United States Environmental Protection Agency
Region 2
Caribbean Environmental Protection Division
City View Plaza II–Suite 7000, #48 Rd. 165 km 1.2
Guaynabo, Puerto Rico 00968-8069

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM ARECIBO WTP PERMIT No. PR0024210

This Fact Sheet sets forth the principle facts and technical rationale that serve as the legal basis for the requirements of the accompanying draft permit. The draft permit has been prepared in accordance with Clean Water Act (CWA) section 402 and its implementing regulations at Title 40 of the *Code of Federal Regulations* (CFR), Parts 122 through 124, and the Interim Water Quality Certificate (WQC) issued by the Puerto Rico Environmental Quality Board (EQB) pursuant to CWA section 401 requirements.

Pursuant to 40 CFR 124.53, the Commonwealth of Puerto Rico must either grant a certification pursuant to CWA section 401 or waive this certification before the U.S. Environmental Protection Agency (EPA) may issue a final permit. On **June 2, 2015,** EQB provided in the WQC that the allowed discharge will not cause violations to the applicable water quality standards at the receiving water body if the limitations and monitoring requirements in the WQC are met. In accordance with CWA section 401, EPA has incorporated the conditions of the **interim** WQC into the draft permit. Any changes to the interim WQC will be incorporated into the final issuance of the permit. The WQC conditions are discussed in this Fact Sheet and are no less stringent than allowed by federal requirements. Additional requirements might apply to comply with other sections of the CWA. Review and appeals of limitations and conditions attributable to the WQC were made through the applicable procedures of the Commonwealth of Puerto Rico and not through EPA procedures.

PART I. BACKGROUND

A. Permittee and Facility Description

The Puerto Rico Aqueduct and Sewer Authority (PRASA) (referred to throughout as the Permittee) has applied for **renewal of its Arecibo WTP** National Pollutant Discharge Elimination System (NPDES) permit. The Permittee is discharging pursuant to **NPDES Permit No**. **PR0024210.** The Permittee submitted **Application Form 1, and 2C dated March 31, 2011** and applied for an NPDES permit to discharge **treated** wastewater from **Arecibo WTP,** called the facility. The facility is classified as a **minor** discharger by EPA in accordance with the EPA rating criteria.

The Permittee **owns and** operates **water treatment plant.** Attachment A of this Fact Sheet provides a map of the area around the facility and a flow schematic of the facility.

The treatment system consists of the following:

The Arecibo WTP is a water supply that provides conventional treatment to raw water from the Tanamá River to supply potable water to various sectors in the municipalities of Arecibo and Hatillo. It has a capacity of 1.50 MGD (monthly average). This facility does not have a Sludge Treatment System (STS) and discharges its effluent to Tanamá River.

Water is processed through the following units:

- Coagulation & Flocculation Tank
- Sedimentation Tanks
- Filters

Summary of Permittee and Facility Information

Permittee	Puerto Rico Aqueduct and Sewer Authority (PRASA)
Facility contact, title, phone	Mrs. Irma Lopez, Executive Director Compliance and Quality Control (787) 620-2270
Permittee (mailing) address	Puerto Rico Aqueduct and Sewer Authority P.O. Box 7066 Barrio Obrero Station Santurce, Puerto Rico 00916-7066
Facility (location) address	PR 636, Km. 1.6, Arecibo, PR 00612
Type of facility	Water Supply
Pretreatment program	N/A
Facility monthly average flow	0.281 MGD (in million gallons per day)
Facility design flow	0.260 MGD (in million gallons per day)
Facility classification	Minor

B. Discharge Points and Receiving Water Information

Wastewater is discharged from Outfall **001** to the Tanamá River, a water of the United States.

The draft permit authorizes the discharge from the following discharge point(s):

Outfall	Effluent description	Outfall latitude	Outfall longitude	Receiving water name and classification
001	filters backwasher and sedimentation tanks drains	18°, 24', 48" N	66°, 10', 56" W	Tanamá River, SD

As indicated in the Puerto Rico Water Quality Standards (PRWQS) Regulations, the designated uses for Class SD receiving waters include:

- Use as a raw source of public water supply; and
- Propagation and preservation of desirable species, including threatened or endangered species.

CWA section 303(d) requires the Commonwealth of Puerto Rico to develop a list of impaired waters, establish priority rankings for waters on the list, and develop Total maximum daily loads (TMDLs) for those waters. The receiving water has been determined to have water quality impairments for one or more of the designated uses as determined by section 303(d) of the CWA. **TMDLs have been developed and approved by EPA for the following parameter: Fecal Coliforms.**

D. Compliance Orders/Consent Decrees

The Permittee has a Consent Decree with the Agency (civil action no 10-1365 (sec)) in which the facility is included. This consent decree does not affect this permit action.

E. Summary of Basis for Effluent Limitations and Permit Conditions - General

The effluent limitations and permit conditions in the permit have been developed to ensure compliance with the following, as applicable:

- Clean Water Act section 401 certification requirements;
- NPDES regulations (40 CFR Part 122); and
- PRWQS (March 2014).

PART II. RATIONALE FOR EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

CWA section 301(b) and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable technology-based requirements where necessary to achieve applicable water quality standards. In addition, 40 CFR 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an exceedance of a water quality criterion, including a narrative criterion. The process for determining reasonable potential and calculating water quality-based effluent limits (WQBELs) is intended to protect the designated uses of the receiving water, and achieve applicable water quality criteria. Where reasonable potential has been established for a pollutant, but there is no numeric criterion for the pollutant, WQBELs must be established using (1) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The effluent limitations and permit conditions in the permit have been developed to ensure compliance with all federal and state regulations, including PRWQS. The basis for each limitation or condition is discussed below.

A. Effluent Limitations

The permit establishes **WQBELs** for several pollutants and the basis for these limitations are discussed below**.**

1. **Flow:** An effluent limitation for flow has been established in the permit. Monitoring conditions are applied pursuant to 40 CFR 122.21(j)(4)(ii) and EQB's Water Quality Certificate.

2. **5-Day Biochemical Oxygen Demand (BOD_5):** The effluent limitation for BOD_5 is based on the water quality criterion for all waters in Puerto Rico as specified in Rule 1303.1.F of PRWQS, and the WQC.

3. **pH:** The effluent limitation is based on the water quality standards as specified in Rule 1303.2.D.2.c of PRWQS, and the WQC.

4. **Temperature:** The effluent limitation for temperature is based on the water quality criterion for all waters in Puerto Rico as specified in Rule 1303.1.D of PRWQS, and the WQC.

5. **Dissolved Oxygen (DO):** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.a of PRWQS, and the WQC.

6. **Ammonia (Total):** Ammonia has been detected in quantities above the water quality criterion of 1.000 mg/L for Class **Class SD** waters as specified in Rule 1303.2 D.2.m of PRWQS, and the WQC.

7. **Color:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.d of PRWQS, and the WQC.

8. **Fecal C Coliforms**: The effluent limitation is based on the water quality standards as specified in Rule 1303.2.D.2.b of PRWQS, and the WQC.

9. **Turbidity:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.e of PRWQS, and the WQC.

10. **Taste and Odor Producing Substances**: The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.g of PRWQS, and the WQC.

11. **Suspended, Colloidal or Settleable Solids**: The effluent limitation is based on the water quality standards as specified in Rule 1303.1.E of PRWQS, and the WQC.

12. **Solids and Other Matters**: The effluent limitation is based on the water quality standards as specified in Rule 1303.1.A of PRWQS, and the WQC.

13. **Total Dissolved Solids:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.f of PRWQS, and the WQC.

14. **Phosphorus:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.h of PRWQS, and the WQC.

15. **Arsenic, Cyanide, Total Residual Chlorine, Cadmium, Copper, Lead, Mercury, and Zinc**: The effluent limitation is based on the water quality standards as specified in Rule 1303.1.I.1 of PRWQS, and the WQC.

16. **Oil and Grease**: The effluent limitation is based on the water quality standards as specified in Rule 1301.1.H of PRWQS and the WQC.

B. Effluent Limitations Summary Table

1. Outfall Number 001

Parameter	Units	Effluent limitations				
		Averaging period	Highest Reported Value (1)	Existing limits	Final limits	Basis
Arsenic	µg/L	Daily maximum	2.3	Monitor	10	WQBEL
BOD_5	mg/L	Average monthly	14.0	17.0	5.0	WQBEL
Color	Pt-Co Units	Monthly	15	15	15	WQBEL
Copper	µg/L	Daily maximum	253	8	107.6	WQBEL
Cyanide, Free	µg/L	Daily maximum	9	5.2	10.0	
Dissolved Oxygen	mg/L	Daily Minimum	5.0	$\geq$2.0	$\geq$5.0	WQBEL
Fecal Coliforms	Col/100 mL	Daily maximum	50	2000	200	
Flow	MGD	Daily maximum	0.399	0.2601	0.260	WQBEL
Lead	µg/L	Daily maximum	26	18.9	25	WQBEL
pH	SU	Daily minimum Daily maximum	7.8 8.3	6.0 – 9.0	6.0 – 9.0	WQBEL
Residual Chlorine	µg/L	Daily maximum	2200	500	7.5	WQBEL
Total Dissolved Solids	mg/L	Daily maximum	340	--	500	WQBEL
Total Phosphorus	mg/L	Daily maximum	4.34	4.65	2.38	WQBEL
Turbidity	NTU	Daily maximum	1200	708	2249	WQBEL
Zinc	µg/L	Daily maximum	156	120	200	WQBEL

Notes, Footnotes and Abbreviations

Note: Dashes (--) indicate there are no effluent data, no limitations, or no monitoring requirements for this parameter.
(1) Wastewater data from DMRs dated January 1, 2007 to November 30, 2010.

2. Outfall 001 Narrative Limitations

a. The waters of Puerto Rico shall not contain floating debris, scum or other floating materials attributable to the discharge in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the water body.

b. Solids from wastewaters source shall not cause deposition in or be deleterious to the existing or designated uses of the water body.

c. 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.

d. Except by natural causes, 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).

C. Monitoring Requirements

NPDES regulations at 40 CFR 122.48 require that all permits specify requirements for recording and reporting monitoring results. The Part III of the Permit establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements for this facility.

1. Effluent Monitoring Requirements

Effluent monitoring frequency and sample type have been established in accordance with the requirements of 40 CFR 122.44(i) and recommendations in EPA's TSD. Consistent with 40 CFR Part 136 monitoring data for toxic metals must be expressed as total recoverable metal. Effluent monitoring and analyses shall be conducted in accordance with EPA test procedures approved under 40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, as amended. For situations where there may be interference, refer to Solutions to Analytical Chemistry Problems with Clean Water Act Methods (EPA 821-R-07-002).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.

The sampling point for Outfall 001 shall be located immediately after the primary flow measuring device of the effluent of the treatment system.

D. Compliance with Federal Anti-Backsliding Requirements and Puerto Rico's Anti-Degradation Policy

Federal regulations at 40 CFR 131.12 require that state water quality standards include an anti-degradation policy consistent with the federal policy. The discharge is consistent with the anti-degradation provision of 40 CFR 131.12, 72 Federal Register 238 (December 12, 2007, pages 70517-70526) and EQB's *Anti-Degradation Policy Implementation Procedure* in Attachment A of PRWQS. In addition, CWA sections 402(o)(2) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. Further, the Region 2 Antibacksliding Policy provides guidance regarding relaxation of effluent limitations based on water quality for Puerto Rico NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit with some exceptions where limitations may be relaxed.

- The effluent limitations in the permit are at least as stringent as the effluent limitations in the existing permit, with the exception of effluent limitations for **Copper, Turbidity, Lead and Zinc**. The effluent limitations for these pollutants are less stringent that those in the existing permit. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of CWA section 401(o), 40 CFR 122.44(l), EPA Region 2's Anti-backsliding Policy dated August 10, 1993, and Puerto Rico's Anti-Degradation Policy Implementation Procedure established in PRWQS. **CWA Sec. 402(o**)(2)(B)(i) allows backsliding if information is available which was not available at the time of permit issuance and would have justified a less stringent effluent limitation at the time of permit issuance. EPA has determined that it is appropriate to relax the effluent limitation for these parameters without violating anti-backsliding provisions of the CWA, in accordance with section 402(o)(2), since one of the exceptions to the provisions has been satisfied; and section 402(o)(3) since it complies with EQB's WQS which include antidegradation requirements. The EQB WQC constitutes a determination that the limit is sufficient to assure that the water quality standards are or will be attained.

- Existing effluent limitations for **2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 2-Methyl-4,6-Dinitrophenol, 2,4-Dinitrophenol, 2,4,6-Trichlorophenol, Phenol, Fluoride, Total Ammonia, Pentachlorophenol, Velocity and Total Coliform** have been removed based on CWA section 402(o)(2)(B)(i). CWA section 402(o)(2)(B)(i) authorizes the backsliding of effluent limitations if information is available which was not available at the time of permit issuance that would have justified the application of a less stringent effluent limitation at the time of permit issuance. Based on review of effluent data since issuance of the existing permit, the modified discharge does not show a reasonable potential for the exceedance of water quality criteria for these parameters.

PART III. RATIONALE FOR STANDARD AND SPECIAL CONDITIONS

A. Standard Conditions

In accordance with 40 CFR 122.41, standard conditions that apply to all NPDES permits have been incorporated by reference in Part IV.A.1 of the permit and expressly in Attachment B of the permit. The Permittee must comply with all standard conditions and with those additional conditions that are applicable to specified categories of permits under 40 CFR 122.42 and specified in Part IV.A.2 of the Permit.

B. Special Conditions

In accordance with 40 CFR 122.42 and other regulations cited below, special conditions have been incorporated into the permit. This section addresses the justification for special studies, additional monitoring requirements, Best Management Practices, Compliance Schedules, and/or special provisions for POTWs as needed. The special conditions for this facility are as follows:

1. **Special Conditions from the Water Quality Certificate**

   In accordance with 40 CFR 124.55, EPA has established Special Conditions from the WQC in the permit that EQB determined were necessary to meet PRWQS. The Special Conditions established in this section are only those conditions from the WQC that have not been established in other parts of the permit.

2. **Whole Effluent Toxicity Testing**
   EPA has imposed the quarterly testing requirement to collect data necessary to determine whether this discharge has the reasonable potential to cause or contribute to an exceedance of Puerto Rico's water quality standards for toxicity, pursuant to water quality based permitting requirements at 40 CFR 122.44(d)(1), which requires EPA and delegated states to evaluate each National Pollutant Discharge Elimination System (NPDES) permit for the potential to exceed state numeric or narrative water quality standards, including those for toxics, and to establish effluent limitations for those facilities with the "reasonable potential" to exceed those standards. These federal regulations require both chemical specific limits, based on the state numeric water quality standards or other criteria developed by EPA, and whole effluent toxicity effluent limits.

3. **Best Management Practices (BMP) Plan**

   In accordance with 40 CFR 122.2 and 122.44(k), BMPs are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution to waters of the United States. The Permittee is required to develop a BMP Plan in Part IV.B.3.a of the permit to control or abate the discharge of pollutants.

4. **Compliance Schedules**

   A compliance schedule has not been authorized for any pollutant or parameter in the permit on the basis of 40 CFR 122.47.

PART IV. COMPLIANCE WITH APPLICABLE PROVISIONS OF OTHER FEDERAL LAWS OR EXECUTIVE ORDERS

A. Coastal Zone Management Act- Not Applicable.

B. Endangered Species Act

Under 40 CFR 122.49(c), EPA is required pursuant to section 7 of the Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq*. and its implementing regulations (50 CFR Part 402) to ensure, in consultation with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) that the discharge authorized by the permit is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat**.** On April 16, 2009, EPA designated PRASA (a non-Federal representative) to conduct informal consultations or prepare a biological assessment for Section 7 Consultations, according to 50 CFR 402.8. In the past, no federally listed endangered or threatened species, or critical habitat, are in the vicinity

of the discharge. Therefore, it has been determined that the discharge is not likely to affect species or habitat listed under the ESA.

C. Environmental Justice- Not Applicable.

D. Coral Reef Protection- Not Applicable.

E. Climate Change

EPA has considered climate change when developing the conditions of the permit. This is in accordance with the draft *National Water Program 2012 Strategy: Response to Climate Change* that identifies ways to address climate change impacts by NPDES permitting authorities (77 Federal Register 63, April 2, 2012, 19661-19662). Climate change is expected to affect surface waters in several ways, affecting both human health and ecological endpoints. As outlined in the draft National Water Program 2012 Strategy, EPA is committed to protecting surface water, drinking water, and ground water quality, and diminishing the risks of climate change to human health and the environment, through a variety of adaptation and mitigation strategies. These strategies include encouraging communities and NPDES permitting authorities to incorporate climate change strategies into their water quality planning, encouraging green infrastructure and recommending that water quality authorities consider climate change impacts when developing water load and load allocations for new TMDLs, identifying and protecting designated uses at risk from climate change impacts. The 2010 *NPDES Permit Writers' Manual* also identifies climate change considerations for establishing low-flow conditions that account for possible climatic changes to stream flow. The conditions established in the permit are consistent with the draft National Water Program 2012 Strategy.

F. National Historic Preservation Act

Under 40 CFR 122.49(b), EPA is required to assess the impact of the discharge authorized by the permit on any properties listed or eligible for listing in the National Register of Historic Places (NRHP) and mitigate any adverse effects when necessary in accordance with the National Historic Preservation Act, 16 U.S.C. 470 et seq. EPA's analysis indicates that no soil disturbing or construction-related activities are being authorized by approval of this permit; accordingly, adverse effects to resources on or eligible for inclusion in the NHRP are not anticipated as part of this permitted action.

G. Magnuson-Stevens Fishery Conservation and Management Act- Not Applicable.

PART V. PUBLIC PARTICIPATION

The procedures for reaching a final decision on the draft permit are set forth in 40 CFR Part 124 and are described in the public notice for the draft permit, which is published in **El Vocero** Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision. EPA will consider and respond in writing to all significant comments received during the public comment period in reaching a final decision on the draft permit. Requests for information or questions regarding the draft permit should be directed to

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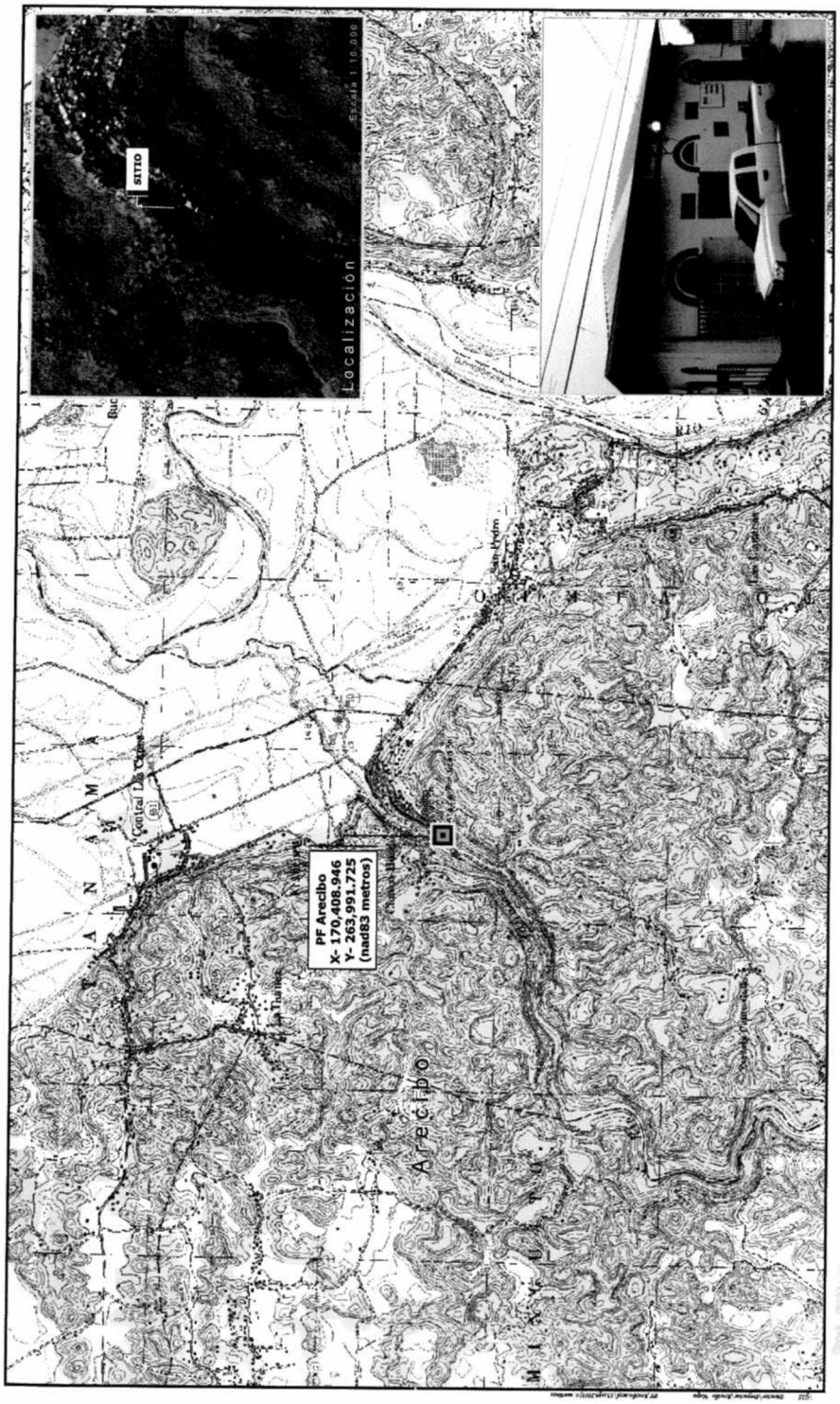
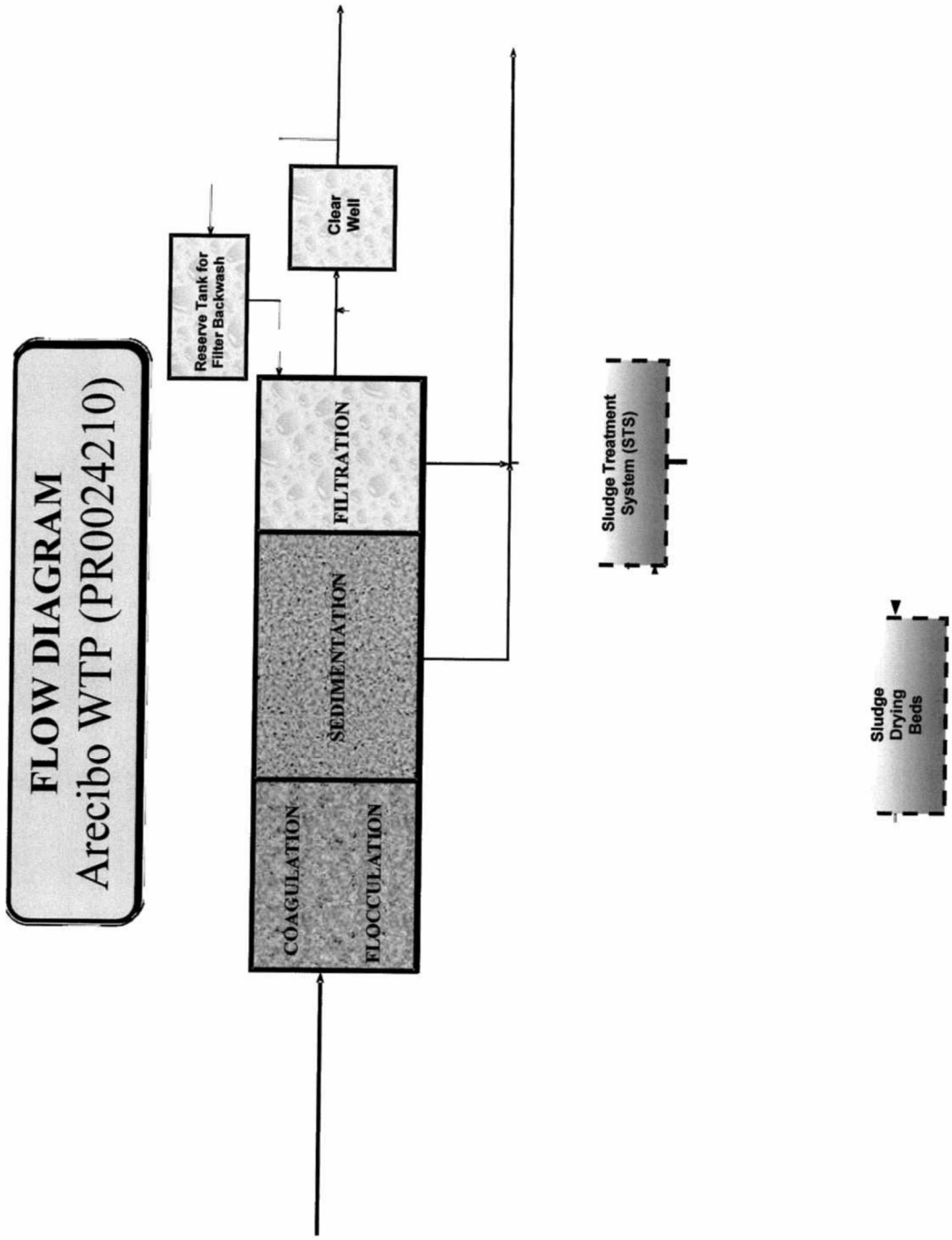
Permit Writer Phone: 787-977-5827
Permit Writer Email: martinez.jorge@epa.gov

A copy of the draft permit is also available on EPA's website at www.epa.gov/region02/water/permits.html.

ATTACHMENT A — FACILITY MAP AND FLOW SCHEMATIC

The facility map and flow schematic are attached as provided by the discharger in the application.




FLOW DIAGRAM
Arecibo WTP (PR0024210)
Reserve Tank for Filter Backwash
Clear Well
COAGULATION
FLOCCULATION
SEDIMENTATION
FILTRATION
Sludge Treatment System (STS)
Sludge Drying Beds