicit Discharge Detection and Elimination (IDDE)

### 9.3.1 IDDE Management Program

Permit Requirement

The UPR-Carolina will develop, implement and enforce a program to detect and eliminate illicit discharges or flows. The management program must include a storm sewer system map showing the location of all outfalls (the point where a waste stream discharges into a body of water) and the names of all waters that receive these discharges. The map also will show the location of catch basins, manholes and pipes within the system, physical interconnections with other regulated MS4s and private property connections. Our program plan must contain procedures to identify and target priority areas and locate and remove illicit discharges.

Best Management Practices (BMP)

The UPR-Carolina will use a combination of summer interns and hired vendors to identify, map and describe all stormwater outfalls. We review construction design plans to locate these features, and when plans are not available, we physically follow the pipe to its outfall. During our outfall identification and location process, we survey them for dry-weather discharges to potentially identify illicit connections to our system. We sample them for temperature, pH, conductivity, and bacterial contamination, as required by the general permit. Our investigation sometimes requires us to trace flows up the pipe to identify where it's coming from, using smoke or dye testing or video as needed. The UPR-Carolina will identify and notify all responsible parties for any illicit discharge and request immediate elimination of improper disposal practices in accordance with the University Interpretative Letter.

The SWMP activities implemented under MCM 3 will focus on developing, implementing, and enforcing a program that will reduce and eliminate the impacts of illicit discharges into the storm sewer system during the permit term. Activities planned under the Illicit Discharge Detection and Elimination (IDDE) portion of the SWMP will be directed toward all citizens, industrial and commercial sectors of the community.

The general permit requires that to the extent allowable under state law, we must prohibit and enforce unauthorized non-stormwater discharges into the system.

Targeted Controls and Associated Measurable Goals

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| Control Measure | BMP IDDE1 – Encourage cleaning of Campus Parking Area. |
| Measurable Goal | Before the beginning of every Hurricane Season, the administration conduct inspections, clean-ups all storm drains at parking areas. |
| Person or Department Responsible | Infrastructure Resources Division and Administrative Affairs Dean. |

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| Control Measure | BMP IDDE2 – Complete the layout of the storm water system. |

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| Measurable Goal | The map, although completed, will require an update. The administration will contract the activity in the second semester of 2018. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP IDDE3 – Issuance of an Interpretative Letter addressing illegal discharges from washing vehicles, cafeteria floors, cooling tower overflows, floor drains, draining of sinks, etc. |
| Measurable Goal | The letters were issued during the previous permit cycle, they will be issued in 2018. |
| Person or Department Responsible Responsible | UPR-Carolina Main Administration – Chancellor Office |

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| Control Measure | BMP IDDE4 – For suspect areas identified during the visual inspections the UPR-Carolina will implement one or more of the following testing methodologies: connectivity tests, dye testing, smoke surveys and/or video surveys. |
| Measurable Goal | Complete 100% of investigations during the year. |
| Person or Department Responsible | Infrastructure Resources Division and Administrative Affairs Dean |

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| Control Measure | BMP IDDE5 – Removal of source illegal discharge. |

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| Measurable Goal | Removal of 100% of illegal discharges identified during the inspections. |
| Person or Department Responsible | Infrastructure Resources Division and Administrative Affairs Dean |

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| Control Measure | BMP IDDE6 – The University will train employees in the detection, prevention, and identification of illegal discharges. |
| Measurable Goal | 100% of all employees training during the permit cycle. Trainings offered twice a year. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP IDDE7 – Notify students, faculty and employees of the hazards and costs of illegal discharges and improver disposal of waste through seminars and/or published and distributed information. |
| Measurable Goal | To reach out 100% of the student community using existing media outlets and social media networks. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection and Public Relations Office. |

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### 9.3.2 Sanitary Sewer Overflows (SSO)

Discharges from SSOs to the MS4 are prohibited and any such discharge violates the permit and remains a violation until eliminated. Upon detection, the permittee shall notify the Puerto Rico Aqueduct and Sewer Authority (PRASA) and any pertinent agency to collaborate and eliminate SSOs as quickly as possible and shall take temporary mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is completed. In addition, the University shall also coordinate and

implement with PRASA and any pertinent agency cleanup measures to minimize impacts to human health and the environment associated with the SSO.

Upon becoming aware of a SSO discharge to the MS4, the University shall provide oral notice to the Municipality of Carolina, the EPA and PRASA within 24 hours. Additionally, the University shall provide written notice to EPA and PRASA within five (5) days of becoming aware of the SSO occurrence and shall include the information in the updated inventory. The University shall maintain an updated inventory of SSO's in the SWMP and include the updated list in the annual report.

**Table 5.** EPA Sanitary Sewer Overflow Response Flowchart for Puerto Rico.

## Sanitary Sewer Overflow (SSO) Process Flowchart

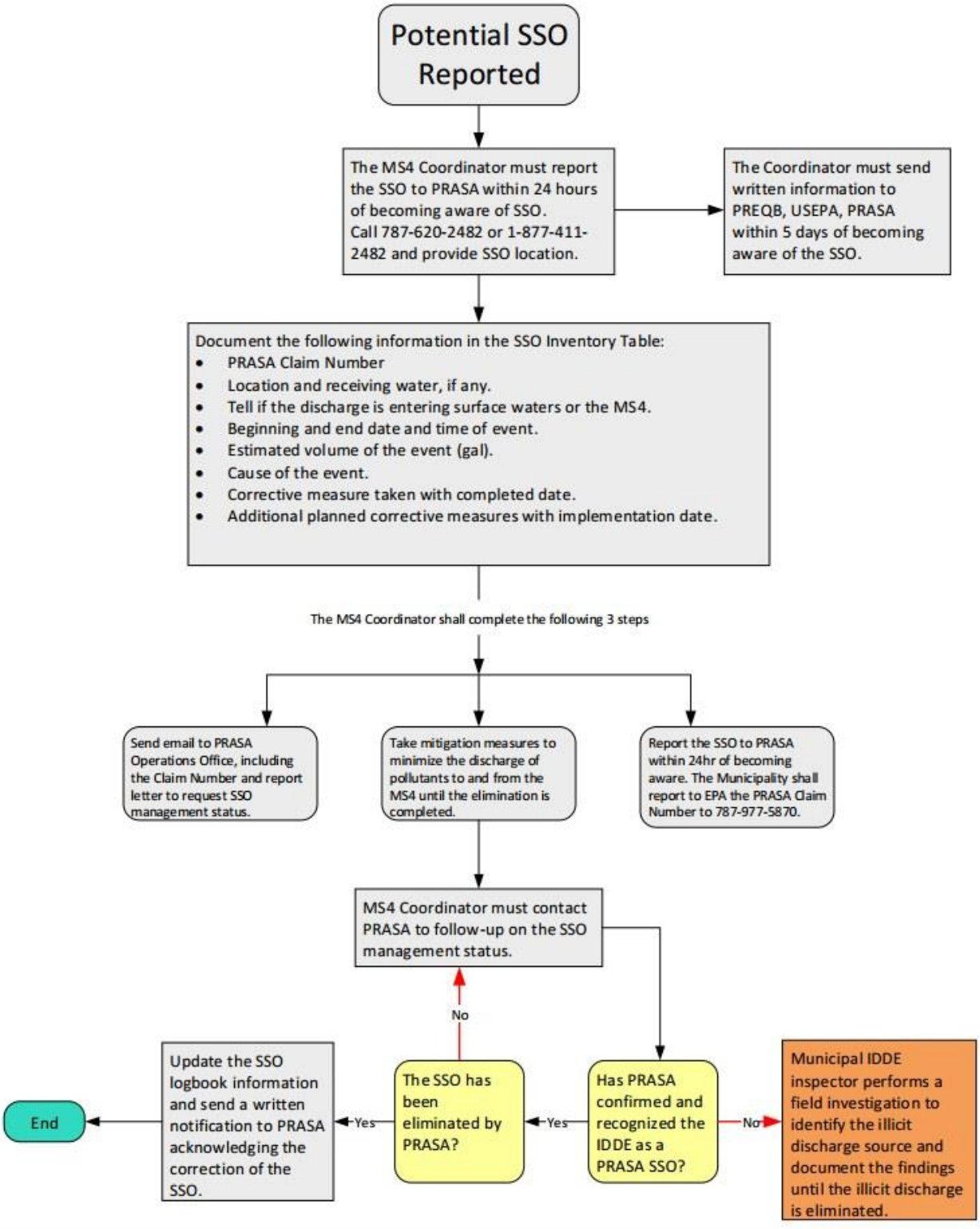

**Table 6.** Sanitary Sewer Overflow Inventory Table

| Report Date | Location | SSO Duration (Start End time) | Waterbody or MS4 Entered | Estimated Vol. (gal) | Occurrence Cause | Corrective Measures Completed with Dates | Corrective Measures Planned with Dates | PRASA Claim Number |
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### 9.3.3 Storm Sewer System Map Updates

As a Non-Conventional MS4, the University of Puerto Rico – will develop a storm sewer system map including the following data:

- University separate storm sewer system with material and size.
- Outfalls and receiving waters.
- Pipes
- Open channel conveyances (swales, ditches, etc.)
- Catch basins
- Manholes
- Flood control pump stations
- Interconnections with other MS4s
- University owned stormwater treatment structures (detention and retention basins, infiltration systems, bio-retention areas, water quality swales, gross particle separators, oil/water separators, any other proprietary system).
- Catchment delineations. For purpose of this permit, a catchment is the area that drains to an individual outfall or interconnection.
- Waterbodies identified by name and indication of all use impairments as identified in the Puerto Rico most current 303(d) list.
- Public drinking water sources
- University sanitary sewer system, if applicable.

The new map is expected to be completed during the second semester of 2017. This tool will be more detailed than the map that was required by the 2006 Small MS4 General Permit. Every new section or modification to the storm sewer system will be included or added as an attachment to the current map to keep it up to date. When sections are added by new constructions or re-development projects, a detailed plan, blueprint or drawing must be included.

### 9.3.4 Outfall Inventory

The map prepared by the University included an inventory of all existing inlets, outfalls and/or discharge points within the main campus. Since the issuing of the 2006, no major modifications have been added to the infrastructure requiring the adding of outfalls, inlets or any other structure that may present impacts to the storm water discharges produced by the campus.

In 2018, the University will develop a new outfall and interconnection inventory program that establishes the SOP's to identify each outfall and interconnection discharging from the MS4, records its location and condition, and provides a framework for tracking inspections, screenings and other activities under the permittee's IDDE program. The outfall inventory will be completed no later than one (1) year from the authorization under the 2016 GP and shall include the inventory in each annual report. The inventory will be updated annually to include data collected in connection with the dry weather screening.

### 9.3.5 Employee Training

Employees which duties are directly or indirectly involved with the MS4 GP shall receive at least one training per year and employees that are directly involved with the implementation of the MS4 program may receive additional training seminars and refreshers. **(Appendix H)** Illicit discharge/Outfall SOP if available

Employees that shall receive training are but not limited to:

- MS4 Coordinators
- Public Works
- University inspectors
- University Police
- Firefighters and Emergency Response Team
- Administrative workers and secretaries that manage record keeping documents and route calls and cases related to the IDDE program.

Training topics that shall be covered include the following but are not limited to:

- General requirements of the MS4 program.

- General requirements of the IDDE program.
- SOP's on how to identify and eliminate illicit discharges and SSO's.
- Construction site permitting and plan review.
- Construction site inspection and enforcement SOP's.
- New development and redevelopment program requirements.
- Municipal operations and maintenance program SOP's.
- Good housekeeping and pollution prevention BMP's at University facilities.
- Record keeping and reporting requirements for the MS4 program.

### 9.3.6 IDDE Program Indicators

As Part 2.4.4.10, the UPR-Carolina is required to develop and implement a plan to detect and eliminate illicit discharges to its MS4, including development of a storm sewer outfall map showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls. The UPR-Carolina's plan should also provide effective mechanisms to prohibit illicit discharges into its MS4. This Minimum Control Measure also requires an education and outreach component that is addressed under the Public Education Minimum Control Measure. The potential for illicit discharges remains with illegal connections that are often the result of failing sanitary systems entering the Campus MS4. The indicator to document the program success is to identify and eliminate 100% of the discharges. Historically, the UPR-C has not recorded illegal discharges within the Campus infrastructure.

Construction Site Stormwater Runoff Control

### 9.3.7 Construction Site Stormwater Management Program

Permit Requirement

The UPR-Carolina will implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. The Plan will include disturbances less than one acre if they are part of a larger common plan. At a minimum, the program must be consistent with the requirements of the PREQB general permit for stormwater discharge associated with construction activity.

Best Management Practices (BMP)

To fulfill goals outlined in our Stormwater Management Program Plan (SWMP), all contractors must submit copies of their Stormwater Pollution Prevention Plan (SWPPP) available thru the USEPA website. Correct and complete use of these templates will help meet the requirements of the EPA and EQB construction general permit.

### 9.3.8 Targeted Controls and Associated Measurable Goals

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| Control Measure | BMP CONS1 – Develop an information letter with a list of requirements for contractors working at the UPR-C Campus requesting compliance with the NPDES permit for construction activities and with the "Erosion and Sedimentation Control" Regulation of the Environmental Quality Board. Both of these regulations include BMP's for erosion and sediment control on the construction site prior to beginning construction. This requirement will be for construction project covering one or more acres, as well as sites less than 1 acre that are a part of a larger development. |
| Measurable Goal | All contractors retained by the UPR-Carolina will receive a copy of the information letter and will sign upon receival. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP CONS2 – Implementation and Adoption of an Interpretative letter to avoid improper disposal of construction materials like: building materials, concrete truck washout, chemicals, litter and sanitary waste. |

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| Measurable Goal | The University Administration will implement and adopt the Interpretative Letter as part of their operational activities. The letter was issued as part of the existing permit. A new letter will be issued during the first year of the permit. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection, Infrastructure Resources Division and Administrative Affairs Dean |

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| Control Measure | BMP CONS3 – Enforcement actions on those who violate the UPR-Carolina Requirements. |
| Measurable Goal | The University Administration will enforce 100% of the actions on those who violate the UPR-Carolina requirements on stormwater pollution abatement during construction activities. |
| Person or Department Responsible | UPR-C Dean of Administration |

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| Control Measure | BMP CONS4 – The University staff will review the SWPPPs and CES Plans prepared by contractors during construction activities at the premises. |
| Measurable Goal | 100% of SWPPPs and CES Plans will be reviewed by university staffers according to university policy. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP CONS5 – The UPRC will prepare a site development strategic plan. The document will be reviewed to determine if |

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| | non- structural BMPS such as the protection of sensitive Areas (i.e.: surface water bodies, forest), minimization of impervious area, and minimization of soils and vegetation disturbances can be incorporated in the Plan. |
| Measurable Goal | The inspection of 100% of the protections to verify compliance with university policy. |
| Person or Department Responsible | UPR-C Office of Planning |

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### 9.3.9 Employee Training

Permit Requirements

The UPR-Carolina will identify all operations that have a point source or the potential for a point source discharge of stormwater to the Campus MS4. From this, the administration will develop and implement a program to reduce pollutant runoff, including inspection procedures and schedules, and to develop and maintain an employee-training program for good housekeeping and pollution prevention, especially on those related to construction activities.

Best Management Practices (BMP)

We have identified existing programs that met the requirements of the general permit and reviewed various methods to improve pollution prevention. Proposed programs include more frequent sweeping, and better inventory and inspection schedules of stormwater features, including basins, swales and eroding road shoulders.

**(Appendix I)** Construction SOP if available

### 9.3.10 Construction Site Inventory

The Permitee will maintain an inventory of all proposed construction sites within the Campus. Due to the medium size of the campus, the construction activities are very limited.

## 9.4 Stormwater Management in New Development and Redevelopment

### 9.4.1 New Development and Redevelopment Management Program

The action of developing a site, can result in replacing existing permeable areas with impervious surfaces, such as buildings, parking lots, and sidewalks. Increasing impervious surfaces have the effect of increasing stormwater runoff and consequently can increase the potential of carrying pollutants into surface waters if no compensation or mitigation measures are implemented. Green Infrastructure is an approach to water management that protects, restores, and mimics the natural water cycle and includes techniques that can be implemented to mitigate or compensate for increased impervious surfaces. Green Infrastructure techniques include increasing infiltration with onsite measures, such as vegetated swales, increasing landscape to paved area ratios, stormwater planter boxes, vegetated curb extensions, and using pervious surfaces for parking lots and walkways.

As a Non-Conventional MS4s, the UPR-Carolina does not need to meet the requirements of Section 2.4.6.5 to perform compliance inspections. Instead the UPR-Carolina will focus on maintenance to its stormwater controls. The UPR-Carolina will evaluate the inclusion of green infrastructure practices in new development and redevelopment at their facilities. Areas disturbed during construction activities will be covered with sod and other materials to avoid sediments and pollutants to reach the storm drain system. The UPR-Carolina will evaluate opportunities to reduce the amount of impervious cover on parking areas and walkways. The results from these activities will be included in the annual report to the USEPA-Caribbean Environmental Protection Division.

The UPR-Carolina has evaluated the permit requirements for the six MCMs as required in the MS4 permit. Based on that review, the University has selected BMPs for the new development and redevelopment section that the University believes will accomplish the goal of reducing pollution from stormwater runoff to the maximum extent practicable. Given the unique nature of our academic campus, the following program elements represent the two greatest storm water pollution concerns at the University of Puerto Rico - Carolina:

Water Quality:

- Total Suspended Solids - sediment from construction activities and eroding slopes
- Floatables – leaves, litter, and other debris in gutters and landscaping

- Oil & grease – from parking lots, material handling, spills and leaks, and illegal dumping
- Total Organic Matter (leaves, grass clippings, etc.)
- Nitrogen and Phosphorus (fertilizer, pet waste, etc.)
- Water Quantity: total volume of discharge – a function of the number of paved surfaces directly connected to storm drain inlets (The EPA has taken the view that water quantity and water quality are directly related, therefore measuring quantity is an indicator of quality. Therefore, measures taken to decrease quantity are also correlated to improving quality).

Currently, the UPR-Carolina controls runoff on open areas by maintaining green spaces and covering the areas impacted during construction and repair activities within the campus.

**Permit Requirement**

The UPR-Carolina will develop, implement and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge into the MS4. The program must ensure that controls are in place to prevent or minimize water quality impacts.

**Best Management Practices (BMP)**

Currently, all new projects planned by us are designed in accordance with the Puerto Rico 2011 Construction Building Code, which provides guidance on the design, construction and maintenance of stormwater management systems. At a minimum, stormwater management systems for new projects are designed to realize the maximum sediment retention possible. For rehabilitation and reconstruction projects, we strive to provide the maximum water quality treatment possible.

We also strive to improve our maintenance of stormwater systems, including regular cleaning of detention basins and swirl-chamber units.

### 9.4.2 Targeted Controls and Associated Measurable Goals

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| Control Measure | BMP POST1 – Sanitary Sewer Overflow Notification |
| Measurable Goal | Notify the Puerto Rico Sewer to address 100% SSOs |
| Person or Department Responsible | UPR-C Infrastructure Resources Division and Administrative Affairs Dean |

## 9.5 Pollution Prevention and Good Housekeeping for Municipal Operations

### 9.5.1 Pollution Prevention and Good Housekeeping Management Program

Permit Requirements

The UPR-Carolina will identify all operations that have a point source or the potential for a point source discharge of stormwater to an MS4 or a body of water. From this, we must develop and implement a program to reduce pollutant runoff, including inspection procedures and schedules, and to develop and maintain an employee-training program for good housekeeping and pollution prevention.

Best Management Practices (BMP)

We have identified existing programs that met the requirements of the general permit and reviewed various methods to improve pollution prevention. Proposed programs include more frequent sweeping, and better inventory and inspection schedules of stormwater features, including basins, swales and eroding road shoulders.

### 9.5.2 Targeted Controls and Associated Measurable Goals

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| Control Measure | BMP PP1 – Develop training for staff in charge of maintenance activities. |
| Measurable Goal | The trainings are offered according to the space and resources availability. This activity will continue during the next cycle. Frequency will depend on funds allocated by the administration. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP PP2 – Development of a Good Housekeeping Program |
| Measurable Goal | Employees. Brochures and trainings have been offered and will continue during the next cycle. This activity will continue during the next cycle depending on funds allocated by the administration. |
| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection |

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| Control Measure | BMP PP3 – Routine Inspections |
| Measurable Goal | Employees. Full area inspections will be conducted annually. The activity will continue during the next permit cycle. |

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| Person or Department Responsible | Department of Health, Occupational Safety and Environmental Protection and Infrastructure Resources Division |

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| Control Measure | BMP PP4 – Removal of sediments accumulated in the concrete channel around the Chemical and Hazardous Storage Room. |
| Measurable Goal | Reach 100% Employees. This is a regular maintenance activity. |
| Person or Department Responsible | UPR-C Infrastructure Resources Division |

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| Control Measure | BMP PP5 – Develop a storm drain maintenance and cleaning program. |
| Measurable Goal | There are no issues with illegal discharges but roots growing in the pipelines. A new approach will be selected by the administration to clean 100% of the inlets and discharge areas. |
| Person or Department Responsible | UPR-C Dean of Administration and Infrastructure Resources Division |

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| Control Measure | BMP PP6 – Continue using the waste disposal services to collect floatables and other waste. |

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| Measurable Goal | The collection of all wastes produced by the university including floatables and other waste. |
| Person or Department Responsible | UPR-C Infrastructure Resources Division |

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### 9.5.3 Stormwater Pollution Prevention Plans

Due to size of the Campus and the limited activities related to waste handling activities, the no existence of maintenance garages, public work yards, and transfer stations were pollutants may be exposed to the elements, there is no need for a SWPPP. The SWMP and the interpretative letters will cover the need for such document. However, all contractors whose construction projects exceed an acre in length/size are required to present a Storm Water Pollution Prevention Plan to avoid any pollutants to reach the Campus MS4 system.

**(Appendix K)** SWPPP plans when available.

### 9.5.4 Employee Training

The University will offer trainings annually (when funds and resources are available) to all employees whose primary job duties are related to implementing the operation and maintenance programs. Training topics for Public Employees will include “General Good Housekeeping and Pollution Prevention at Municipal Facilities”, “MS4 maintenance including catch basin cleaning procedures”, “Integrated Pest Management and proper pesticide/herbicide application”, “Vehicle/equipment maintenance procedures”, “vehicle/equipment washing procedures” and “MS4 documentation requirements. The UPR-C is considering the development of a Standard Operating Procedure to address Good Housekeeping Activities. Once completed, the document will be included in the SWMP for compliance.

**(Appendix L)** Good housekeeping SOP if available

# 10 Program Evaluation

## 10.1 Annual Compliance Evaluation

The Stormwater Advisory Management Team (SWAMT) will continue to meet on an annual basis in order to review the SWMP and evaluate the implementation status of the SWMP components as well as the effectiveness of each component or combination of components. The University, in consideration of any received public comment, will determine how the SWMP needs to be revised, if at all. The University will submit an annual report to the USEPA Caribbean Environmental Protection Division by August 1 of each year of the Permit term for the preceding period of July 1 through June 30.

## 10.2 BMP Modifications

Any modifications to an approved stormwater management plan or BMP shall be allowed only after review and written approval by the UPR-Carolina MS4 Coordinator. The Coordinator shall have 60 calendar days to respond in writing either approving or disapproving such request. The Coordinator may require that an approved stormwater management plan be amended, within a time prescribed by the Coordinator, to address any deficiencies noted during inspection. The UPR-Carolina MS4 Coordinator shall require the submission of a construction record drawing for permanent stormwater management facilities once construction is completed. The UPR-Carolina MS4 Coordinator may elect not to require construction record drawings for stormwater management facilities for which recorded maintenance agreements are not required.

# 11 Appendix

## 11.1 Appendix A

**Notice of Intent**

## 11.2 Appendix B

**CENSUS Urbanized Area Map**

## 11.3 Appendix C

**Hydrology Maps**

## 11.4 Appendix D

### USFWS Determination Letter

## 11.5 Appendix E

**SHPO Determination Letter**

## 11.6 Appendix F

### MS4 Infrastructure Maps

## 11.7 Appendix G

**Interpretative Letters**

## 11.8 Appendix H

**IDDE/Outfalls SOP**

## 11.9 Appendix I

**Construction Site Inspection SOP**

## 11.10 **Appendix J**

**Redevelopment Guidelines SOP**

## 11.11 **Appendix K**

**University Facilities SWPPP**

## 11.12 **Appendix L**

**Good Housekeeping SOP**

# 11.13 **Appendix M**

## 2016 MS4 General Permit