**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**
**PROPOSED PERMIT FACT SHEET**
**February 2011**

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| Permittee Name: | Untied States Navy |
| Mailing Address: | NAVFAC Engineering Command, Marianas<br>PSC 455 Box 195<br>FPO AP, GU 96540 |
| Facility Location: | U.S. Navy Water Treatment Plant<br>Bldg. 585, Route 2A<br>Santa Rita, GU 96915 |
| Contact Person(s): | Tafedeo M. Sana, Jr., Utility and Energy Manager<br>Maria Lewis, Environmental Protection Specialist |
| NPDES Permit No.: | GU0020389 |

## I. STATUS OF PERMIT

The United States Navy (the "permittee") has applied for a National Pollutant Discharge Elimination System ("NPDES") permit to allow the discharge of treated effluent from the Navy Water Treatment Plant to the Namo River located in Santa Rita, Guam. A complete application was submitted on March 29, 2010. EPA Region IX has developed this permit and fact sheet pursuant to Section 402 of the Clean Water Act, which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States through obtaining a NPDES permit.

The permittee does not currently have an NPDES permit for discharges from the Water Treatment Plant. The facility was previously permitted under NPDES permit GU0110019 issued on March 14, 2001. That permit was reissued effective June 1st, 2010, but without the inclusion of outfall 002 for the Navy Water Treatment Plant (Navy WTP). Commencing June 1st, 2010 and up until issuance of this permit, any discharge from outfall 002 would be an unpermitted discharge. The permittee has been instructed that in the event of an unpermitted discharge in this interim time period, to adhere to the conditions in the now expired NPDES permit GU0110019 issued in 2001.

This permit has been classified as a Minor discharger.

## II. GENERAL DESCRIPTION OF FACILITY

The Navy WTP, otherwise referred to as Fena WTP, treats approximately 10.5 MGD of drinking water primarily from Fena Lake. Under normal operating conditions, the drinking water is treated by conventional clarifier, multi-media filters, ultraviolet disinfection and ultimately

stored in a clearwell before distribution. Solids are removed from the clarifiers and sent to a sludge conditioning tank and belt filter press before being sent to a Navy landfill. Wastewater that goes through the belt filter press is sent to Apra Harbor Wastewater Treatment Plant. Wastewater from the sludge conditioning tank is sent to two backwash settling tanks. The supernatant from the settling tanks is recycled to the headworks while the solids are sent back to the sludge conditioning tank.

During heavy storm events, typhoons, or lake inversions, decreased settling times experienced by the spent backwash tanks results in poor quality supernatant being recycled back to the plant headworks. As the quality of the recirculated water decreases, the fouling of the downstream processes increases. A discharge occurs when the 549,000 gallon backwash tanks overflow.

In the past, mechanical failures or limitations in the system have also caused upsets resulting in overflows from different parts of the treatment system. These upsets have been reported as discharges.

## III. DESCRIPTION OF RECEIVING WATER

The Navy WTP discharges into the Namo River, a category S-3 Surface Water (Low) according to the Guam Water Quality Standards (Guam WQS). About 2 or 3 miles downstream of the discharge, the Namo River meets with Agat Bay.

Category S-3 waters are described by the Guam WQS as primarily used for commercial, agricultural and industrial activities. Aesthetic enjoyment and limited body contact recreation are acceptable in this zone, as well as maintenance of aquatic life.

## IV. DESCRIPTION OF DISCHARGE

The following information was provided by the permittee in the application:

**Table 1: Historical Effluent Characteristics**

| | | Reported | | | Previous Permit Limits (GU0110019) |
|---|---|---|---|---|---|
| Pollutant | Units | Max Daily | Long Term Avg | Sample No. | Max Daily |
| Flow | MG | 16.2 | 15.1 | - | None |
| Total Organic Carbon | mg/L | 36.1 | 18.6 | 36 | None |
| | lb/d | 4672 | 2243 | | |
| Temperature | °C | 32 | 28.6 | 378 | None |
| pH | (min) | 4.00 | - | 751 | None |
| | (max) | 9.25 | - | | |
| Chlorine (TRC) | mg/L | 5.05 | 2.42 | 1094 | None |
| | lb/d | 312 | 292 | | |
| Fluoride | mg/L | 2.00 | .653 | 1094 | None |
| | lb/d | 259 | 79.0 | | |
| Nitrate-Nitrite | mg/L | .134 | .0757 | 4 | None |
| | lb/d | 17.3 | 9.15 | | |
| Radium | pCi/L | .609 | .609 | 2 | None |
| Sulfate | mg/L | 38.0 | 23.5 | 28 | None |
| | lb/d | 4.91 | 2.85 | | |
| Aluminum | ppb | 2,130,000 | 600,370 | 7 | 200 µg/L |
| | lbs | 275,345 | 72,603 | | |
| Manganese | ppb | 39200 | 6580 | 7 | 20 µg/L |
| | lbs | 5067 | 796 | | |
| Arsenic | ppb | 32.5 | 8.82 | 7 | 70 µg/L |
| | lbs | 4.2 | 1.07 | | |

| | | | | | |
|---|---|---|---|---|---|
| Cadmium | ppb | 1.27 | .215 | 7 | 50 µg/L |
| | lbs | .164 | .026 | | |
| Chromium | ppb | 38.4 | 5.54 | 7 | 50 µg/L |
| | lbs | 4.96 | .670 | | |
| Copper | ppb | 277 | 73.1 | 7 | 3 µg/L |
| | lbs | 35.8 | 8.85 | | |
| Lead | ppb | 8.48 | 1.21 | 7 | 140 µg/L |
| | lbs | 1.10 | .146 | | |
| Mercury | ppb | 1.72 | .440 | 7 | 2 µg/L |
| | lbs | .222 | .053 | | |
| Selenium | ppb | 80.3 | 21.3 | 7 | 410 µg/L |
| | lbs | 10.4 | 2.57 | | |
| Silver | ppb | 7.66 | 1.35 | 7 | 50 µg/L |
| | lbs | .990 | .163 | | |
| Zinc | ppb | 312 | 83.7 | 7 | 10 µg/L |
| | lbs | 40.3 | 10.1 | | |
| Chlorodibiomomethane | ppb | 3.74 | 2.34 | 7 | Monitoring Only |
| | lbs | .483 | .283 | | |
| Chloroform | ppb | 142 | 34.2 | 7 | Monitoring Only |
| | lbs | 18.4 | 4.14 | | |
| Dichlorobromomethane | ppb | 18.7 | 8.19 | 7 | Monitoring Only |
| | lbs | 2.42 | .990 | | |
| Chlordane | ppb | .528 | .528 | 1 | None |
| | lbs | .0683 | .0683 | | |
| Heptachlor | ppb | 23.4 | 23.4 | 1 | None |
| | lbs | .0030 | .0030 | | |
| Turbidity[(1)] | NTU | 1300 | - | 3 | .5 NTU |

(1) Turbidity data from Discharge Monitoring Reports (2004-2009).

## V. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., "technology-based effluent limits") and the water quality standards applicable to the receiving water (e.g., "water quality-based effluent limits"). EPA has established the most stringent of applicable technology based or water quality based standards in the proposed permit, as described below.

### A. Applicable Technology-based Effluent Limitations

No Effluent Limitations Guidelines have been established federally or by Guam for discharges from filter backwash and/or clarifier overflows from drinking water treatment plants. Therefore, in accordance with 40 CFR 125.3(a)(2), EPA has developed technology-based effluent limitations using Best Professional Judgment (BPJ). Tables 2 and 3 compare technology based effluent limits for Mississippi, South Carolina, South Dakota, and Washington and the criterion which best approximates for each pollutant the average using BPJ.

**Table 2: Maximum Daily Limits**

| Parameter | Units | Mississippi | South Carolina | South Dakota | Washington | BPJ |
|---|---|---|---|---|---|---|
| Settleable Solids | mg/L | 45 | 60 | 90 | .2 (ml/l) | 45 |
| pH | s.u. | 6.0-9.0 | 5.0-8.5 | 6.5-9.0 | 6.0-9.0 | 6.5-9.0 |
| Residual Chlorine | mg/L | .019 | .5 | .05 | .15 | .05 |
| Iron | mg/L | 1.0 | - | - | - | - |
| Dissolved Solids | mg/L | - | - | 1000 | - | 1000 |
| Ammonia | mg/L | - | - | 1.0 | - | - |

**Table 3: Maximum Monthly Average**

| Parameter | Units | Mississippi | South Carolina | South Dakota | Washington | BPJ |
|---|---|---|---|---|---|---|
| Settleable Solids | mg/L | 30 | 30 | 90 | .1 (ml/l) | 30 |
| pH | s.u. | 6.0-9.0 | 6.5-8.5 | 6.5-9.0 | 6.0-9.0 | 6.5-9.0 |
| Residual Chlorine | mg/L | .011 | .25 | .05 | .07 | .05 |
| Iron | mg/L | 1.0 | - | - | - | - |
| Dissolved Solids | mg/L | - | - | 1000 | - | 1000 |
| Ammonia | mg/L | - | - | 1.0 | - | - |

### B. Water Quality-Based Effluent Limitations ("WQBELs")

Water quality-based effluent limitations, or WQBELS, are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard. (40 CFR 122.44(d)(1))

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures which account for existing controls on point and non point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water. (40 CFR 122.44 (d) (1) (ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers Manual* (Office of Water, U.S. EPA, December 1996). These factors include:

1 Applicable standards, designated uses and impairments of receiving water
2 Dilution in the receiving water
3 Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential analysis

**1. Applicable standards, designated uses and impairments of receiving water**

Guam Water Quality Standards (Guam WQS) establish water quality criteria for "Category S-3 Low" surface waters:

> Surface water in this category is primarily used for commercial, agricultural and industrial activities. Aesthetic enjoyment and limited body contact recreation are acceptable in this zone, as well as maintenance of aquatic life…

Based on the categorization and intermittent nature of the discharge, EPA is applying the following criteria from Guam WQS Appendix A.III. (Numerical Criteria for Priority Toxic Pollutants):

- Criteria Maximum Concentration ("CMC")
- Human Health for consumption of Organism Only.

The Namo River is not listed as impaired according to the CWA Section 303(d) List of Water Quality Limited Segments.

**2. Dilution in the receiving water**

According to the Guam WQS, dilution must be requested by the permittee for specific parameters and is subject to approval by Guam EPA. The permittee has not requested a mixing zone for outfall 002.

**3. Type of industry**

The permitted facility is a drinking water treatment plant. Pollutants of concern for drinking water treatment plants have been taken into consideration and data has been collected by the permittee and submitted in the application.

**4. History of compliance problems and toxic impacts**

See Part IV: Description of Discharge.

## 5. Existing data on toxic pollutants

For pollutants with effluent data available, EPA has conducted a reasonable potential analysis based on statistical procedures outlined in EPA's *Technical Support Document for Water Quality-based Toxics Control* herein after referred to as EPA's TSD (EPA 1991). These statistical procedures result in the calculation of the projected maximum effluent concentration based on monitoring data to account for effluent variability and a limited data set. The projected maximum effluent concentrations were estimated assuming a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99$^{th}$ percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

Projected maximum concentration = $C_e$ × *reasonable potential multiplier factor.*

Where, "$C_e$" is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD.

**Table 4: Summary of Reasonable Potential Statistical Analysis:**

| Parameter | Maximum Observed Concentration | *n* | RP Multiplier | Projected Maximum Effluent Concentration | Most Stringent Water Quality Criterion | Statistical Reasonable Potential? |
|---|---|---|---|---|---|---|
| Chlorine | 5.05 mg/l | 1094 | 2.3 | 11.6 mg/l | .011 mg/l | Y |
| Fluoride | 2.00 mg/l | 1094 | 2.3 | 4.6 mg/l | .80 mg/l | Y |
| Nitrate-Nitrite | .134 mg/l | 4 | 4.7 | .630 mg/l | .50 mg/l | Y |
| Aluminum | 275.3 mg/l | 7 | 3.6 | 991.2 mg/l | 1.0 mg/l | Y |
| Manganese | 5,067 µg/l | 7 | 3.6 | 18,241 µg/l | 20 µg/l | Y |
| Arsenic | 32.5 µg/l | 7 | 3.6 | 117 µg/l | 340 µg/l | N |
| Cadmium | 1.27 µg/l | 7 | 3.6 | 4.57 µg/l | 3.9 µg/l | Y |
| Chromium | 38.4 µg/l | 7 | 3.6 | 138 µg/l | 16 µg/l | Y |
| Copper | 277 µg/l | 7 | 3.6 | 997 µg/l | 18 µg/l | Y |
| Lead | 8.48 µg/l | 7 | 3.6 | 30.5 µg/l | 82 µg/l | N |
| Mercury | 1.72 µg/l | 7 | 3.6 | 6.19 µg/l | 2.4 µg/l | Y |
| Selenium | 80.3 µg/l | 7 | 3.6 | 289 µg/l | 20 µg/l | Y |
| Silver | 7.66 µg/l | 7 | 3.6 | 27.6 µg/l | 4.1 µg/l | Y |
| Zinc | 312 µg/l | 7 | 3.6 | 1123 µg/l | 120 µg/l | Y |
| Chlorodibro-momethane | 3.74 µg/l | 7 | 3.6 | 13.5 µg/l | 34 µg/l | N |

| | | | | | | |
|---|---|---|---|---|---|---|
| Chloroform | 142 µg/l | 7 | 3.6 | 511 µg/l | 470 µg/l | Y |
| Dichlorobro-momethane | 18.7 µg/l | 7 | 3.6 | 67.3 µg/l | 46 µg/l | Y |
| Heptachlor | .0234 µg/l | 1 | - | >.0234 µg/l | .00021 µg/l | Y |

**C. Final Effluent Limits**

Limitations are included for parameters with technology-based effluent limits or parameters where analysis shows a reasonable potential to exceed the most stringent applicable water quality standard. In deciding on final effluent limits, EPA considered technology-based limits, water quality criteria, and previous permit limits and selected the most stringent value for each parameter.

Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated and the permit may be re-opened to incorporate effluent limitations as necessary.

Table 5, below, is a comparison of the old effluent limitations with new effluent limitation for Outfall 002.

**Table 5: Previous and New Permit Limitations for Outfall 002.**

| Parameter | Unit | Previous Permit Limit | New Permit Limit |
|---|---|---|---|
| Turbidity | NTU | 0.5 | Δ1.0 |
| Aluminum | µg/L | 200 | 200 |
| Arsenic | µg/L | 70 | - |
| Cadmium | µg/L | 50 | 3.9 |
| Chromium | µg/L | 50 | 16 |
| Copper | µg/L | 3 | 3 |
| Lead | µg/L | 140 | - |
| Manganese | µg/L | 20 | 20 |
| Mercury | µg/L | 2 | 2 |
| Selenium | µg/L | 410 | 20 |
| Silver | µg/L | 50 | 4.1 |
| Zinc | µg/L | 10 | 10 |
| Chlorodibromomethane | - | Monitoring Only | - |
| Chloroform | µg/L | Monitoring Only | 470 |
| Dichlorobromomethane | µg/L | Monitoring Only | 46 |
| Settleable Solids | mg/L | - | 45 |
| pH | s.u. | - | 6.5-9.0 |
| Chlorine | mg/L | - | .011 |
| Dissolved Solids | mg/L | - | 1000 |

| | | | |
|---|---|---|---|
| Fluoride | mg/L | - | 0.8 |
| Nitrate-Nitrite | mg/L | - | 0.5 |
| Heptachlor | µg/L | - | .00021 |

**D. Anti-Backsliding.**

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those established in the previous permit, except as provided in the statute.

40 CFR 122.44(l)(2)(i)(B)(*1*) allows for less stringent effluent limitations in the case that information is available which was not available at the previous permit issuances. The permit establishes less stringent water quality-based effluent limitations for arsenic and lead based on new monitoring data which establishes no reasonable potential to exceed water quality standards for those parameters.

The permit also establishes a less stringent limitation for turbidity, which was changed to reflect the Guam WQS. The change is determined to be a correction of a mistaken interpretation of the Guam WQS and is therefore an allowable exception from antibacksliding under 40 CFR 122.44(l)(2)(i)(B)(*2*).

**E. Antidegradation Policy**

EPA's antidegradation policy at 40 CFR 131.12 and Guam WQS Section 5101.B. require that existing water uses and the level of water quality necessary to protect the existing uses be maintained.

As described in this document, the permit establishes effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone; therefore, these limits will apply at the end of pipe without consideration of dilution in the receiving water.

Due to the low levels of toxic pollutants present in the effluent, high level of treatment being obtained, and water quality based effluent limitations, it is not expected that the discharge will adversely affect receiving water bodies.

## VI. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

Section 5103 of the Guam WQS contains narrative water quality standards applicable to the receiving water. Therefore, the permit incorporates applicable narrative water quality standards.

## VII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. Additionally, where effluent concentrations of toxic parameters are unknown or where data is insufficient to

determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established.

### A. Effluent Monitoring and Reporting

The permittee shall conduct effluent monitoring to evaluate compliance with the proposed permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the proposed permit. All monitoring data shall be reported on monthly Discharge Monitoring Report ("DMR") forms and submitted quarterly as specified in the proposed permit.

### B. Priority Toxic Pollutants Scan

A Priority Toxics Pollutants scan shall be conducted during the fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the proposed permit or by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

### C. Upset Provisions

If a discharge occurs other than those intended as part of the treatment process (as an overflow from the backwash settling tank), the permittee must report to EPA on the upset as specified in the permit. Upsets are prohibited under this permit and would not be reported as discharges in the DMR.

Best management practices have also been incorporated into the permit in order to reduce the impact of upsets on the receiving water body.

## VII. MAJOR/MINOR CLASSIFICATION

New dischargers are subject to major/minor classification. After completing the NPDES Permit Rating Work Sheet, EPA has classified the permittee as a minor discharger receiving 70 points (80 points required for major classification).

## IX. OTHER CONSIDERATIONS UNDER FEDERAL LAW

### A. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat.

The following species are listed as endangered or threatened in Guam by the Pacific Islands Fish and Wildlife Services Office:

**Mammals**:
-Bat, little Mariana fruit (*Pteropus tokudae*)
-Bat, Mariana fruit (*Pteropus mariannus*)

**Birds**:
-Crow, Mariana (aga) (*Corvus kubaryi*)
-Kingfisher, Guam Micronesian (*Halcyon cinnamomina cinnamomina*)
-Moorhen, Mariana common (*Gallinula chloropus guami*)
-Rail, Guam except Rota (*Rallus owstoni*)
-Swiftlet, Mariana gray (*Aerodramus vanikornsis bartschi*)
-White-eye, bridled *(Zosterops conspicillatus conspicillatus)*

**Sea Turtles**:
-Sea turtle, hawksbill (*Eretmochelys imbricata*)
-Sea turtle, green except where endangered (*Chelonia mydas*)
-Sea turtle, leatherback (*Dermochelys coriacea*)
-Sea turtle, loggerhead (*Caretta caretta*)

**Plants**:
-Iagu, Hayun (*Serianthes, nelsonii*)

Of the thirteen species listed above, none have any geographic nexus, other than speculative incidental contact with the Namo River and downstream Fena Reservoir, with the exception of the Mariana fruit bat, the little Mariana fruit bat, the Guam Micronesian Kingfisher, the Mariana common moorhen, the Guam rail, the Mariana gray swiftlet, and the Bridled white-eye. An analysis was conducted for each of these species.

## 1. Mariana Fruit Bat

The Mariana Fruit Bat is a medium sized fruit bat weighing 0.66 to 1.5 pounds. The Mariana Fruit bat is highly colonial with groups numbering as many as 800 individuals. The species is present throughout the archipelago and they are known for being strong flyers capable of flying between islands. Because of this inter-island movement, the Mariana Fruit Bat populations on each of the islands are considered part of the same subspecies.

Since 1931 fruit bats have been considered uncommon on Guam, possibly because the introduction of firearms which led to more hunting. By 1978 fewer than 50 bats were believed to remain on Guam. However, during the 1990s, numbers on Guam increased to around several hundred animals with occasional spikes to nearly a thousand bats; presumably due to temporary immigration events from the nearby island of Rota. Currently on Guam, the single remaining colony is located, and most foraging occurs, on U.S. military lands that are managed as part of the Guam National Wildlife Refuge under a cooperative agreement between the U.S. Fish and Wildlife Service and the U.S. Air Force located on the northern part of the island.

The potential interactions between the water from the Namo River and the Mariana fruit bat would only be indirect considering the only known colony is located in the northern part of the island. Further, the discharge events are expected to be infrequent. Thus it can be determined that the Mariana fruit bat has no nexus with the Namo River, other than speculative incidental contact.

**2. Little Mariana Fruit Bat**

The little Mariana fruit bat is thought to be endemic to Guam and was first discovered in 1931. Only three specimens of little Mariana fruit bat have ever been collected on Guam and almost nothing is known of its natural history.

The little Mariana fruit bat was believed to have been extinct at the time the recovery plan was written and published in 1990. The 5-year status review of the little Mariana fruit bat dated July 31, 2009 recommended that it be delisted due to extinction. Thus it can be determined that the Little Mariana Fruit Bat has no nexus with the Namo River.

**3. Guam Micronesian Kingfisher**

The Guam Micronesian Kingfisher is a small kingfisher at 20 centimeters long and 1.8 to 2.7 ounces in weight. They feed on animal matter including skinks, geckos, various insects, segmented worms, and hermit crabs. Past and current threats to the Guam Micronesian Kingfisher include habitat degradation and destruction, avian disease, predation by the brown treesnake, predation by other introduced species, historical pesticide use, competition and harassment by black drongos, and limited population growth in captivity.

The Guam Micronesian Kingfisher has been considered extirpated from the wild as of 1988 and was last seen at Fena Reservoir in the 1970s. As of May 2008 the population consisted of 60 males, 37 females, and four chicks distributed among 17 captive breeding institutions. Little is known about the habitat requirements for the Guam Micronesian Kingfisher, but they have been known to nest and feed in mature and secondary growth as well as scrub limestone forest.

The recovery plan for the Guam Micronesian Kingfisher specifies a goal of reintroducing two populations to the wild with one population located in the northern part of Guam and the other in the southern part. Although the Fena Reservoir area may be considered as a possible reintroduction location for the Guam Micronesian Kingfisher in the future, the discharge from the Navy WTP to the Namo River and thus to Fena Reservoir is expected to be infrequent.

Because the Guam Micronesian Kingfisher is only present in captivity and specific reintroduction locations have not yet been identified, it can be determined that the Guam Micronesian Kingfisher has no nexus with the Namo River.

**4. Mariana Common Moorhen**

The Mariana common moorhen is an inhabitant of emergent vegetation in freshwater marshes, ponds and placid, rivers. In the Mariana Islands its preferred habitat includes freshwater lakes, marshes and swamps. Both man-made and natural wetlands are used. Moorhens feed on both plant and animal matter in or near water. The Mariana common moorhen appears to be

active both during the day and at night. Some evidence even suggests that moorhens fly primarily at night.

Because moorhens require wetlands with specific criteria for vegetative cover as well as depth, the most serious threat to the continued existence of the moorhen include the continuing disappearance of suitable wetland habitat. In addition, predation by the brown treesnake and the potential for avian disease are also considered serious threats to the species.

The Mariana common moorhen is known to habituate Fena Reservoir. Moorhens feed on both plants and animals in and near the floodplain. During the dry season, most moorhens reside on Fena Reservoir because other wetland habitats are hydrologically intermittent. During the wet season the range of the moorhens increases due to the increase in wetland habitats. Recently, conditions have changed in the Fena Reservoir, potentially due to a typhoon, causing eutrophication of the lake as well as the elimination of the *Hydrilla verticillata* plant species which is used by moorhens for foraging and nesting. As a result few moorhens have been seen at Fena Reservoir.

Although the Namo River contributes to the Fena Reservoir, the discharge to the river is expected to be infrequent and is expected to occur during the wet season when the range of the moorhen is expanded. Therefore, it is EPA's determination that the discharge will not affect the Mariana common moorhen ("no effect").

**5. Guam Rail**

The Guam rail was historically distributed over much of Guam in all habitats except wetlands. Edge habitats and especially grassy or secondary vegetation areas seem to be the most favorable habitats, although both savanna and mature mixed forest may be considered marginal habitat. The Guam rail is an omnivorous feeder, but appears to prefer animal over vegetable food.

The Guam rail was last reported in southern Guam in the 1970s, but remained in northern Guam until 1985 when it was considered extirpated from the wild. As of June 2008, there were approximately 158 individuals in captivity on Guam and in mainland zoological institutions. The past and current threats to the Guam rail are similar to other endemic Guam avian species including habitat degradation and destruction, typhoons, competition, pesticides, human exploitation, avian disease, and predation by invasive species including the brown treesnake.

Reintroduction has been attempted twice in the northern part of Guam and both populations were believed to have been extirpated by feral cats and other predators. Another population of Guam rail was reintroduced on Rota as part of a non-essential experimental population. This reintroduction was more successful and breeding has been documented. However, cat predation has also had an effect on this population and is believed to be the primary factor preventing the establishment of a self-sustaining Guam rail population on Rota. Because the Guam Rail is only present in captivity and in a non-essential experimental population on Rota, as well as the fact that the most viable reintroduction locations have been in the northern part of Guam, it can be determined that the Guam rail has no nexus with the Namo River.

**6. Mariana Gray Swiftlet**

The Mariana gray swiftlet is a small swift species with grayish brown plumage and a square tail without spines. This is the only resident swift in the Marianas Islands and may be confused with migratory swallows. This species belongs to a genus of swiftlet with the rare ability of echolocation which allows them to reside in caves. Mariana gray swiftlets forage over a wide variety of terrain and capture insects while flying. Little information is available on the historical range of the Mariana gray swiftlet, but presently Mahlac cave, Fachi cave, and Maemong cave harbor swiftlet populations on Guam. As of 2005, the Mahlac cave, located in Fena Valley, harbored the largest swiftlet population with 600 to 800 birds.

The most likely historical and current threats to the survival of the Mariana gray swiftlet are the disturbance of caves by human activity, predation by brown tree snakes, the historical use and application of pesticides by the U.S. military, avian disease, the destruction of forests and habitats by typhoons, and the alteration of native habitats.

The Mariana gray swiftlet is known to nest and roost in deep caves. Although guano and nests of swiftlets have been found near Fena Reservoir, its potential interactions with the water from the Namo River would only be indirect, especially considering the low frequency of discharge events. Thus it can be determined that the Mariana gray swiftlet has no nexus with the Namo River, other than speculative incidental contact.

**7. Bridled White-eye**

The Bridled white-eye is endemic to Guam and historically occupied a variety of available habitats on Guam including limestone forests, grasslands and foothills of southern and central Guam, beach strand, wetlands, mixed woodlands, and second-growth forests of the northern plateau. It is known to feed primarily on insects and possibly some fruit or nectar.

The suspected threats to the Bridled white-eye include habitat degradation and destruction, typhoons, competition, pesticides, human exploitation, avian disease, and predation by invasive species including the brown treesnake.

The Bridled white-eye has been extirpated from the wild since 1983 and is presumed to be extinct. The 5-year status review of the Bridled white-eye dated July 31, 2009 recommended that it be delisted due to extinction. Thus it can be determined that the Bridled white-eye has no nexus with the Namo River.

In considering all the information available during the drafting of this permit, EPA believes that a No Effect determination is appropriate for this federal action. A copy of the draft fact sheet and permit was forwarded to the Pacific Islands Office of the United States Fish and Wildlife Service (USFWS) as well as the National Marine Fisheries Service, Pacific Islands Regional Office for review and comment prior to and during the 30-day public review period. An informal response from USFWS indicated they did not find any issues with regards to endangered species.

B. **Impact to Coastal Zones**

The Coastal Zone Management Act ("CZMA") requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal

Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

On December 10, 2010, the permittee submitted a negative determination to the Guam Bureau of Statistics and Plans (BSP). After not hearing back from Guam BSP after 60 days, concurrence has been presumed in accordance with 15 CFR 930.35(c).

**C. Impact to Essential Fish Habitat**

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act ("MSA") set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat ("EFH").

The proposed discharge does not directly discharge to areas of essential fish habitat, however does flow downstream 2-3 miles to Agat bay, which is designated as EFH. The proposed permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. Therefore, EPA has determined that the proposed permit will not adversely affect essential fish habitat.

A copy of the proposed permit has been sent to the National Marine Fisheries Service for review.

**D. Impact to National Historic Properties**

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR § 800.3(a)(1), EPA is making a determination that issuing this proposed NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit issuance.

## X. STANDARD CONDITIONS

**A. Reopener Provision**

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

**B. Standard Provisions**

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated July 1, 2001.

## XI. ADMINISTRATIVE INFORMATION

**A. Public Notice** (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application.

**B. Public Comment Period** (40 CFR 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

**C. Public Hearing** (40 CFR 124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

**D. Water Quality Certification Requirements** (40 CFR 124.53 and 124.54)

For States, Territories, or Tribes with EPA approved water quality standards, EPA is requesting certification from the affected State, Territory, or Tribe that the proposed permit will meet all applicable water quality standards. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law.

On February 15, 2011, Guam EPA issued its conditional 401 Water Quality Certification for GU0020389. The following conditions have been incorporated into the permit as required by the certification:

1. Water Quality Monitoring will follow parameters and frequencies listed in the NPDES Permit and also include the monitoring of arsenic and lead effluent limitations.

2. All waters shall be maintained free of toxic substances in concentration that produce contamination in harvestable aquatic life to the extent it causes detrimental physiological, acute or chronic responses in humans or protected wildlife, when consumed.

3. Best Judgment and Management Practices shall be implemented to prevent or minimize water quality degradation.

4. The discharger will take immediate corrective actions or engineering measures to address significant non-compliance with water degradation and/or environmental problems and notify Guam EPA with 24 hours.

## XII. CONTACT INFORMATION

Comments submittals and additional information relating to this proposal may be directed to:

Jamie Marincola
415-972-3520
Marincola.JamesPaul@epa.gov

EPA Region IX
75 Hawthorne Street (WTR-5)
San Francisco, California 94105

## XIII. REFERENCES

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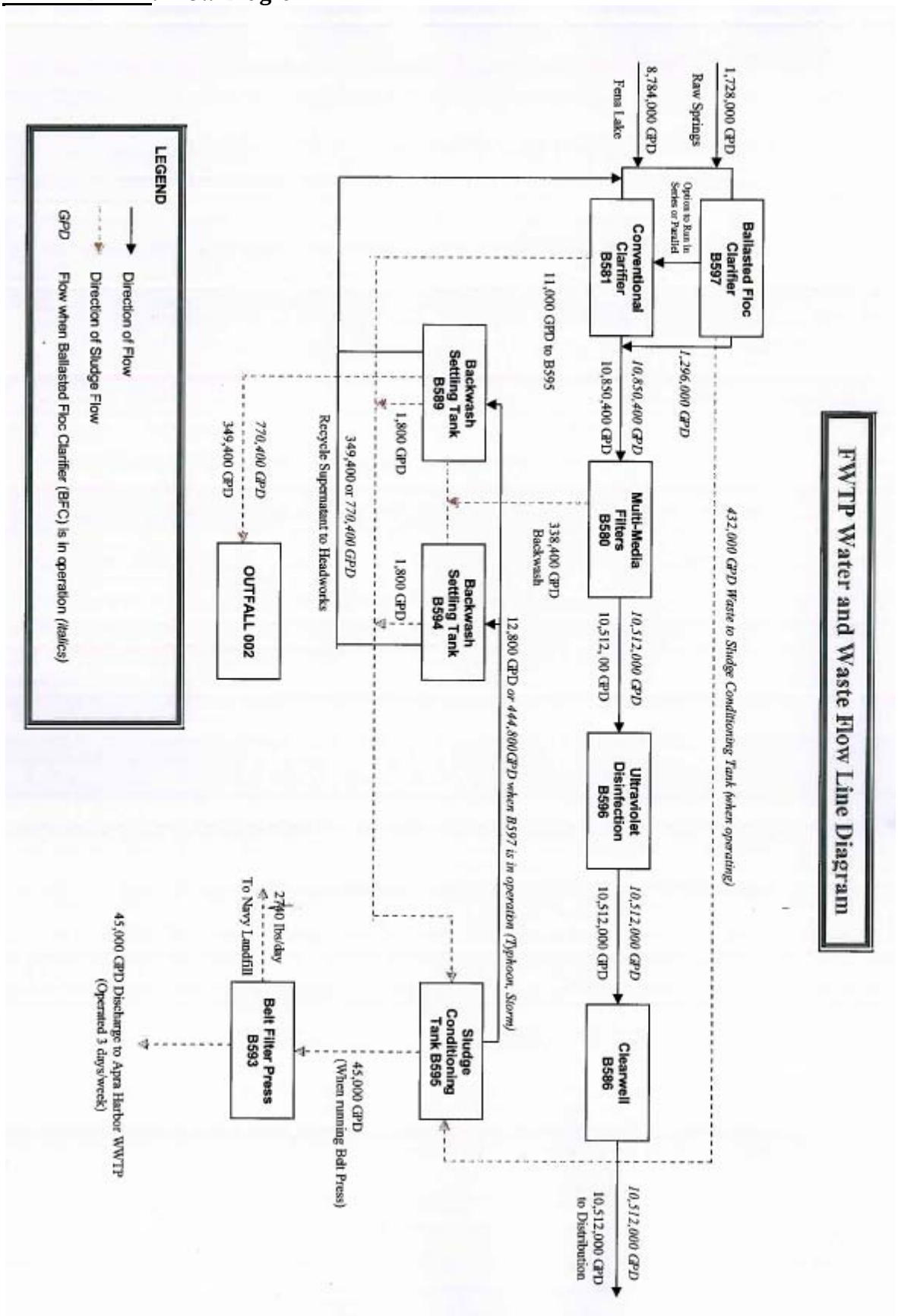
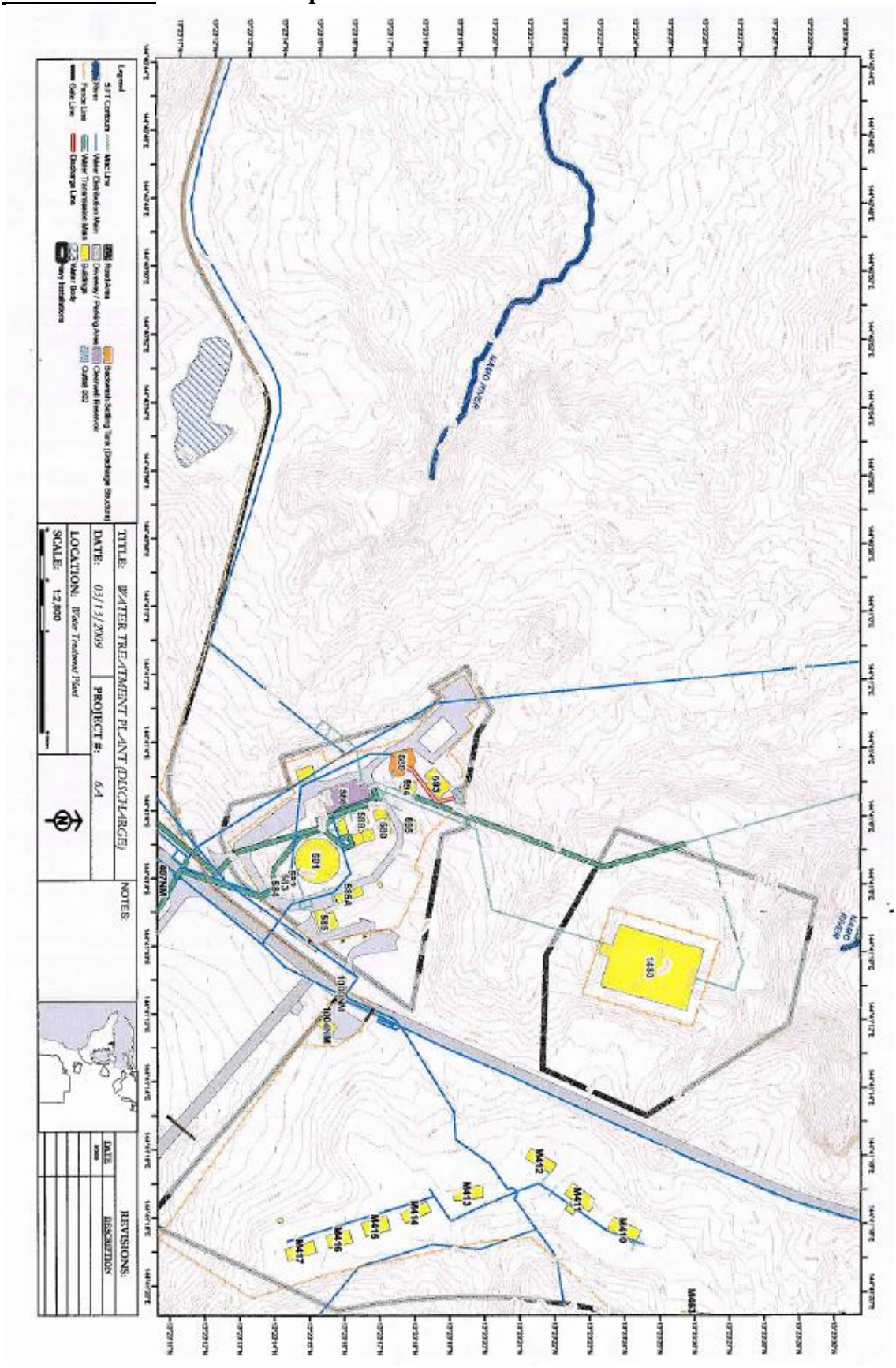
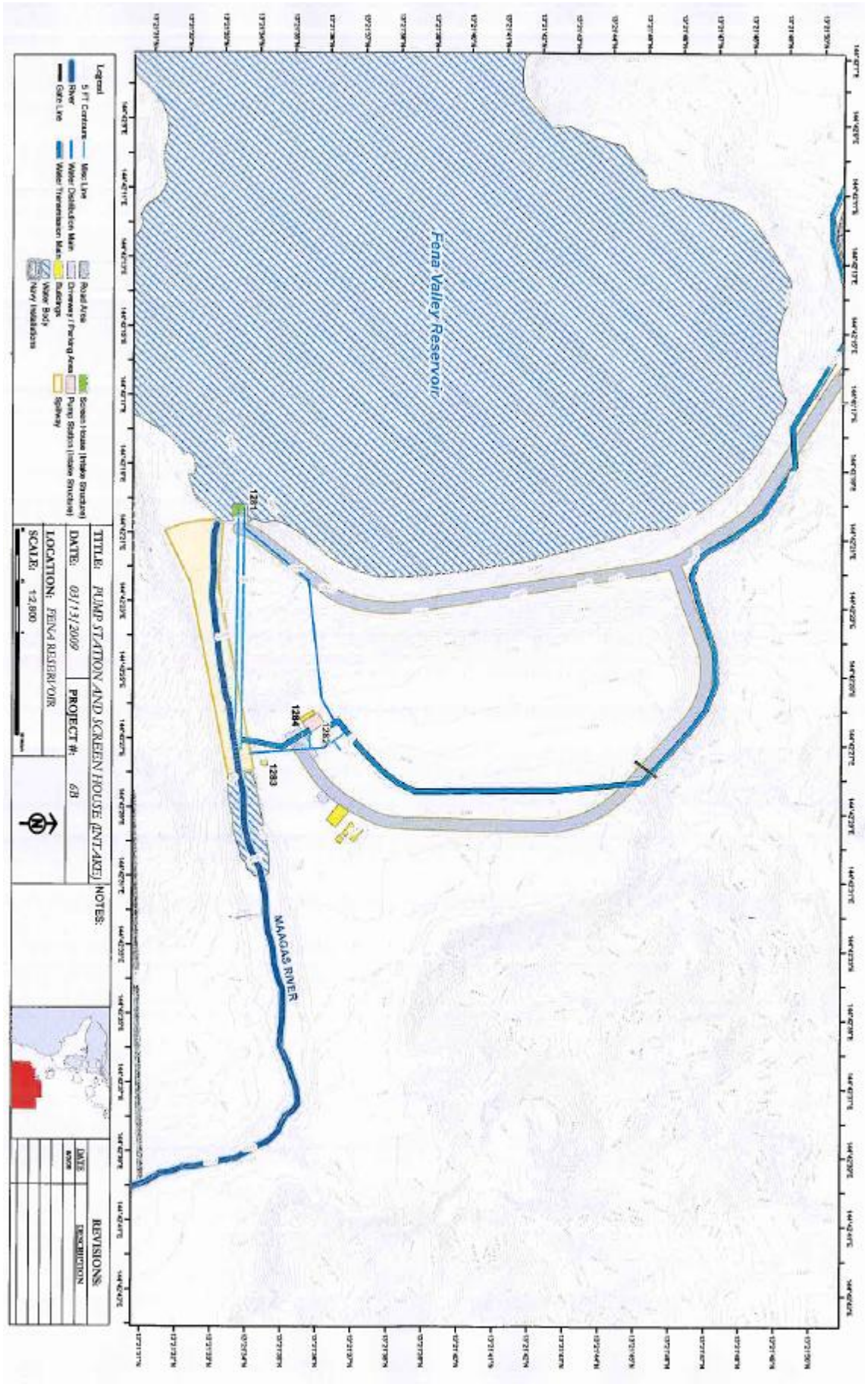
**APPENDIX A: Flow Diagram**



**APPENDIX B: Location Map**




Fena Valley Reservoir
MAAGAS RIVER
1281
1284
1282
1283
Legend
5 FT Contours
River
Gate Line
Misc Line
Water Distribution Main
Water Transmission Main
Road Area
Driveway / Parking Area
Buildings
Spillway
Water Body
Navy Installations
Screen House (Intake Structure)
Pump Station (Intake Structure)
TITLE: PUMP STATION AND SCREEN HOUSE (INTAKE)
DATE: 03/13/2009
PROJECT #: 68
LOCATION: FENA RESERVOIR
SCALE: 1:2,800
NOTES:
REVISIONS
DATE
DESCRIPTION