

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II

NPDES PERMIT NO. PR0022900

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, 33 U.S.C. ' 1251 et. seq.  
(the "Act"),

Puerto Rico Aqueduct and Sewer Authority  
P.O. Box 7066  
Barrio Obrero Station  
San Juan, Puerto Rico 00916

hereinafter referred to as "the permittee" is authorized to discharge from a facility named **Mayagüez  
Water Treatment Plant** located at:

State Road No. 108, Km. 3.2  
Mayagüez, Puerto Rico 00680

to receiving waters named:


**Yagüez River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth in  
Parts I and II hereof. All references to Title 40 of the Code of Federal Regulations are to regulations  
that are in effect on the effective date of this permit, including all amendments thereto published in  
the Federal Register. Unless otherwise specified herein, all terms are defined as provided in the  
applicable regulations under Title 40 of the Code of Federal Regulations.

This permit shall become effective on **April 1, 2013**, which is the effective date of the permit (EDP).

This permit and the authorization to discharge shall expire on **March 31, 2018**.

Signed this 20<sup>th</sup> day of December, 2012.

  
for José C. Font  
Acting Director  
Caribbean Environmental  
Protection Division

**TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning on the EDP and lasting through the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 001 (filters and settling tanks washwater). Such discharge shall be limited and monitored by the permittee as specified below:

Receiving Water Classification: SD

<u>Effluent Characteristics</u>	<u>Gross Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Monthly Average	Daily Maximum	Measurements Frequency	Sample Type
BOD <sub>5</sub> (mg/L) $\alpha$ <sup>1,2,3,4,6</sup>		8.2	Monthly	Grab
Color (Pt-Co Units) <sup>2,3</sup>		15	Monthly	Grab
Copper (Cu) ( $\mu$ g/L) <sup>2,3</sup>		12	Monthly	Grab
Cyanide, Free (CN) ( $\mu$ g/L) $\xi$ <sup>2,3</sup>		5.2	Quarterly	Grab
Dissolved Oxygen (mg/L) $\alpha$ <sup>1,2,3,4,6</sup>	Shall not contain less than 3.5.		Daily	Grab
Flow m <sup>3</sup> /day (MGD) <sup>1,3,5</sup>		1540.66 (0.407)	Continuous Recording	
Mercury (Hg) ( $\mu$ g/L) $\alpha$ $\phi$ <sup>2,3,4,6</sup>		0.114	Monthly	Grab
Lead (Pb) ( $\mu$ g/L) <sup>2,3</sup>		4.5	Monthly	Grab
pH (SU) <sup>2,3</sup>	Shall always lie between 6.0 and 9.0.		Daily	Grab
Residual Chlorine (mg/L) $\gamma$ <sup>2,3</sup>		0.50	Daily	Grab

<u>Effluent Characteristics</u>	<u>Gross Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurements Frequency</u>	<u>Sample Type</u>
Solids and Other Matter <sup>2,3</sup>		The waters of Puerto Rico shall not contain floating debris, scum or other floating materials attributable to discharges in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the water body.	----	----
Sulfide (Undissociated H <sub>2</sub> S) (µg/L) δ <sup>2,3</sup>		2	Quarterly	Grab
Suspended, Colloidal or Settleable Solids (mL/L) <sup>1,2,3</sup>		Solids from wastewater sources shall not cause deposition in or be deleterious to the existing or designated uses of the water body.	Daily	Grab
Taste and Odor-producing Substances <sup>2,3</sup>		Shall not be present in amounts that will interfere with the use for potable water supply, or will render any undesirable taste or odor to edible aquatic life.	----	----
Temperature °F (°C) <sup>2,3</sup>		No heat may be added to the waters of Puerto Rico, which would cause the temperature of any site to exceed 90 °F (32.2 °C).	Daily	Grab
Total Ammonia (NH <sub>3</sub> ) (mg/L) α <sup>2,3,4,6</sup>		----	Quarterly	Grab
Turbidity (NTU) <sup>2,3</sup>		50	Monthly	Grab
Zinc (Zn) (µg/L) α <sup>2,3,4,6</sup>		171.10	Monthly	Grab

<u>Effluent Characteristics</u>	<u>Gross Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Measurements Frequency</u>	<u>Sample Type</u>
Special Conditions	See attached sheets, which contain special conditions that constitute part of this certification.		----	----

Notes:

1, 2, 3, 4, 5 and 6 see page 17.

To comply with the monitoring requirements specified above, samples shall be taken at the outfall of discharge serial number 001.

All flow measurements shall achieve accuracy within the range of plus or minus 10%.

- α Waste Load Allocation (WLA) was performed in order to develop the water quality based effluent limitations.
- γ See Special Conditions 6 and 7.
- φ See Special Condition 10.
- δ See Special Condition 11.
- ξ The samples shall be analyzed using the method approved by EPA in letter of February 20, 2007.

**TABLE A-2 WASTE LOAD ALLOCATION (WLA) MONITORING REQUIREMENTES**

The EQB has performed a WLA pursuant Article 10 of the PRWQSR. During the period beginning within EDP + 60 days and lasting through one year, after which the monitoring shall be conducted annually, the permittee shall perform ambient monitoring at the immediate vicinity<sup>1</sup> of the discharge station and the background<sup>2</sup> monitoring station as specified below. Within thirty (30) days of completion of the one year monitoring period, the permittee shall submit a report to EQB and EPA containing the ambient monitoring results obtained as well as the monthly monitoring results obtained during the same time period at the sampling point for discharge 001 for the below parameters. Based on the evaluation of the results obtained, EQB shall determine if the effluent limitations established shall remain as is or if it is necessary to re-open the WQC to modify (increase or decrease) the effluent limitation for the below parameters.

Receiving Water Name and Classification: Yagüez River, SD

<u>Parameters</u>	<u>Monitoring Requirements</u>	
	Measurements Frequency	Sample Type
Hardness (as CaCO <sub>3</sub> ) (mg/l) <sup>3</sup>	Monthly	Grab
Mercury (Hg) (µg/L)	Monthly	Grab
Zinc (Zn) (µg/l)	Monthly	Grab

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- 1 The immediate vicinity of the discharge station shall be located five (5) meters downstream from discharge 001.
  - 2 The background sampling station shall be located five (5) meters upstream from discharge 001.
  - 3 Monitoring is only required at the background monitoring station.

**TABLE A-3 MULSMP MODEL CALIBRATION MONITORING REQUIREMENTS**

During the period beginning within EDP + 60 days and lasting through one year, the permittee shall implement a monitoring program to obtain the necessary data required to calibrate the MULSMP mathematical model as specified below. Sampling for all parameters shall be performed on the same day. Within thirty (30) days of complementation of the one year monitoring program, the permittee shall submit a report to EQB and EPA containing the results obtained as well as the monthly monitoring results obtaining during the same time period at the sampling point for discharge 001 for the below parameters.

Receiving Water Name and Classification: Yagüez River, SD

<u>Parameters</u>	<u>Monitoring Frequency</u>		<u>Location</u>
	Measurements Frequency	Sample Type	
BOD <sub>5</sub> (mg/l)	Quarterly	Composite*	A, B, C
BOD <sub>u</sub> (mg/l)	Quarterly	24 – Hour composite	A
Dissolved Oxygen (mg/l)	Quarterly	Grab	A, B, C
Flow (MGD, cfs)	Quarterly	Instantaneous	B, D
Temperature (°F)	Quarterly	Grab	A, B, C
pH (SU)	Quarterly	Grab	A, B, C
Total Ammonia (NH <sub>3</sub> ) (mg/l)	Quarterly	Grab	A, B, C
Velocity (Avg.) (ft/s)	Quarterly	Composite*	A, B, C

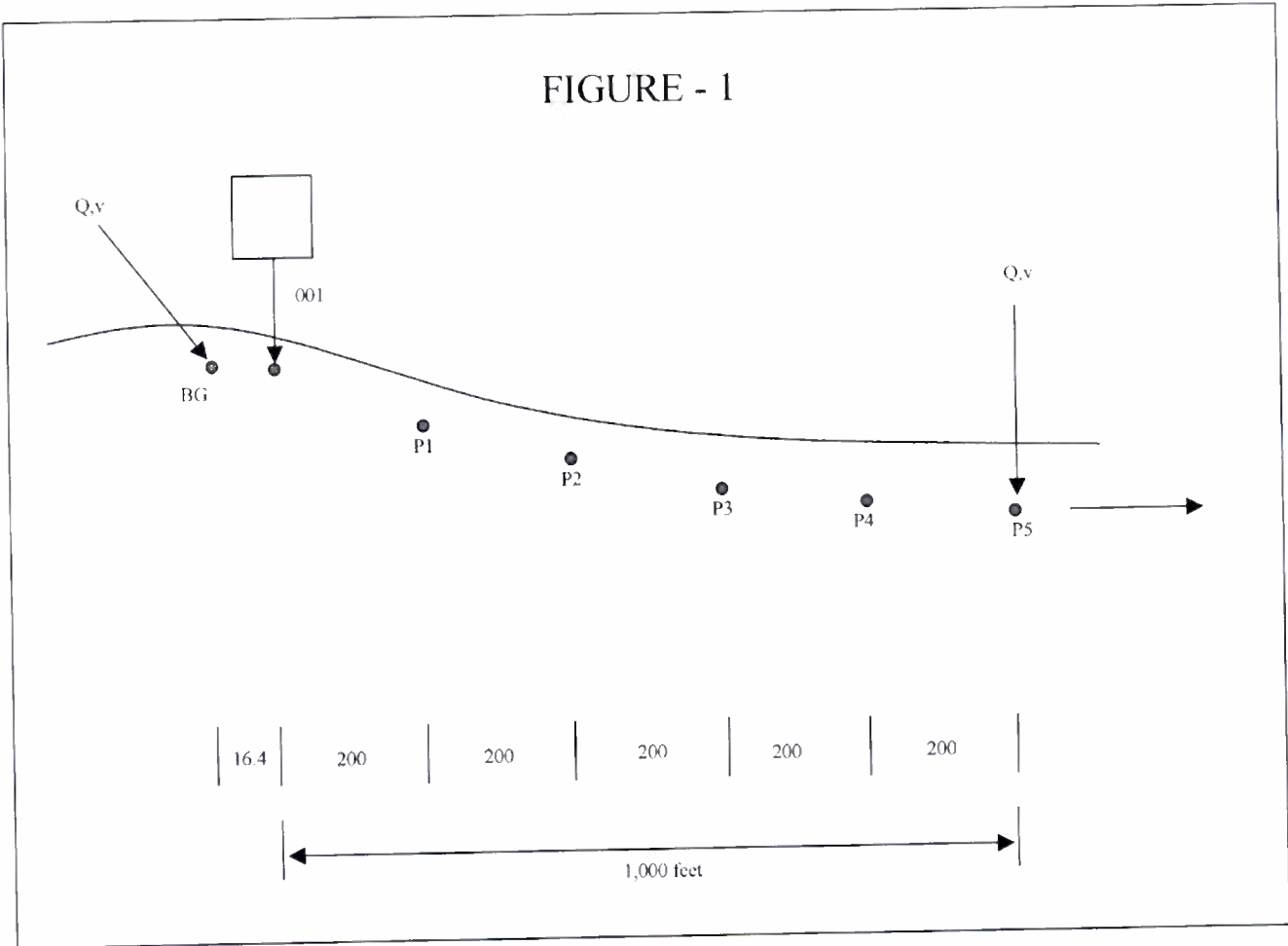
Notes:

- \* Samples shall be taken at (1) one hour intervals for (6) six consecutive hours. These shall be grab samples that will be mixed in equal portions to prepare a composite sample at each one of the required locations.

Sampling Locations:

- A= Point of discharge 001.
- B= Background station, located five (5) meters from discharge 001.
- C= Five (5) points downstream of the discharge 001 along a receiving water segment of one thousand (1,000) feet, as shown in Figure 1 (next page).
- D= Point number 5, located one thousand (1,000) feet from the discharge 001.

FIGURE - 1



**A. SPECIAL CONDITIONS**

These special conditions are an integral part of the permit:

1. The flow of discharge 001 shall not exceed the limitation of 1540.66 m<sup>3</sup>/day (0.407 MGD) as daily maximum. No increase in flow of discharge 001 shall be authorized without a recertification from the Environmental Quality Board (EQB). <sup>1,5</sup>
2. The discharge 001 will consist of filters backwashes and sedimentation tanks drains treated in the Sludge Treatment System (STS) constructed for these purposes.
3. Within thirty (30) days after the Effective Date of the NPDES Permit (EDP), the permittee shall submit to the EQB, for its evaluation and approval, the engineering report, plans and specifications of the constructed STS. <sup>3</sup>
4. Prior to the construction of any additional treatment system or the modification of the existing one, the permittee shall obtain the approval from EQB of the engineering report, plans and specifications. <sup>5</sup>
5. The permittee shall install, maintain and operate all water pollution control equipment in such manner as to be in compliance with the applicable Rules and Regulations. <sup>1,3</sup>
6. No toxic substances shall be discharged, in toxic concentrations, other than those allowed as specified in the NPDES permit. Those toxic substances included in the permit renewal application, but not regulated by the NPDES permit, shall not exceed the concentrations specified in the applicable regulatory limitations. <sup>2,3</sup>
7. The waters of Puerto Rico shall not contain any substance attributable to discharge 001, at such concentration which, either alone or as result of synergistic effects with other substances, is toxic or produces undesirable physiological responses in human, fish or other fauna or flora. <sup>2</sup>
8. The discharge 001 shall not cause the presence of oil sheen in the receiving water body. <sup>2</sup>
9. All sample collection, preservation, and analysis shall be carried out in accordance with the Title 40 of the Code of Federal Regulations (40 CFR), Part 136. A licensed chemist authorized to practice the profession in Puerto Rico shall certify all chemical analyses. All bacteriological tests shall be certified by a microbiologist or licensed medical technologist authorized to practice the profession in Puerto Rico. <sup>1,3</sup>
10. The samples taken for the analysis of mercury shall be analyzed using the analytical method approved by the Environmental Protection Agency (EPA) with the lowest possible detection level, in accordance with Rule 1306.8 of the Puerto Rico Water Quality Standards Regulation (PRWQSR), as amended. <sup>3</sup>



11. The permittee shall use the approved EPA analytical method, with the lowest possible detection limit, in accordance with the 40 CFR, Part 136 for Sulfide (as S). Also, the permittee shall complete the calculations specified in Method 4500-S<sup>2</sup>-F, Calculation of Un-ionized Hydrogen Sulfide, of Standards Methods 18<sup>th</sup> Edition, 1992, to determine the concentration of undissociated H<sub>2</sub>S. If the sample results of Dissolved Sulfide are below the detection limit of the EPA approved method established in the 40 CFR, Part 136, then, the concentration of undissociated H<sub>2</sub>S shall be reported as “below detection limit”.<sup>1,3</sup>
12. The flow-measuring device for the discharge 001, shall be periodically calibrated and properly maintained. Calibration and maintenance records must be kept in compliance with the applicable Rules and Regulations.<sup>3,5</sup>
13. The sampling point for discharge 001 shall be located immediately after the primary flow-measuring device of the effluent of the treatment system.
14. The sampling point for discharge 001 shall be labeled with an 18 inches per 12 inches (minimum dimensions) sign that reads as follows:

“Punto de Muestreo para la Descarga 001”

15. All water or wastewaters treatment facilities, whether publicly or privately owned, must be operated by a person licensed by the Potable Water and Wastewaters Treatment Plants Operators Examining Board of the Commonwealth of Puerto Rico.<sup>3</sup>
16. The permittee shall conduct quarterly acute toxicity tests, for a period of one (1) year, of its wastewater discharge through outfall serial number 001 in accordance with the following:
  - a. The toxicity tests shall be conducted in accordance with the EPA publication, EPA-821-R-02-012 Methods for *Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (Fifth Edition), October 2002, or the most recent edition of this publication, if such edition is available.
  - b. The tests shall provide a measure of the acute toxicity as determined by the wastewater concentration, which cause 50 percent mortality of the organisms over a 48 hour period. Test results shall be expressed in terms of *Lethal Concentration* (LC) and reported as 48 hour LC50.
  - c. The test species should be the *Fathead Minnow* (*Pimephales promelas*) and *Cladocera* (*Daphnia magna*). The tests should be static renewal type.
  - d. A procedure report shall be submitted to both agencies, EQB and EPA, ninety (90) days after the effective date of the NPDES permit (EDP). The following information shall be included in the procedure report: