

REPUBLIC OF PANAMA
ENVIRONMENT NATIONAL AUTHORITY

RESOLUTION DIEORA IA- 119-2006

The undersigned General Administrator of the *Environment National Authority* (ANAM, for its acronym in Spanish), in use of her legal powers, and

WHEREAS:

That the MINISTRY OF HEALTH, of characteristics recorded in court files, has created the development of a project denominated "SEWAGE TREATMENT PLANT FOR THE PANAMA BAY AND CITY SANITATION, to be developed at the Juan Diaz County, district and province of Panama.

That in compliance with the provisions stated in Article 23 of Act N° 31 on July 1st, 1998, on May 2nd, 2005, the Promoter of such project, by means of his Legal Representative, CAMILO ALLEYNE, holder of the personal identity card N° 3-69-394, submitted the Environmental Impact Assessment, Category III, prepared under the responsibility of INGEMAR PANAMA, artificial person registered at the Environmental Consultant Record, qualified to develop Environmental Impact Assessments for the Environment National Authority (ANAM), by means of Resolution IAR-021-97.

That under the provisions stated in Articles 41 and 56, paragraph e, of the Executive Decree N° 59 on March 16th, 2000, the aforesaid Environmental Impact Assessment was forwarded to the *Sectorial Environmental Units* (UAS, for its acronym in Spanish) of the *National Aqueduct and Sewerage Institute* (IDAAN, for its acronym in Spanish), *Ministry of Health* (MINSA, for its acronym in Spanish), *Ministry of Housing* (MIVI, for its acronym in Spanish), *Panama Maritime Authority* (AMP, for its acronym in Spanish), *Civil Protection National System* (SINAPROC, for its acronym in Spanish), *Ministry of Public Works* (MOP, for its acronym in Spanish) and the *Culture National Institute* (INAC, for its acronym in Spanish), (see pages from 4 to 10 of the corresponding administrative file).

That by means of note 624-06 DNPH, received on October 27th, 2006, the INAC Historic Heritage National Directorate, decides to formally approve the assessment and recommend the follow-up of the monitoring and follow-up measures established in the assessment, specially regarding the accidental finding of archaeological ruins and notifying it to INAC, (see page 13 of the corresponding administrative file).

That by means of note SAM-462-06, received on October 31st, 2006, the MOP Environmental Unit on its comments considered that the following items in the assessment content should be included: a) construction methodology for the different structures that shall shape the plant, quantities and types of supplies of the construction work; b) foundation types that the building shall have; c) how the pluvial drainage and the piping installation methodology shall be shaped; d) requirements for the operation center during the construction stage, location of the different material storage and garbage dumping sites; e) environmental assessment on the underground waters; f) methodology used to identify the environmental impacts and risks; and g) analysis of the options to develop the project. The comments of items a, b, c, d and e refer to the project final design and these items shall be considered in the analytical part of this document; items f and g were developed in the assessment content (see pages 14 and 15 of the corresponding administrative file).

That by means of note N° 1342-DSA-UAS, received on November 13th, 2006, the Ministry of

Health Environmental Unit recommends approving the assessment (see pages from 16 to 19 of the corresponding administrative file).

That by means of note W/N (without number), received on November 14th, 2006, the Ministry of Housing Environmental Unit considers that the assessment has anticipated the topics considered in the operational manual. We recommend that the assessment classification be considered as accepted (see pages 20 and 21 of the corresponding administrative file).

That by means of note N° ARAPM-1460-06, received on November 16th, 2006, the Metropolitan Panama Environmental Regional Administration recommended approving the assessment of the aforesaid Project (see pages from 22 to 33 of the corresponding administrative file).

That by means of note N° 843 D.Ing.-Deproca, received on November 17th, 2006, the IDAAN Environmental Unit did not submit observations on the assessment of the aforesaid project (see pages from 81 to 82 of the corresponding administrative file).

That by means of note N° DRMC/UA/2436, received on November 17th, 2006, the AMP Environmental Unit submitted its observations on the assessment of the aforesaid Project, which are outlined in the content of the assessment submitted, granting the environmental guarantee to this Project (see pages from 83 to 85 of the corresponding administrative file).

That according to the provisions stated in Article 27 of Act 41 on July 1st, 1998, "General Environment of the Republic of Panama", and in Executive Decree N° 59 on March 16th, 2000, the Environmental Impact Assessment was brought under evaluation to the Public Consultation period specified for such effects, according to what is recorded on pages 34 to 80 and 86 to 87 of the corresponding administrative file.

That by means of note N° SINAPROC-DPM-435, received on November 17th, 2006, the AMP Environmental Unit submitted its observations on the assessment of the aforesaid project, where some of them are outlined in the content of the assessment submitted and others in the analytical part of this document (see pages from 88 to 94 of the corresponding administrative file).

That Act 41 on July 1st, 1998 states that the Environmental Impact Assessment is an early warning system that operates through a continuous evaluation process and that, by a well-arranged and coherent set and with data that may be reproduced, allows the preventive decision-making on the environment protection.

That the *Environmental Evaluation and Ordering Directorate's* (DINEORA, for its acronym in Spanish) Evaluation Technical Report dated on November 21th, 2006, on page 95 thru 104 of the corresponding administrative file, recommends that the Environmental Impact Assessment, Category III, regarding the Project denominated "SEWAGE TREATMENT PLANT FOR THE PANAMA BAY AND CITY SANITATION" be approved.

RESOLVES:

ARTICLE 1: Approving the Environmental Impact Assessment, Category III for the execution of the Project denominated "SEWAGE TREATMENT PLANT FOR THE PANAMA BAY AND CITY SANITATION", with all the mitigation measures considered in the aforesaid Assessment, which are included and are part of this Resolution, consequently, its compliance is mandatory.

ARTICLE 2: Every contract and/or agreement that the Project's execution or development object of the approved Environmental Impact Assessment undersigned by the Promoter of the "SEWAGE TREATMENT PLANT FOR THE PANAMA BAY AND CITY SANITATION" project should include the compliance of this Environmental Resolution and the current environment standard.

ARTICLE 3: Besides the mitigation and compensation measures considered in the Environmental Impact Assessment, the Project's Promoter should:

1. Have the approval of the relevant Authorities as well as the construction authorization, before beginning the works, design blueprints, estimates, location and construction of all the structures.
2. Comply with the Technical Bylaw DGNTI- COPANIT 352000, "Discharge of the Liquid Effluents Directly to the Superficial and Underground Water Bodies and Masses".
3. Comply with the DGNTI-COPANIT 47-2000 Standard, established for the Sludge Use and Final Disposal.
4. Have the sewage discharge authorization, issued by ANAM, before the treatment plant becomes operational.
5. Comply with Resolution AG-0235-2003, "By which the tariff to be paid in concept of ecological indemnification, for issuing the even cutting permits, and elimination of underbrushes or gramineae formations required for the execution of the works being developed, infrastructure and edifications are established".
6. Submit and coordinate with ANAM, the Promoter being responsible of undertaking the rescue and relocation costs of the wild fauna and flora existing in the area expected to be intervened, as well as its surrounding area (50 meters around it); this task should be done before starting the construction activities and shall be part of the project's planning, also, during the project's construction and operation, is forbidden to hunt or kill any faunal specie that goes inside the project's premises, as well as collect species of the flora growing in the project's premises. Such prohibitions should be included in the formal trainings of the personnel who shall be involved in the project's construction and operation works.
7. Implement the measures and actions, during the construction phase, that prevent the erosion and sediment transportation towards the maritime littoral, stuarine zones and Ramsar Sites.
8. Compensate with species similar to the ones cut by reforesting the double of the authorized quantity, as a compensation measure for the vegetation affectation. Such compensation should be done by the Ramsar Site enrichment. For such compensation, the project's promoter should present a Reforestation Plan ensuring that the adaptation period and seedling conversion to adult individuals (trees) is fulfilled and shall provide the maintenance for a minimum period of five (5) years. Also, the promoter should comply with the support plant for the Panama Bay Ramsar Site preservation, which includes among other things an Observation Point and training the guides to guide the tourists and bird watching.
9. Be responsible of the management and final disposal of the solid and liquid wastes that shall

be produced during the Project construction, operation and abandonment phase, with the purpose of reducing the impacts, both, in the continental area as well as in the marine shoreline areas. Waste accumulation (solid wastes) shall not be allowed in any way in the premises or sites where the aforesaid Project is to be developed.

10. Comply with the provisions, regarding the roads and access ways, stated in Act N° 42 on August 27th, 1999 on the Ministry of Public Works technical and environmental specifications, applicable to the roads.
11. Stop the activities if during any phase of the project there were any finding of pieces or elements of historical or archaeological value and report the fact to the Cultural National Institute so the corresponding rescue is carried out.
12. Submit, every six (6) months during the project's operation phase, before the relevant Environment Regional Administration, for its evaluation and approval, while the mitigation, follow-up, surveillance, control, compensation, risk prevention and contingency measure implementation last, a report on the implementation and efficiency of such measures, in accordance with what is indicated in the Environmental Impact Assessment, Category III and this Resolution. The report should be written by a competent and independent professional of the Project's Promoting Company to whom the *Environmental Impact Assessment* (EIA, for its acronym in Spanish) at issue corresponds. He should also submit a report, before and during the Project's execution, on the flora and fauna variation in the Project's influence area (RAMSAR SITE).
13. Place, before starting the Project's execution, a sign in a visible site inside the Project area, following the directions of the attached format.
14. Report to ANAM the amendments or changes in the techniques and measures that are not considered in the approved Environmental Impact Assessment (EIA), Category III, with the purpose of checking if these need the implementation of Article 15 of the aforementioned Executive Decree N° 59 on March 16th, 2000.
15. Implement, before starting the works, the safety measures established on our country to carry out this type of project.
16. Act in good faith, always showing his best disposition to conciliate with the affected parts, should any conflict arise regarding the population affected by the Project's development.
17. Carry out the corresponding authorizations in coordination with the Metropolitan Panama Environment Regional Administration, before cutting any tree.
18. Be entitled to what is stipulated in Chapter III of the Forestry Act in Articles 23 and 24, in order to establish the existing water bodies easements in the Project's area.
19. Implement the Safety and Hygiene measures to the personnel contracted for its construction, as well as third parties with the purpose of preventing occupational hazards.
20. Keep a close coordination with the Civil Protection National System (SINAPROC) to implement the measures that may reduce the risks of floods, land sliding, and earthquakes that might occur in the lands selected for the Project.
21. Perform the complementary underground waters and geotechnical assessment in the areas that shall be used for the Project's development.
22. Coordinate with the relevant authorities, before starting the works, everything concerning the team transportation to and from the terrains where the Project shall be

located, by taking care of the access ways, roads and bridges adjoining the location of the aforesaid Project. The Promoter shall carry out the corresponding authorizations and shall follow the relevant technical recommendations for the different works of the aforesaid Project, including the standards regarding the air and noise contamination, stated in Executive Decree 255 on December 18th, 1998; DGNTI - COPANIT 43, 44 and 45 – 2000 standards and Executive Decree 306 on September 4th, 2002 amended by Executive Decree 1 on January 15th, 2004.

23. Make sure that the sewages from the portable toilets are dumped in filtration fields or any other appropriate and safe place. Discharging them in superficial water bodies is forbidden.
24. Comply with Resolution JD-05-98, on January 22nd, 1998, that regulates Act 1 on February 3rd, 1994, (Forestry Act) regarding the bosky cover protection in the river and creek banks existing in the Project's area.
25. Have the approval from the Ministry of Commerce and Industries for all the loan material required by the Project.
26. Fully comply with each of the recommendations indicated in the Environmental Impact Assessment, Category III, concerning the solution of conflicts.
27. Have the approval, before starting the works, of the Ministry of Public Works' hydraulic and hydrologic assessment.
28. Comply with the national environmental standards, laws, decrees and resolutions of emissions and bothersome odors. Should no national environmental standards in this matters or for the involved geographical area exist, the existing one from other countries shall be used or those suggested by international organizations, that the Environment National Authority, as it corresponds, determines as applicable and that previously have been agreed upon.
29. Be jointly responsible with the plant's operator and the construction work, operation and abandonment contracting companies that the environmental standards, management plan, mitigation measures, compensation and indemnification are fulfilled and also those known in the analytical part of this document.

ARTICLE 4: The Promoter of the Project related to the Environmental Impact Assessment object of this Environmental Resolution, shall be fully responsible with the companies that shall be contracted or subcontracted for the Project development or execution, regarding the compliance of the aforesaid Environmental Impact Assessment of this Environmental Resolution and the current environmental standard.

ARTICLE 5: In case the Promoter, during the Project's construction or operation phases related to the Environmental Impact Assessment object of this Resolution, decides to abandon the work, he should:

1. Send a written note to the Environment National Authority, in a term no greater than thirty (30) working days, before abandoning the work or activity.
2. Undertake the mitigation, control and compensation costs that were not fulfilled according to the approved Environmental Impact Assessment, as well as any damage caused to the environment during the operations.

ARTICLE 6: The Project's Promoter related to the Environmental Impact Assessment object of this Environmental Resolution, his contractors, partners, contracted and subcontracted personnel for the Project execution or development should comply with all the environmental laws, decrees and regulations.

ARTICLE 7: The Project's Promoter related to the Environmental Impact Assessment object of this Environmental Resolution is notified that the Environment National Authority (ANAM), is empowered to supervise, inspect and/or check, when so it deems necessary, everything related to the environmental management and protection plans and programs established in the Environmental Impact Assessment, in this Resolution and the current environmental standard; also ANAM shall stop the Project or activity related to the aforesaid Environmental Impact Assessment as a precaution action for the default of these provisions, regardless of the related legal liabilities.

ARTICLE 8: Notify the Legal Representative, CAMILO ALLEYNE, that should any environment damage occur or is caused during the Project's development, construction and operation phase, the corresponding investigation and sanction shall be carried on, according to Act 41 on July 1st, 1998, "General Environment of the Republic of Panama", its complementary bylaws and standards.

ARTICLE 9: This Environmental Resolution shall rule beginning from its notification and shall be valid for two (2) years in order to start the Project's execution.

ARTICLE 10: According to Article 58 and the following Executive Decree N° 59 on March 16th, 2000, the Ministry of Health Legal Representative might file a Motion of Reconsideration, within a term of five (5) working days from its notification.

LEGAL GROUND: Act N° 41 on July 1st, 1998, "General Environment of the Republic of Panama", Executive Decree N° 59 on March 16th, 2000 and concurring standards.

Given in Panama City, on the Twenty-three (23) days, of the month of November of the year two thousand and six (2006).

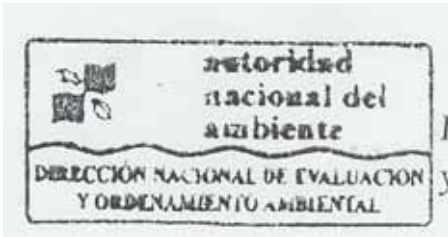
LET IF BE NOTIFIED AND ENFORCED

LIGIA C. DE DOENS
General Administrator



A seal saying thus:

Environment National Authority
GENERAL ADMINISTRATION
Republic of Panama



A seal saying thus:

Environment National Authority
ENVIRONMENTAL EVALUATION AND
ORDERING NATIONAL DIRECTORATE

DIANA VELASCO
Director of Environmental Evaluation
and Ordering, a.i.

A seal saying thus:

Today November 23th of 2006
being 9:30 in the A.M.
personally notify Mr. Juan Antonio
Ducruet about this resolution.

Hoy 23 de Noviembre de 2006
siendo las 9:30 de la 9:30
notifique personalmente a Mr. Juan
Antonio Ducruet de la presente
resolución.
[Illegible Signature] [Illegible Signature]
Notificador Notficado

[Illegible signature] [Illegible signature]
Notifier Notified

REPUBLIC OF PANAMA
ENVIRONMENT NATIONAL AUTHORITY
FORMAT FOR THE SIGN THAT SHOULD BE PLACED INSIDE THE PROJECT AREA,
APPROVED BY MEANS OF ARTICLE THIRD OF THE RESOLUTION

RESOLUTION No. TA-119 ON NOVEMBER 23RD OF THE YEAR 2006

When placing the sign at the Project area, the Promoter shall fulfill the following parameters:

1. He shall use a galvanized sheet, grade 16, of 6 feet x 3 feet (1.89m x 0.914m)
2. The sign should be legible at 15 to 20 meters of distance.
3. Buried it at two and half (2.5) feet (0.762m) with concrete.
4. The upper level of the board, should be placed at eight (8) feet (2.438m) from the ground.
5. Hang it on two (2) galvanized pipes of two and a half (2.5) inches (6.35cm) of diameter.
6. The sign finishing shall be of two (2) colors, specifically: green and yellow.
 - The green color for the background.
 - The yellow color for the letters.
 - The letters with the Project's Promoter name should be of a bigger size in order to differentiate the sign.
7. The caption on the sign shall be written in five (5) planes with straight formal letters in the following way:

First Plane: PROJECT: SEWAGE TREATMENT PLANT FOR THE PANAMA BAY AND CITY SANITATION

Second Plane: TYPE OF PROJECT: PURIFYING SYSTEM

Third Plane: PROMOTER: MINISTRY OF HEALTH

Fourth Plane: CONSTRUCTION AREA: 39.57 HECTARES

Fifth Plane: APPROVAL RESOLUTION OF THE ENVIRONMENTAL IMPACT ASSESSMENT, CATEGORY III No. IA-119 ON NOVEMBER 23RD OF THE YEAR 2006.

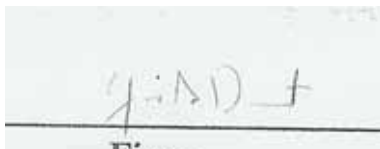
Received by:

Juan Antonio Ducruet

Name (Print letters)

8-257-98

Personal Identification Card Number



Signature

Nov/23/2006

Date