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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MAYAGÜEZ REGIONAL WWTP
PERMIT No. PR0023795

This Fact Sheet sets forth the principal 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 Intent to Issue a Water Quality Certificate (WQC) issued by the Puerto Rico Department of Natural Resources (DNER) 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 **September 28, 2023,** DNER 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 WQC into 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** National Pollutant Discharge Elimination System (NPDES) permit. The Permittee is discharging pursuant to NPDES Permit No**. PR0023795.** The Permittee submitted **Application Form 1, and 2A, dated May 28, 2021,** and applied for an NPDES permit to discharge **treated** wastewater from **Mayagüez WWTP** called the facility. The facility is classified as a **major** discharger by EPA in accordance with the EPA rating criteria.

The Permittee **owns** and **operates** wastewater treatment plant which provides **secondary treatment**. 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 Mayagüez RWWTP is a publicly owned treatment work (POTW) that treats domestic and industrial wastewater. The facility serves the municipalities of Mayaguez, Cabo Rojo, Añasco and Hormigueros. It has a capacity of 28.0 MGD (monthly average), provides secondary treatment and discharge its effluent to the Atlantic Ocean.

Sanitary wastewater is processed through the following units:

- Raw influent screening.
- Influent pump system.
- Grit removal system.
- Primary sedimentation.
- Secondary treatment.
- Effluent disinfection and sampling.
- Gravity thickening.

- Sludge dewatering.

Sludge is thickened, dewatered and hauled to a composting facility or a landfill for disposal.

Summary of Permittee and Facility Information

Permittee	Puerto Rico Aqueduct and Sewer Authority (PRASA)
Facility contact, title, phone	Ms. Marichu Valentin, 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	Road 342, km 0.5 Mayagüez, PR 00680
Type of facility	Publically-owned Treatment Works
Pretreatment program	N/A
Facility maximum daily flow	28.0 MGD (in million gallons per day)
Facility classification	Major

B. Discharge Points and Receiving Water Information

Wastewater is discharged from Outfall 001 to the Bairoa 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	Secondary municipal wastewater.	18 °, 14 ′, 33 ″ N	67 °, 11 ′, 27 ″ W	Atlantic Ocean, Class SB waters

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

- Segments of coastal and estuarine waters at the Mayagüez Bay, from Punta Guanajibo to Punta Algarrobo sectors.

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 TMDLs for those waters. The receiving water has not been determined to have water quality impairments for one or more of the designated uses as determined by section 303(d) of the CWA.

C. Compliance Orders/Consent Decrees

The Permittee has a Consent Decree with the Agency (civil action no 06-16-24 (sec)) in which the facility is included. This consent decree does not affect this permit action.

D. 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
- PRWQSR (August 2022).

E. Mixing Zone/Dilution Allowance

As part of its CWA section 401 certification of the modified permit application, the DNER has authorized an interim mixing zone (IMZ) in accordance with Rule 1305 of PRWQSR. The main outfall is sixty (60) inches in diameter, which extends to 5,640 feet from the offshore and connects to a "T" shaped diffuser. The diffuser is approximately 640 feet long. The diffuser body is 36 inches in diameter and extends approximately 320 feet to the north and south of, and perpendicular to, end of the outfall pipe. Each diffuser leg has fifteen (15) 6 inches (0.152 meter) diameter vertical risers, 7.8 feet high, spaced at 16 feet intervals. The diffuser barrel is buried, and the risers extend approximately 3 feet above the seabed. Each riser terminates in a 90-degree elbow with a 6 inches port. Ports discharge perpendicular to the diffuser barrel in alternating directions. A total of sixteen (16) risers (eight on each leg) along the diffuser shall be open and facing seaward.

Under PRWQSR, mixing zones are authorized for specific parameters and do not apply to the entire effluent discharged. Therefore, as indicated in its CWA 401 certification, DNER has authorized a IMZ for the following parameters for the next permit term:

- Non-conventional pollutants (Free Cyanide, Dissolved Oxygen, pH, Total Nitrogen (NO_3, NO_2, TKN), Turbidity);
- Metals (Copper); and
- Acute and chronic toxicity.

As part of IMZ, DNER requires that PRASA conduct water quality monitoring events and one dye study to ensure that water quality standards are met at the edge of the mixing zone. Consistent with DNER's CWA 401 certification on this permit action.

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 PRWQSR. The basis for each limitation or condition is discussed below.

A. Effluent Limitations

The permit establishes **both Technology-based Effluent Limitations (TBELs) and WQBELs** for several pollutants and the basis for these limitations are discussed below**.**

1. **5-Day Biochemical Oxygen Demand (BOD_5):** The effluent concentration and percent removal limitations are based on technology-based secondary treatment standards for publicly owned treatment works (POTWs) specified in 40 CFR 133.102(a). The permit also requires influent monitoring and reporting in accordance with 40 CFR 122.44(i) to meet the requirement of the percent removal limitation (see section C.1.—Monitoring Requirements— of this Part).
2. **Color:** The effluent limitation is based on the water quality criterion for **Class SB** waters as specified in Rule 1303.2.B.2.e of PRWQSR, and the WQC.
3. **Dissolved Oxygen (DO):** The effluent limitation is based on the water quality criterion for **Class SB** waters as specified in Rule 1303.2.B.2.a of PRWQSR, and the WQC.

4. **Enterococci:** The effluent limitation is based on the water quality criterion for **Class SB** waters as specified in Rule 1303.2.B.2.c of PRWQSR, and the WQC.

5. **Flow:** An effluent limitation for flow has been established in the permit for 28 MGD as a Daily Maximum. Monitoring conditions are applied pursuant to 40 CFR 122.21(j)(4)(ii) and WQC.

   The frequency monitoring for flow shall be continuous with a flow meter.

6. **Oil and Grease:** The effluent limitation is based on the water quality standards as specified in Rule 1303.1.H of PRWQSR and the WQC.

7. **pH:** The effluent limitation for pH is based on technology-based secondary treatment standards for POTWs for **Class SB** waters as specified in Rule 1303.2.B.2.d of PRWQSR, and the WQC. In no case the pH will lie outside of 6.0 to 9.0, standard pH units, except when it is altered by natural causes.

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

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

10. **Taste and Other Producing Substances**: The effluent limitation is based on the water quality criterion for **Class SB** waters as specified in Rule 1303.2.B.2.g of PRWQSR, and the WQC.

11. **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.1 of PRWQSR, and the WQC.

12. **TKN:** The effluent limitation is needed in order to validate DO mathematical model used to define the mixing zone as specified in Rule 1305.9.B, Monitoring program for Validation. As well as, the PR Mixing Zone and Bioassay Guidelines.

13. **Total Nitrogen (TKN, NO_2, NO_3):** The effluent limitation is based on the water quality standards as specified in Rule 1303.2.B.2.k of PRWQSR, and the WQC.

14. **Total Suspended Solids (TSS):** The effluent concentration and percent removal limitations are based on technology-based secondary treatment standards for POTWs specified in 40 CFR 133.102(b). The permit also requires influent monitoring and reporting in accordance with 40 CFR 122.44(i) to meet the requirement of the percent removal limitation (see section C.1.—Monitoring Requirements— of this Fact Sheet).

15. **Turbidity:** The effluent limitation is based on the water quality criterion for **Class SB** waters as specified in Rule 1303.2.B.2.f of PRWQSR, and the WQC.

16. **Copper, Cyanide Free, Residual Chlorine:** The effluent limitations are based on the water quality standards for **Class SB** waters as specified in Rule 1303.1.J.1 of PRWQSR, and the WQC.

17. **Whole Effluent Toxicity (WET):** The permit establishes a requirement for the Permittee to conduct accelerated testing and develop a Toxicity Reduction Evaluation (TRE) Workplan as Special Conditions. These requirements are necessary to ensure that the Permittee has a process for addressing effluent toxicity if toxicity is observed.

B. Effluent Limitations Summary Table

1. Outfall Number 001

Parameter	Units	Effluent limitations					
		Averaging period	Highest Reported Value (1)	Existing limits	Interim limits	Final limits	Basis
BOD_5	mg/L	Average monthly Average weekly	21 34 *(maximum daily)*	30.0 45.0	--	30.0 45.0	TBEL
	kg/day	Monthly average Weekly average	2,225 3,602	3,178 4,768	--	3,178 4,768	TBEL
	minimum % percent	Average monthly	82 *(lowest reported value)*	85	--	85	TBEL
Color	Pt-Co	Daily Maximum	30	Monitor only	--	Monitor only	WQBEL
Copper	µg/L	Daily maximum	12	18.42	--	19.55	WQBEL
Cyanide (CN)	µg/L	Daily maximum	13.5	14.11	--	47.28	WQBEL
Dissolved Oxygen	mg/L	Daily Maximum	7.8	Monitor only	--	Monitor only	WQBEL
Enterococci	col/100 mL	Daily maximum	--	Geometric mean of series of 5 samples shall not exceed 35	Geometric mean of series of 5 samples shall not exceed 35	Monitor only	WQBEL
	col/100 mL	Sample maximum	--	No sample shall exceed upper confidence limit of 75% or a maximum of 130	No sample shall exceed upper confidence limit of 75% or a maximum of 130	Monitor only	WQBEL
Flow	MGD	Daily maximum	22.1	28	--	28	WQBEL
	m^3/day	Daily maximum	83,657	105,9912	--	105,9912	WQBEL
Oil and Grease	mg/L	--	8.6	Monitor only	--	Monitor only	WQBEL
pH	SU	Daily maximum	6.9-7.7	6.0-9.0	--	6.0-9.0	WQBEL
Residual Chlorine	µg/L	Daily maximum	--	Monitor only	7.5	Monitor only	WQBEL
Solids and Other Matter	--	--	--	--	--	Monitor only	WQBEL
Suspended, Colloidal or Settleable Solids	mL/L	Average Monthly Maximum Daily	2	Monitor only	--	Monitor only	WQBEL
Taste or Odor-producing Substances	--	Average Monthly Maximum Daily	--	Monitor only	--	Monitor only	WQBEL
Temperature	°F	Daily maximum	86	Shall not exceed 89.96	--	Shall not exceed 89.42	WQBEL
	°C	Daily maximum	30	Shall not exceed 32.2	--	Shall not exceed 31.9	WQBEL
TKN	µg/L	Daily maximum	22600	Monitor only	--	Monitor only	WQBEL
Total Nitrogen (NO_3,NO_2,TKN)	µg/L	Daily maximum	--	Monitor only	--	36,430	WQBEL
Nitrogen (NO_3,NO_2, NH_3)	µg/L	Daily maximum	--	21.974	--	--	WQBEL

Parameter	Units	Effluent limitations					
		Averaging period	Highest Reported Value (1)	Existing limits	Interim limits	Final limits	Basis
TSS	mg/L	Average monthly Average weekly	19 38 *(maximum daily)*	30 45	--	Monitor only	TBEL
	kg/day	Monthly average Weekly average	2,013 4,026	30 45	--	Monitor only	TBEL
	minimum % percent	Average monthly	90 *(lowest reported value)*	85	--	85	TBEL
Turbidity	NTU	Daily maximum	9.21	10	--	26	WQBEL
Whole Effluent Toxicity	TUa	--	--	Monitor	24-hr Composite	1/Year	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 12/01/2016 to 01/31/2021.

2. Outfall 001 Narrative Limitations

a. The waters of Puerto Rico shall not contain any substance, attributable to the discharge at such concentration which, either alone or as result of synergistic effects with other substances, is toxic or produces undesirable physiological responses in humans, fish, or other fauna or flora.
b. The waters of Puerto Rico shall be substantially free from floating nonpetroleum oils and greases as well as petroleum derived oils and greases.
c. 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.
d. Solids from wastewater sources shall not cause deposition in or be deleterious to the existing or designated uses of the waters.
e. Taste and odor-producing substances shall not be present in amounts that will interfere with primary contact recreation, or will render any undesirable taste or odor to edible aquatic life.
f. 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.

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. **Influent Monitoring Requirements**

   To calculate percent removal values, influent monitoring is required for BOD_5 and TSS in accordance with 40 CFR 133.102. Influent monitoring must be conducted before any treatment, other than de-gritting, and before any addition of any internal waste stream.

2. **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 DNER's *Anti-Degradation Policy Implementation Procedure* in Attachment A of PRWQSR. 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 proposed NPDES permit contains water quality-based effluent limitation for **Total Nitrogen** which were ***not included*** in the previous NPDES permit. Pursuant to Section 401 (d) of the Act and 40 C.F.R. 122.44 (d) and 124.55, all State certified limitations and requirements contained in a Section 401 certification must be incorporated into a NPDES permit issued by EPA. The water quality-based limitation referenced in this paragraph has been included in the draft NPDES permit, based on DNER's WQC.

- Existing effluent limitations for **Fecal Coliforms, Mercury, Nitrogen, and Sulfide** 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.

- 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, Cyanide Free, Temperature, and Turbidity**. 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 DNER's WQC constitutes a determination that the limit is sufficient to assure that the water quality standards are or will be attained.

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 DNER determined were necessary to meet PRWQSR. 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.

   a. The flow of discharge 001 shall not exceed the limitation of 105,991.2 m^3/day (28 MGD) as daily maximum. No increase in flow of discharge 001 shall be authorized without a recertification from the Department of Natural and Environmental Resources (DNER).

   b. The permittee shall require to any industrial user of the treatment system, to comply with the requirements of Section 307 and 308 of the CWA, by requiring to each user to provide pretreatment to all industrial wastewater prior to the discharge to such system as determined by the Environmental Protection Agency (EPA) and the DNER. The permittee shall require to each industrial user to comply with Section 308 of the CWA by requiring to each user to perform the necessary monitoring to verify compliance with the level of pretreatment required. Each industrial user shall establish and maintain good records in relation to their pretreatment and shall allow the entry to their facilities to EPA and the DNER personnel at any time for any appropriate inspection.

   c. The permittee shall provide written notice to the DNER's Water Quality Area and the Municipal Water Programs Branch of EPA's Region 2 Caribbean Environmental Protection Division, of the following changes that may affect the treatment system:

      1) Any new introduction of pollutants to the treatment system, not exclusively sanitary, coming from an industrial facility. If the industrial facility is an existing significant industrial user, shall notify only when the new introduction of pollutants exceeds 1,000 gallons/day.

      2) Any significant change in volume or character of pollutants being introduced into the treatment system by an existing source that may cause a variation in the quality of the effluent to be discharged.

      Such notice shall include information of the quality and quantity of the effluent to be introduced into the treatment system and the anticipated impact of such change in quantity and/or quality of the effluent to be discharged from the system.

   d. Prior to the construction of any additional treatment system or the modification of the existing one, the permittee shall obtain the approval from the DNER of the engineering report, plans and specifications.

   e. 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.

   f. 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.

   g. 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.

   h. The discharge 001 shall not cause the presence of oil sheen in the receiving water body.

   i. 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.

j. The samples taken for the analysis of free cyanide shall be analyzed using the analytic method approved by the EPA with the lowest possible detection level, in accordance with Rule 1306.8 of the Puerto Rico Water Quality Standards Regulation (PRWQSR), as amended.

k. 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.

l. The sampling point for discharge 001 shall be located immediately after the primary flow-measuring device of the effluent.

m. 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"

n. All water or wastewater treatment facilities, whether publicly or privately owned, must be operated by a person licensed by the Examination Board of Water and Wastewater Treatment Plants Operators of Puerto Rico.

o. The solid waste such as sludge, screenings and grit, generated due to the operation of the Mayagüez Regional Wastewater Treatment Plant (MRWWTP) shall be:

1) Disposed in compliance with the applicable requirements established in the 40 CFR, Part 257. A semiannual report shall be submitted to the Water Quality Area and the Land Pollution Control Area of the DNER and to the Municipal Water Programs Branch of EPA's Region 2 Caribbean Environmental Protection Division, notifying the method or methods used to dispose the solid waste generated in the facility. Also, copy of the approval or permit applicable to the disposal method used shall be submitted, if any.

2) Transported adequately in such way that access is not gained to any water body or soil. In the event of a spill of solid waste on land or into a water body, the permittee shall notify the Point Sources Permits Division of the DNER's Water Quality Area in writing within a term no longer than twenty-four (24) hours after the spill to the following electronic address: bypass@drna.pr.gov.

This notification shall include the following information:

i. spilled material,

ii. spilled volume,

iii. measures taken to prevent the spilled material to gain access to any water body.

This special condition does not relieve the permittee from its responsibility to obtain the corresponding permits from the DNER's Land Pollution Control Area and other state and federal agencies, if any.

p. A log book must be kept for the material removed from the MRWWTP, such as sludge, screenings and grit, detailing the following items:

1) removed material, date and source of it;

2) approximate volume and weight;

3) method by which it is removed and transported;

4) final disposal and location;

5) person that performs the service.

A copy of the Non-Hazardous Solid Waste Collection or Transportation Services Permit issued by the authorized official from the DNER must be attached to the log book.

q. The sludge produced within the facility due to the operation of the treatment system shall be analyzed and all constituents shall be identified as required by "Standards for the Use or Disposal of Sewage Sludge" (40 CFR, Part 503). The sludge shall be disposed properly in such manner that water pollution or other adverse effects to surface waters or to ground waters do not occur.

r. If any standard or prohibition to the sanitary sludge disposal is promulgated and said prohibition or standard is more stringent than any condition, restriction, prohibition or standard contained in the NPDES permit, such permit shall be modified accordingly or revoked and reissued to be adjusted with regard to such prohibition or standard.

s. The DNER has defined and authorized an Interim Mixing Zone (IMZ) pursuant to Rule 1305 of the PRWQSR.

1) The IMZ is delineated by the following points (See Diagram I):

	Geographic Coordinates*
Point 1	Lat. 18° 14' 20.10" Long. 67° 11' 22.08"
Point 2	Lat. 18° 14' 25.50" Long. 67° 11' 24.36"
Point 3	Lat. 18° 14' 25.98" Long. 67° 11' 23.16"
Point 4	Lat. 18° 14' 20.58" Long. 67° 11' 20.88"

* NAD 83 State Plane Coordinates

The main outfall is sixty (60) inches in diameter, which extends to 5,640 feet (ft) from offshore and connects to a "T" shaped diffuser. The diffuser is approximately 640 ft long. The diffuser body is 36 inches in diameter and extends approximately 320 feet to the north and south of, and perpendicular to, end of the outfall pipe. Each diffuser leg has fifteen (15) 6 inches diameter vertical risers, 7.8 feet high, spaced at 16 feet intervals. The diffuser barrel is buried, and the risers extend approximately 3 feet above the seabed. Each riser terminates in a 90-degree elbow with a 6 inches port. Ports discharge perpendicular to the diffuser barrel in alternating directions. A total of sixteen (16) risers (eight on each leg) along the diffuser shall be open and facing seaward.

1) The mixing zone sampling stations shall be located at the four (4) points described in Part "a" of this special condition.

2) The background sampling station shall be located one hundred (100) meters from Point 1 or Point 2 of the mixing zone, depending of the current direction at the time of sampling. The background stations shall be located at the following geographic coordinates:

	Geographic Coordinates*
BG1	Lat. 18° 14' 17.10" Long. 67° 11' 23.40"
BG2	Lat. 18° 14' 26.76" Long. 67° 11' 27.48"

*NAD 83 State Plane Coordinates

3) The permittee shall maintain records of the equipment used to situate at the mixing zone boundaries. Such records shall include the date when the equipment was obtained or leased, calibration date, serial number, model, etc.

To identify the location of the sampling points of the mixing zone and the background, the permittee shall use the procedure established in the EPA-QA/QC for 301(h) Document (Table D-1 Example ZID Boundary Stations Locations).

If the permittee determines to use another method to identify the sampling points of the mixing zone, the permittee shall, prior to the utilization of such method, obtain written approval from the DNER.

4) The IMZ is defined for the following parameters:

Parameter	**Daily Maximum Discharge Limitation at Outfall Serial Number 001**	**Daily Maximum Limitation at the Edge of the MZ**
Copper (Cu) (µg/L)	19.55	3.73
Cyanide, Free (CN) (µg/L)	47.28	1.0
Dissolved Oxygen (mg/L)	Monitoring Only	≥ 5.0
pH (SU)	6.0 – 9.0	7.3 – 8.5
Total Nitrogen (NO_3, NO_2, TKN) (µg/L)	36,430	5,000
Turbidity (NTU)	19.4	10

5) Monitoring samples for these parameters shall be taken at the sampling point for discharge 001, the background monitoring stations and at the sampling stations of the IMZ. The discharge shall comply with the water quality standards as effluent limitations at sampling point for discharge 001 for all the other substances.

6) The monitoring samples at the four (4) stations in the boundaries of the IMZ and the background monitoring stations shall be taken at three (3) depths in each station: 10%, 50%, 90% of the depth.

7) Solids from wastewater sources shall not cause deposition in, or be deleterious to the existing or designated uses of the receiving water body.

8) The discharge shall not cause the growth or propagation of organisms that negatively disturb the ecological equilibrium in the areas adjacent to the mixing zone.

9) The mixing zone shall be free of debris, scum, floating oil and any other substances that produce objectionable odors.

10) The permittee shall maintain in good operating conditions the discharge system [discharge outfall (land and submarine), diffuser, ports, etc.]. The discharge system shall be inspected during the third year of the effectiveness of the NPDES permit. This inspection should be performed to determine if any repairs, replacements, etc. are necessary in the system. A report of such inspection shall be submitted to the DNER's Water Quality Area and the Municipal Water Programs Branch of the EPA's Region 2 Caribbean Environmental Protection Division no later than sixty (60) days after the performance of the inspection.

11) The DNER can require that the permittee conduct bioaccumulation studies, dye studies, water quality studies or any other pertinent studies. If the DNER require one or more of the aforementioned studies, the permittee will be notified to conduct such study(ies). One hundred and twenty (120) days after the notification of the DNER, the permittee shall submit, for evaluation and approval of the DNER, a protocol to conduct such study(ies). Sixty (60) days after the DNER approval, the permittee shall initiate such study(ies). Ninety (90) days after conducting such study(ies), the permittee shall submit a report that includes the results of such study(ies).

12) The permittee shall implement a one year monitoring program to obtain the necessary data to validate the IMZ. The monitoring program shall consist of the sampling of the parameters included in Part "e" of this special condition to verify compliance with the applicable provisions of the PRWQSR and a dye study to validate the mathematical model used to determine the critical initial dilution and verify the behavior of the plume within the mixing zone. The monitoring program shall be conducted as follows:

    i. The permittee shall conduct two (2) sampling events at the four (4) stations at the boundaries of the IMZ, at the background sampling station and at the sampling point for discharge 001, during two (2) seasons (summer and winter). One sampling event shall be conducted during each season.

    ii. The dye study shall be conducted once, at the same time as one of the sampling events.

13) A Protocol and Quality Assurance Project Plan (QAPP) for the monitoring program described in Part "12" of this Special Condition, shall be submitted to DNER's Water Quality Area of the DNER fort its approval, no later than ninety (90) days after EDP. The monitoring program shall be conducted during the third year on the EDP (the period beginning on EDP + 24 months and lasting through EDP + 36 months).

14) If the mathematical model is validated as established in the applicable provisions of the PRWQSR and in the Mixing Zone and Bioassays Guidelines, a final mixing zone authorization will be issued by the DNER. Nevertheless, if the mathematical model is not validated, the DNER may revoke the IMZ authorization in accordance with Rule 1305.14 of the PRWQSR. In such case, the permittee must submit a compliance plan according to Rule 1305.16 of the PRWQSR, and the NPDES permit shall be modified in accordance with this determination.

15) The DNER can allow that the permittee use alternative methods for the mixing zone validation if such methods comply with the applicable federal and state regulations or when new technology is developed that produce results technically and environmentally more reliable than those produced by the methods described in this special condition.

16) The authorization for the mixing zone will not be transferable and does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal or State laws or regulations.

t. Interim Limits and Compliance Plan

a. The permittee shall comply with the following interim and final limits for discharge 001 for the following parameters:

Parameter	**Interim Limit**	**Final Limit**
Enterococci (col/100 mL)	Monitoring Only	*
Residual Chlorine (µg/L)	500	7.5

*The enterococci density, in terms of geometric mean shall not exceed 35 colonies/100 mL in any 90-day interval; neither the 90th Percentile of the samples taken shall exceed 130 colonies/100 mL in the same 90-day interval.

b. The interim limit will be effective during the period beginning on the EDP and lasting through EDP + 36 months, unless, following the terms and conditions of the approved Plan of Study (POS) submitted as part of Compliance Plan (CP), the permittee has requested a modification of the final limit of the NPDES permit for Residual Chlorine and Enterococci because the results of the studies performed show that it is feasible to define a mixing zone for Residual Chlorine while achieving end of pipe compliance for Enterococci. In such case, the interim limits will stay in effect until the DNER and EPA issue a final determination regarding the requested modification. If it is determined that the NPDES permit could be modified, as requested, then the interim limits will continue in effect until the EPA issue a final modified NPDES permit. If the studies reflect that a modification to the NPDES permit is not feasible, the permittee must comply with the final limits for Residual Chlorine from EDP + 36 months + 1 day. During this time, the MRWWTP shall comply with the CP submitted on October 26, 2022, which was evaluated and approved by the DNER.

c. The POS shall be developed as prescribed in the CP schedule below. The POS shall define methods proposed to collect and site-specific field information on key factors affecting bacterial and residual chlorine concentrations in the effluent and the receiving water body. The implementation of the POS shall predict and verify the Enterococci and Residual Chlorine concentrations in the effluent and the receiving water body to determine whether an approvable balance of Residual Chlorine and Enterococci can be maintained while continuing to use chlorine as disinfectant. In addition, the POS shall include the following: (1) effluent monitoring for Enterococci and Residual Chlorine; (2) measurement of the receiving water Residual Chlorine concentrations at the mixing zone and background stations; (3) bioassay testing in the receiving water background; and (4) standard operating procedures for field sample collection; the protocols to be used for laboratory and QA/QC techniques; the laboratories to be used; and detailed schedules for sampling and analysis.

d. The CP schedule is as follows:

	Activity	**Compliance Deadline**
i.	The permittee shall initiate a monthly effluent sampling and analysis for Enterococci; a daily effluent sampling and analysis for Residual Chlorine, and shall submit the results via the monthly Discharge Monitoring Reports to DNER and EPA.	EDP
ii.	The permittee shall submit a POS to the DNER for review and comments.	EDP + 90 days
iii.	The permittee submits a revised POS, if required, to address DNER comments, if any.	30 days after receiving the DNER comments.
iv.	If a mixing zone is found to be appropriate for Residual Chlorine, a mixing zone application will be submitted to the DNER for its review and approval. If a mixing zone is not appropriate, further studies to address Residual Chlorine shall be initiated, after the DNER review and approval.	EDP + 3 years

e. Quarterly progress reports shall be submitted after EDP to DNER and EPA for the first year of the CP. After the first year, the permittee shall submit an annual progress report during subsequent years for the duration of the CP. Progress reports shall be submitted within sixty (60) days of the end of the reporting period.

f. If a time extension is necessary to comply with the approved schedule, a petition shall be submitted for the DNER and EPA approval, in which it is demonstrated that certain conditions exist that make necessary an extension of such period. This petition shall be submitted thirty (30) days prior to the start of the requested time extension.

g. The DNER may revoke the approval of the CP for any of the following reasons:

i. The permittee has not revealed all the relevant facts in the request or has provided false representation of any of the relevant facts during the evaluation of such request.

ii. Non-compliance with any applicable provisions of the CP.

iii. Changes in conditions, without due authorization from the DNER, under which the CP was approved.

iv. There exists an imminent hazard to public health or the environment.

The DNER reserves the right to supervise and oversee the actions of the permittee concerning the performance of the CP.

2. **Whole Effluent Toxicity Testing**
EPA has imposed the annual 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

Under 40 CFR 122.49(d), and in accordance with the Coastal Zone Management Act of 1972, as amended, 16 *United States Code* (U.S.C.) 1451 *et seq*. section 307(c) of the act and its implementing regulations (15 CFR Part 930), EPA may not issue an NPDES permit that affects land or water use in the coastal zone until the Permittee certifies that the proposed activity complies with the Coastal Zone Management Program in Puerto Rico, and that the discharge is certified by the Commonwealth of Puerto Rico to be consistent with the Commonwealth's Coastal Zone Management Program. The Permittee has indicated the outfall is in a coastal area managed by the Commonwealth's Coastal Zone Management Program which has been consistent with the program.

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. Coral Reef Protection

Under Executive Order 13089, *Coral Reef Protection*, EPA is required to ensure that discharge authorized under the permit will not degrade any coral reef ecosystem. Corals or coral ecosystems are in the vicinity of the discharge. In a letter dated August 13, 2013 from National Marine Fisheries Services (NMFS) concluded that the project is not likely to adversely affect corals in critical habitat. Also, coral species proposed for listing in PR are not presence in the area of the outfall discharge. Therefore, the continued operation of the outfalls will have no effect in the species.

D. National Historic Preservation Act – Not applicable since this is a renovation.

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

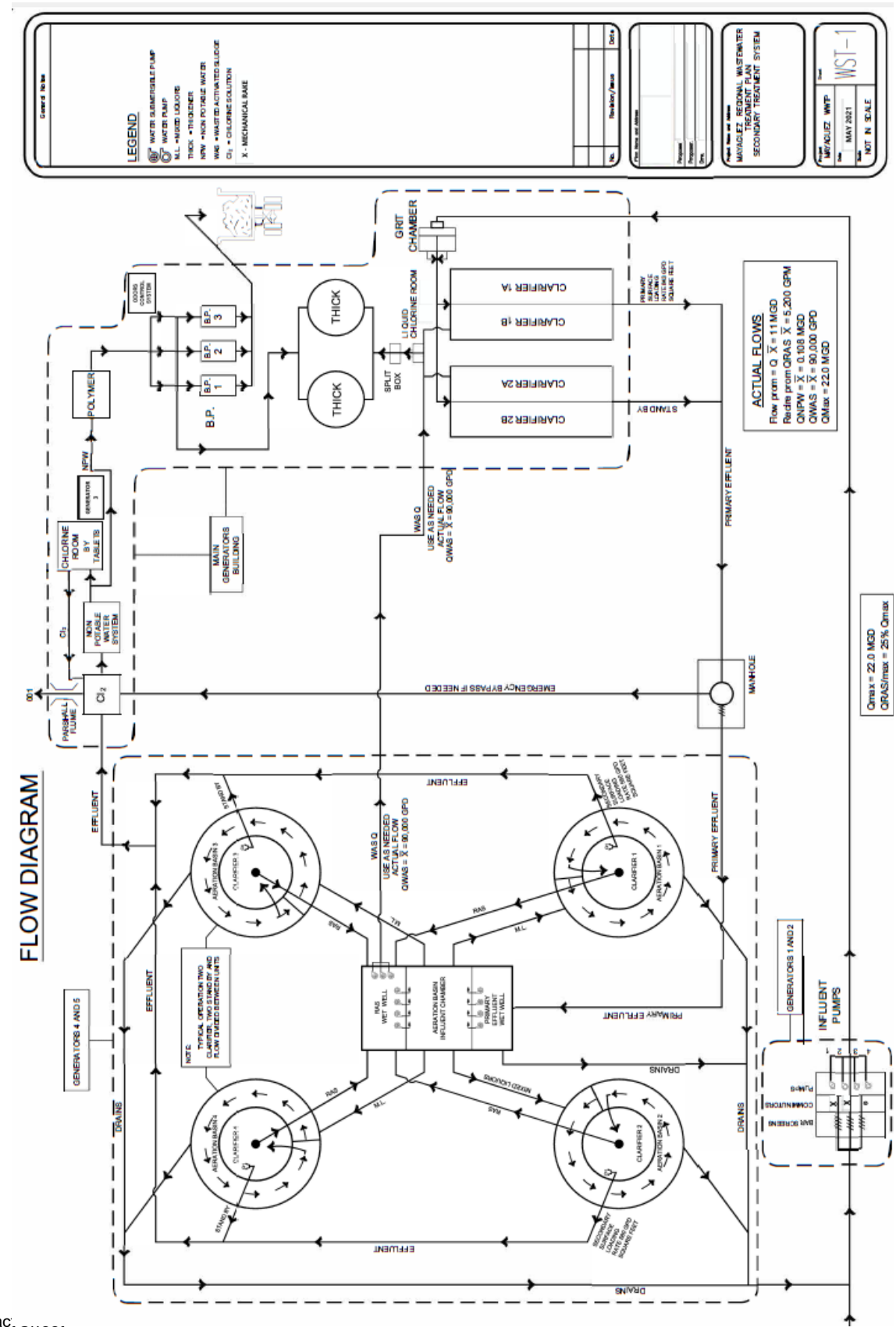
PART V. PUBLIC PARTICIPATION

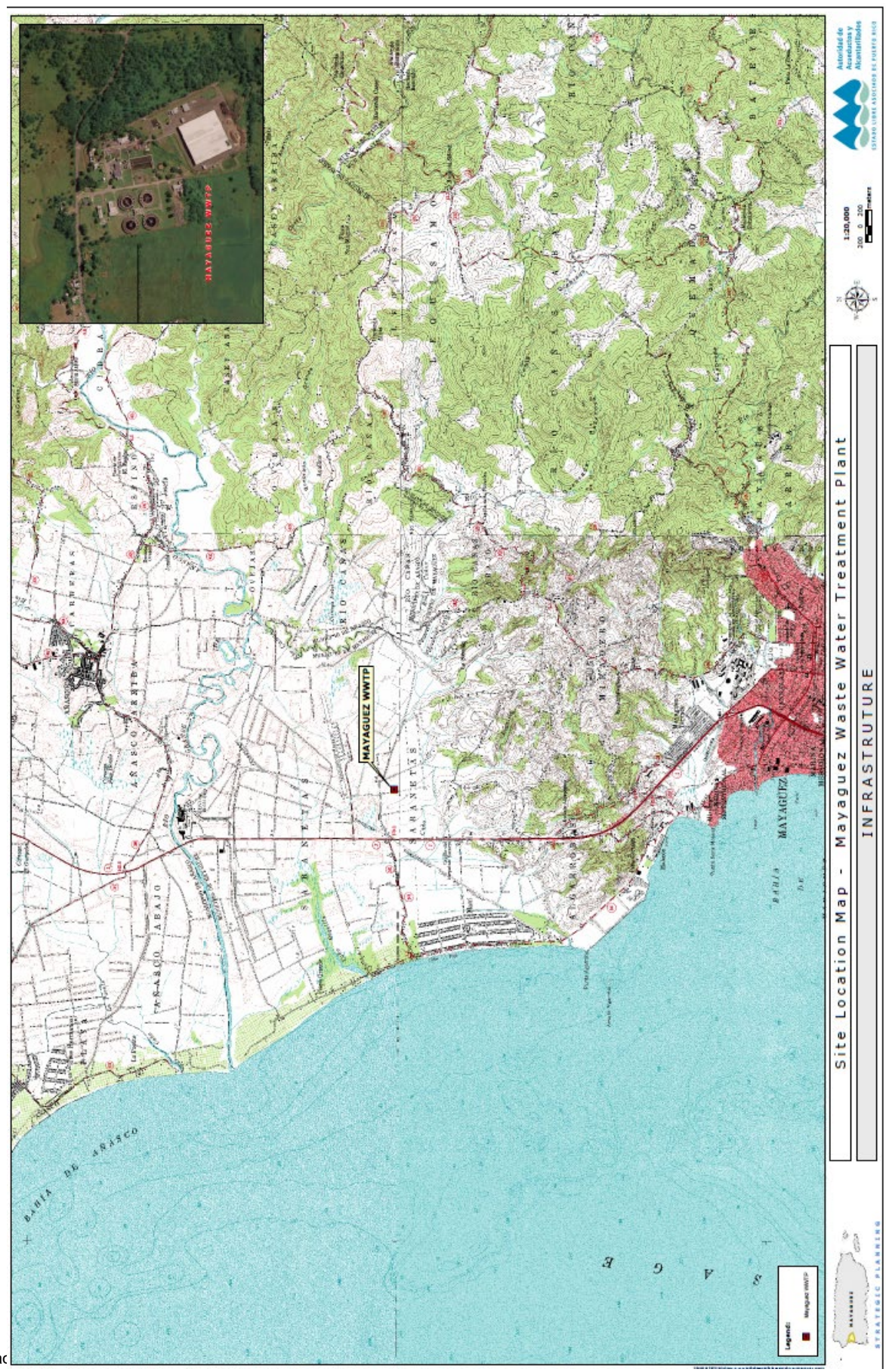
The procedures for reaching a final decision on the draft permit are set forth in 40 CFR Part 124 and are described in the public notice for the draft permit, which is published on EPA's website at https://www.epa.gov/npdes-permits/puerto-rico-npdes-permits . Included in the public notice are requirements 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

Lalitssa López
EPA Region 2, Caribbean Environmental Protection Division
Permit Writer Email: lopez.lalitssa@epa.gov

ATTACHMENT A — FACILITY MAP AND FLOW SCHEMATIC

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




MAYAGUEZ WWTP
Site Location Map - Mayaguez Waste Water Treatment Plant
INFRASTRUTURE
1:20,000
BAHIA DE ARASCO
MAYAGUEZ