
ADDENDUM #2
to
ENVIRONMENTAL IMPACT ASSESSMENT

BAHIA PRINCIPE HOTEL
RESORT DEVELOPMENT

PEAR TREE BOTTOM
ST. ANN, JAMAICA

Submitted to

Hoteles Jamaica Piñero Ltd.
21 East Street
Kingston
Jamaica

Prepared by

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JUNE 2005

INTRODUCTION

This document addresses the comments made by the National Environment & Planning Agency in a letter dated 5 May 2005, following the review by the relevant technical agencies of the Environmental Impact Assessment Report (February 2005) of the proposed resort development at Pear Tree Bottom, St. Ann, Jamaica. NEPA's comments are presented in black type (Times New Roman) and the responses by the consultants are presented in blue type (Arial).

This document also addresses the comments made by the National Environment & Planning Agency in a letter dated 1 June 2005, following the review by the relevant persons of the Addendum to the EIA dated May 2005. NEPA's comments are presented in orange type (Times New Roman) and the responses by the consultants are presented in green type (Arial).

Ref. No. 2004-06017-EP00159

May 5, 2005

Mr. Adolfo Castellanos
c/o Myers, Fletcher & Gordon
Attorneys-at-Law
Park Place
21 East Street
P.O. Box 162
Kingston

Dear Sir:

Re: Environmental Impact Assessment – Hotel/Resort Development at Pear Tree Bay Runaway Bay, St. Ann.

The Environmental Impact Assessment (EIA) dated February 2005 has been reviewed with comments incorporated from selected stakeholders. The following represents the issues raised as a result of that review:

GENERAL COMMENTS

- The document focused primarily on past research of the proposed site. While the EIA should be informed by this, an understanding of the present conditions at the proposed site would provide needed information to compare and assess the potential impacts of the proposed development on the environment.

Whereas extensive reference was made to earlier studies of the site it is misleading to suggest that the EIA 'focused primarily on past research'. Current

field surveys were carried out to validate the earlier studies and confirm baseline conditions. No evidence has been put forward to suggest that impacts in the EIA were wrongly assessed based on incorrect data.

- The figures presented in the EIA, especially those with the aerial photographs as the backdrop are of poor quality and need to be addressed. This is especially the case where the colours (light yellow, pale yellow) used to highlight the various components of the hotel development are camouflaged by the vegetation (green colour).

As worded, the comment incorrectly suggests that all the figures presented were of poor quality. Figures 3.1.2 and 4.1 have been redone and are provided in the Appendix below

- It is felt that the seven terrestrial sites are not representative of the entire area to be developed and that transects should have been done to pick up transition zones. Please state the criteria for selection of the seven representative sites or stations for the terrestrial ecology study.

The two criteria used for site selection were:

- I. Areas within the footprint of the development where vegetation would have to be cleared to facilitate site construction.
- II. To assess representative types of the habitats present on the site. These were:
 - areas with scarce or cleared vegetation
 - wooded areas (Dry Limestone Forest)
 - beach
 - mangrove
 - trails and paths

In the case of woodland, more than one site was studied because these occurred on distinctly different areas of the property eg. north and south of the road.

- All sources of information in the baseline must be referenced. e.g. there are no geological publications.
- The fourth bullet under this section was not addressed in the document “*All sources of information in the baseline must be referenced. e.g. there are no geological publications*”.

The references cited at Figures 3.2.1 and 3.2.2 were included in the list of references at Section 9. These were:

1. Beckford, S.A., 1992. *Preliminary report on water resources evaluation and water resources engineering recommendations*. Report prepared for T.W. Development Ltd.

2. NHL Engineering Ltd., 2005. Soil investigation report – Proposed hotel development project, Runaway Bay, St. Ann, Jamaica. Report prepared for Grupo Pinero, Valencia Spain.

Apart from the standard geological sheets for Jamaica, there are no geological references for this area in the public domain.

- Is a golf course envisaged for this project? If yes, where on the property?

Thought has been given to having a golf course associated with the resort but this would not be built on the existing property.

- A public education awareness programme should be implemented for construction workers, to focus on saving endemic and endangered species and feeder trees for birds.

Please note that a plant rescue programme will be carried out to remove selected species from the project site prior to the commencement of construction works and kept for replanting during the landscape phase. Kindly advise whether NEPA would be prepared to conduct the awareness programme and whether it is being proposed that this should be a condition of the permit.

- Whilst the threat posed by natural hazards was highlighted in the document no mitigation measures were proposed to effectively address these threats.

The main issue is vulnerability to storm induced surge or tsunami. It was stated in the EIA (page 77) that buildings would be set back 50m from the shoreline and that the ground floor of buildings would be set at 3m asl. Also note that the buildings would be located in areas on the site that exceed 2m asl.

- Whilst the document sufficiently addresses the vulnerability of the site to seismic events, more detailed information on the probability of liquefaction should be provided.

The subsurface soils on the project site are not susceptible to liquefaction.

- The eighth bullet under this question was answered with “*The subsurface soils on the project site are not susceptible to liquefaction*”. Is this statement based on opinion or conclusive evidence supported by research? If the latter please provide the source.

The statement was based on the professional knowledge of a qualified geologist. No research on liquefaction has been carried out at this site.

- An evacuation plan should be considered as part of the mitigation measures to be adopted upon completion of the development and suitable alternative arrangements be considered for sheltering evacuees.

An evacuation plan for the resort to be applied in the event of anticipated storm surge and tsunami will be prepared in collaboration with the ODPEM. This will be done after the hotel has been built and the best procedures and routes can be determined. It should be borne in mind the hotel is being built with a 50m setback and that the room blocks are situated at elevations in excess of 2m.

- More information is needed on the fisheries of this area. State the number of fishermen who depend on the fish stock in this area.

The fishery in proximity to Pear Tree Bottom is artisanal and operates at a subsistence level. There are about 12 persons based at an encampment located at the raised rocky coastline at the extreme western end of Pear Tree Bay. It is not a NEPA licensed fishing beach. Fishing is carried out by means of fish traps set on the outer reef platform and by handlining. Itinerant spear-fishermen also operate in this area. The catch is sold on the side of the road or at the local market. The two fishermen at the beach reported that whereas in past years 40 lbs of catch per fishing day typically passed over the beach, the current figure was closer to 5lbs.

- The impacts of this development on the pear tree bay reefs and its implication for present research activities conducted by the University of the West Indies were not considered by the document.

Potential impacts related to the misuse of coral reef resources were discussed at Section 5.2.9 in the EIA report. It is not anticipated that there will be any impact on the coral reef caused by hotel construction activities. Unless very special care was taken during recreational diving excursions, it is possible that damage could be done to the UWI-DBML research sites through careless diving practice. The safest approach would be to ban recreational diving in the region of the submarine caves and the means and mode of achieving this would best be determined through consultation with the management of DBML.

- There is no indication of perceptions and attitudes towards the project from stakeholders. Other areas not adequately covered include:
 - Informal use of the site and associated coastal area.
 - Access to the beach.
 - Community values and traditions.

Seven communities were specifically targeted for conducting interviews as well as a small sample of the main hotels. In all of these communities, members were supportive of the project, mainly on economic grounds. This included the upper income residential community of Old Montego Road that adjoins the project to the east. Stakeholders spoken to included hoteliers and management persons in other hospitality attractions, educators, health and sanitation officials, and public utilities persons (NWC). In no instance were any of the comments made by those interviewed, negative or against the project. The opposite was the case, in that communities and other stakeholders saw the project as generally a very important one.

It can be expected that the development of the project will curtail, if not entirely stop, access to the site by a number of persons currently doing so mainly for recreational reasons. The site holds an aesthetic appeal to some nature lovers, including the occasional exploring tourist who can often be found walking along the cove. Some line fishing is carried out by nearby community members, and the property is used as a short cut to the sea by some spear fishers. The University of The West Indies Marine Lab in Discovery Bay uses the reef as a preferred diving and research site, but access is by boat and their practice has been not to come ashore. One individual keeps a fishing boat moored to the eastern side of the cove. Mention has already been made of two persons who actually occupy structures on the property, both of whom have either completed or are in negotiation with the developers to make way for the project. (A retired hotel manager who lives in a small one bedroom structure has agreed to vacate upon request, and the owner of the enclave property 'Salt Coppers' had, during an interview, indicated his intention to accept an offer for his property from the developers. Otherwise the site is not frequented by the public or other visitors. NEPA will be responsible for licensing the beach in a manner that safeguards the public's right of access to the beach area.

In its wider spatial setting and in a historic context, the proposed project is consistent with the long tradition of tourism as an important industry in Runaway Bay. The growth and development of the area in both the late colonial period and the post independence period have been rooted in tourism and the marketing of Runaway Bay as a resort town. A controversy with respect to ownership claims or the prescriptive rights of former occupiers on the property was not found through discussion and interviews to relate to issues of community values or traditions linked to the site, as much as a concern for compensation for displacement not related to the current project.

- More detailed information on the effects of cumulative impacts should be presented.

The 1,918 rooms proposed by the Bahia Hotel development complements the construction of approximately another 10,000 rooms at eight major resort developments being implemented or under consideration along the north coast corridor between Rose Hall and Mammee Bay. This will exceed the infrastructure carrying capacity of the region, particularly with respect to housing, water supply,

medical services, transportation, and beach access. The PIOJ is currently carrying out a study aimed at resolving the issue.

SPECIFIC COMMENTS

- **Page II, Executive Summary, 2nd paragraph.** The name of the Convention is the ‘Convention on International Trade in Endangered Species of Wild Fauna and Flora’ and not as presented.

Noted.

- **Page 7, Section 1.4.1. – Terrestrial ecology**
 - While the reference to Grossman *et al* (1991) was provided as the method of vegetation classification, the field methodology for assessment of the terrestrial vegetation was not presented.
 - The majority of vegetation identified in this section was trees; herbs, shrubs, epiphytes, climbers etc. were not a part of the assessment.

The field methodology employed involved:

- a. Review of satellite imagery, aerial photography, maps and layout plans to determine coverage and impact of building footprint.
- b. Site reconnaissance to determine different types of vegetative cover on the site.
- c. Assessment of flora based on habitat structure, habitat comparison and habitat diversity (see Dalling & Iremonger, 1992) [as opposed to an assessment based on floristics (plant species composition), which is concerned with the classification or biology of the plants].

The method used for this was a non-mathematical modification of the plotless sampling method, which is a point-centered quarter method. This gave information on species composition, density and frequency.

However, subsequent to this, a species determination was made to facilitate the establishment of a plant rescue plan, and more details on the floristics was given.

- **Pages 7 – 8, Section 1.4.2. – Marine Ecology.** The methodology for the assessment of the marine environment was not provided in the EIA. It was highlighted that the assessment of the coral reef and the back reef lagoon was not included in the EIA and would be provided as an addendum. In future please provide adequate information so that the document can be reviewed in a holistic manner.

The methodology was presented in the separate marine biology report. NEPA was made aware at the time that owing to submission deadlines the marine report would be submitted at a later date.

- **Page 8, Section 1.4.3 – Water Quality.** Baseline water quality cannot be established using one data point and an extended period is recommended or the use of historical data would be more useful. A comparison of your findings with the earlier studies done in the first EIA in 1993 and 1997 respectively should be presented.

The limitation of the data generated by a one-off sampling exercise was noted in the EIA. However, the EIA team did not have the luxury of an extended period of time over which to carry out a sampling programme that would better capture temporal variability. Please note that the initial EIA done in 1993, the beach and inshore modification study done in 1997, and the subdivision EIA done in 1999 did not contain any water quality analyses.

- **Page 10, Section 1.4.4 - Sociology.** Clarification on the terms ‘rapid rural appraisals’ and ‘wind-screen observations’ should be explained in the EIA. The EIA is a public document that serves to inform and educate the public and as such, methodologies should be explained, where necessary, when presented.

Rapid rural appraisals are accepted and established techniques for quickly gathering socioeconomic information. Wind-screen surveys are one such example where observations and visual assessments are made from a slowly moving vehicle.

- **Page 11, Section 2.1 – Legislations and Regulations.** The Water Resources Authority Act 1995 should be added to this section.

Water Resources Authority Act (1995)

The Water Resources Authority (WRA) is responsible for the management, protection, and controlled allocation and use of Jamaica's water resources. Under the Act, HOJAPI is required to possess a licence to abstract water from the well that has been purchased from Tankweld Ltd. The licence originally granted to Tankweld Ltd. has been transferred to HOJAPI.

Note is taken that:

- Where a licence is required pursuant to section 19 and the use of the water to which that licence relates will or is likely to result in the discharge of effluents, then, an application shall also be made to the relevant authority [*i.e. NEPA*] for a licence to discharge effluents and a copy of that application shall accompany the application for a licence required pursuant to section 19.
- ‘the grant under this Act of a licence to abstract and use water does not dispense with the necessity of obtaining the Town and Country Planning Act

or any other enactment in force at the time of the grant, unless otherwise stated in that Act or in such other enactment, as the case may be'.

- **Page 16, Section 3.1 – Topography and drainage.** It is assumed that storm runoff from the southern hills is intercepted by the east-west running main road. The drainage path once the water is intercepted by the main road should be clearly presented.

The assumption made is not quite correct. Rainfall falling on the hills to the south of the hotel site tends to percolate into the ground given the porous nature of the limestone substrate. Water falling on the western section of the highway tends to follow the side of the road and enter the wetland area at the bottom of the slope.

- **Page 19, Section 3.2 – Geology.** You referred to the Montpelier Limestone as “*highly permeable with abundant fractures and occasional clay partings*”, this is incorrect as Montpelier although belonging to the White Limestone Group is considered an aquiclude due to its low degree of karstification. In areas of faulting the permeability is increased and this formation may yield water to wells and springs in these zones. A more detailed assessment of the springs occurring in proximity to or on the property is needed. The effect of tidal fluctuations on groundwater should also be discussed for this site. The hydrology of the wetlands should be discussed.

Beckford 1992, cited in the EIA report, describes the Pear Tree Bottom area as belonging to the Dry Harbour Mountains hydrological basin that exhibits ‘intensive karstic development in which surface drainage is virtually absent in the catchment area as rainfall recharge rapidly disappears into sub-surface channels to reappear as lakes, rivers and springs near the coastline’. An examination of the geological map presented in the report indicates that much of this basin is comprised of Montpelier Limestone. The rock mass of this formation is impermeable but the presence of fractures and solution features creates secondary porosity and increases transmissibility. The hydrological map indicates the main hydrological features of the wetland area south of the project site. The small section of ‘wetland’ to the west of the site is simply a lowlying area into which the culverts drain the eastern part of the main wetland area. Tidal fluctuations will cause a ~0.5 meter variation in groundwater level at the site, which is at sea level.

- **Page 22, Section 3.3.1. – Climate.** The EIA states that the two months of maximum rainfall are May and December. Figure 3.3.1 shows that the two months of maximum rainfall are actually November and December. There is also more recent data that should be presented.

What was intended by the statement was that the rainfall pattern was bi-modal, peaking in May and again in December. More recent data is consistent with this pattern of rainfall.

- **Page 23, Section 3.4 – Hydrology.** The hydrological analysis seems inadequate and some detail description of the drainage across the site from the eastern section in the vicinity of the underpass would be useful. This information would include the extent of the watershed (or drainage area that may impact on the site) and the impact of a 50 or 100 year return flood event on the site. The expected rates of flow during these events should be presented.

Rainfall percolates through the limestone bedrock underlying the hills to the south of the site. Given the type of substrate, except for storm water runoff along the roadway, there is not expected to be any significant runoff from the hill slopes south of the project site that would impact adversely on the project. Outflows from the larger Dry Harbour Mountains hydrological basin further to the south emerge as channelised flow represented by the Pear Tree and Little Pear Tree Rivers.

- **Page 26, Section 3.5 - Oceanography.** The information presented in this section is from an unnamed source; please provide information to corroborate the findings.

The information was provided in an undated report, prepared for the original owners of the property, entitled 'Pear Tree Bay, Jamaica, West Indies – Physical processes'. The source of the document was not indicated but appears to have been prepared by a coastal engineer. The introduction notes that "This report is to address the concerns raised by the Natural Resources Conservation Authority (NRCA), Jamaica relative to the Pear Tree Bay Development."

- **Pages 28 – 33, Section 3.6 – Terrestrial Ecology.**
 - More detailed information with respect to the vegetation zonation should be provided.
 - The species list should adequately represent the various types of vegetation to be found on the site. In addition, the 13 species listed cannot be representative of 80 hectares of vegetation. The species listed should give an indication of which vegetation zone it was recorded for; for example, disturbed limestone, beach or mangrove scrub.
 - A more detailed vegetation assessment is required; this should include endemic, endangered and rare species.
 - There is no indication that a vegetation assessment was done for the areas for the sewage, service area, construction camp and concrete batching facility, which were highlighted in Figure 4.1. (Page 78).

The description of the vegetation given is complimented by the table, which details the ecology of the dominant species. The table indicates in which survey station each species is found.

For the vegetation survey the emphasis was on the types of habitat within the project area, not a species count of individual specimens.

Shrubs, herbs and epiphytes were covered by the vegetation analysis for the plant rescue plan

There were two main criteria for the site selection of the survey stations:

- a. Areas within the footprint of the development where vegetation would have to be cleared to facilitate resort construction.
- b. To obtain representative types of the habitats identified in the site reconnaissance. These were:
 - areas with little vegetation (scarcely vegetated areas)
 - wooded areas (Tropical Woodland)
 - beach
 - mangrove
 - trails and paths

In the case of woodland, more than one site was studied because this habitat occurred on distinctly different areas of the property eg. north and south of the road.

The area to be cleared for the establishment of the sewage treatment site, service area, construction camp and concrete batching facility, are covered by the habitat described for Site 7.

- **Page 34, Section 3.6.2 - Fauna.** Other fauna present on the site were not indicated. Birds and butterflies appeared to be the primary subjects for assessment. In addition, the presence of rare, endemic or endangered species was not reported aside from the Yellow Snake and the Yellow-billed Parrots.

Birds and butterflies were the primary subjects for assessment as they are major pollinators, which are important in a site such as this heavily vegetated area. These two groups were observed to be in fairly significant numbers during the site reconnaissance and so they were selected for more in depth survey.

Reference was confined to the Yellow Snake and the Yellow-billed Parrot, as these were the only rare endemic and endangered species that had previously been reported from the site.

The summary of sea turtle nesting records at NEPA does not include Pear Tree Bottom. However, based on more recent information provided by the Northern Jamaican Conservation Association, it is clear that the beach at Pear Tree Bay is a sea turtle nesting site.

- **Page 37, Section 3.7 – Wetland Ecology.** The methodology for the wetland assessment was not presented here neither in the section relating to the methodologies used in the EIA. In addition, that which is presented in this section was from a previous study (Bacon and Alleng 1991); there are no indications that an assessment was done to corroborate or add any additional information for this wetland. Although mangroves are present, no mention is made of their condition or location within the wetlands.

The description of the wetland given by Bacon & Alleng was corroborated by analysis of aerial photography and observations made during three site visits made to the wetland area during the conduct of the EIA. In fact, the EIA pointed out that the wetland is now very overgrown by bulrushes, which in turn has diminished its ecological function.

There are no mangroves within the wetland – as described originally by Bacon et al and by Harvey the sparse mangrove stands are found at the coast in more or less the same condition as originally described.

- **Page 44, Section 3.8 – Marine Ecology.** Although mentioned in the Marine survey (submitted as an addendum to the EIA dated March 2005 by Andrea Lanigan), the locations of the major submarine caves are not indicated on the map presented.

The submarine caves were not visited by the marine biologist, who focused her attention more on the shallower areas since these would be more at risk from construction site activities. The caves are located on the reef escarpment, west of Pear Tree Bay.

- **Page 47, Section 3.8.2 – Back Reef Lagoon.** There should be some more discussion on the abundance of echinoids and algae (fleshy algal species) associated with the reef, particularly with reference their roles as indicators of the health of the reef system.

To the contrary, the marine survey report quite adequately describes the status and condition of the reef at Pear Tree Bottom.

- **Page 52, Section 3.9 – Water Quality.** The elevated BOD levels and the low DO levels mentioned in the document should be explained.

The high BOD and low DO readings were noted in the EIA. In the absence of a more comprehensive assessment it was not possible to determine the cause of these conditions.

- **Page 67, Section 3.10.3 – Socio-Economic Environment (Water).** The EIA states that the resort has a permit to abstract water from a well. This well has been licensed to Tank Weld and not HOJAPI. The applicant needs to apply to the Water Resources Authority for a license since licenses are not transferable.

This matter will be regularized with the WRA.

- The perceptions and attitudes of stakeholders towards the project need to be addressed. Other areas not adequately covered include:
 - Informal use of the site and associated coastal area.

- Access to the beach.
- Community values and traditions.

This comment is redundant and has already been addressed above under the General Comments heading.

- **Page 77, Section 4. – Project Description.** More detail is needed with respect to the following:
 - The activities in the three phases of the project.
 - The resource demands of the project in the three phases (water, electricity, telecommunications, road usage and connections).
 - The sewerage design.
 - Scheduling and timeframes for construction.
- The complete project will be constructed in three phases. The first phase will be finalized in November 2006 and will have 600 rooms. The commercial area, convention center and the common facilities will also be finished by that date. The room blocks comprising Hotel 2 will be finished by November 2007. The room blocks for the third hotel will be finished by November 2008.
- The demand for electricity has been estimated to range between 150 - 300 KVA during the full construction period with peaks of 450 kva when the new equipment is being tested (e.g. pumps, air conditioners, etc). Water will be provided from the well from the outset of the project. Cable & Wireless have provided already the site with five landlines with ADSL connection for the Internet. They are working also in the design of the net to be installed before the first hotel is opened. Special attention is been given to access from the main road. Only left turns will be necessary once construction of the main access to the site has been finished.
- Re sewage, see response to related comment below. Final details of the design will be submitted along with the permit and licence applications to the authorities (NEPA, EHU) before implementation.
- **Page 79, Section 4.2.1 – Site preparation activities.** The location of the plant nursery is not evident on Figure 4.1 (Page 78).

The exact location has not been determined. Initially it is intended to use the facilities of a landscape operation near to Green Grotto

- **Pages 80-81, Section 4.2.3 – Beach Construction works.** More detailed information is required to allow for a proper evaluation of the potential environmental impact associated with these works. The issues related to the loss of sea grass nursery habitat and short-term exposure to suspended sediments should be addressed.

Detailed information is not available. The development of the artificial beaches is not of immediate concern to the developer and therefore the sources of sand material have not been determined nor have the methods for placement of the sand. It is intended that these matters would be addressed when application is made for encroachment on the foreshore.

- **Page 83, Section 4.3.5. – Operations.** The sewage treatment plant should be designed to treat the wastewater to a tertiary level. Activated Sludge Process alone is not known to produce a tertiary effluent.

The treatment plant will be designed to accommodate 2000 hotel rooms and operate in the activated sludge extended aeration mode with additional provisions for nitrogen and phosphate removal.

Wastewater will be pumped by the sewage lift stations on-site into an equalization tank where it will be screened and the solids removed before entering the tank. The equalization tank will have a 4-hour retention time and be equipped with an agitator that will keep the solids in suspension and in an anaerobic state. The liquid will be metered into the anoxic tank at the designed flow rate to prevent surging of the system. The anoxic tank will also have a low speed agitator. The odorless nitrogen gas will release to the atmosphere in this tank during a 6-8 hour retention time. Biological treatment will begin as the liquid flows by gravity into the aeration reactor which has a 15-20 hour retention time.

The final clarifier will receive the mixed liquor from the aeration reactor. The clarifier is a quiescent zone for separation of the biological solids from the clear treated liquid. To enhance phosphate removal liquid alum will be metered into the mixed liquor prior to the clarifier thus settling out the phosphates with the biological sludge. Excess sludge will be wasted to the aerobic digester and return activated sludge will be returned to the equalization tank (10%), the anoxic tank (30%), and the aeration tank (60%). The treated effluent will then flow by gravity through the automatic backwash dual cell tertiary filter and then through disinfection in the chlorination chamber and either be stored in the effluent storage tank for irrigation reuse or discharged to ground via deep well injection.

The final treated effluent from the Plant will meet or exceed the NRCA Sewage Effluent Standards:

BOD	< 10 mg/l
TSS	< 10 mg/l
Total Nitrogen	< 5 mg/l
Phosphates	< 1 mg/l
pH	6-9
COD	< 100 mg/l
Faecal Coliform	12 MPN/100 ml
Residual Chlorine	0.5 mg/l

- **Page 86, Section 5.1.2 – Environmental Impacts and Mitigation.** Lizards and tree frogs were reported to be present at the site; please provide a species list.

The scientific literature and experience dictate that it is more than likely that small reptiles and amphibians would inhabit the dry limestone forest, along with other types of animals. A specific survey for these creatures was not carried out.

- **Page 88, Section 5.1.2 – Loss of Terrestrial Habitat and Biodiversity 2nd to last bullet in mitigation.** The offer for reward to the public for Yellow Snakes should not be encouraged and should not have been proposed. It encourages persons to hunt snakes for financial benefits.

The natural reaction in our culture is to kill snakes when they are encountered. The offer of a reward is a reasonable way to ensure that this does not happen. It is far-fetched to believe that the offer of a reward will cause a site worker to leave his job to hunt snakes.

- **Page 96, Section 5.1.14 – Sewage and litter management.** There were no mitigation measures highlighted for sewage. In addition, sewage options were not identified nor presented by the Consultants for the construction phase of the project.

An oversight. The mitigation for ad hoc defaecation is the provision of chemical toilets or the construction of temporary VIPs.

- **Page 97, Section 5.1.15 – Replanting and landscaping.** The mitigation measures highlighted for this section refers to section 5.3.2, however, there is no such section in the document.

A typo - that should be Section 5.1.2

- **Page 106, Section 6 – Project alternatives.** There were no alternatives provided by the Consultant for the proposed development.

There were two valid alternatives presented in the EIA. The only other realistic alternative that could be considered under the circumstance is a scaled back (reduced room number) resort development.

- **Page 109, Appendix 1 –** Please state the relevance of appendix I as it is not referenced in the document.

A specific reference was not made to the Appendix but it is useful from the point of view of landscaping and ensuring at least partial restoration of avian habitat.

Please address these issues as a matter of urgency so as to enable the completion of the processing of this application. If you require any clarification, please do not hesitate to contact the undersigned or Jerome Smith.

Yours sincerely

Leonard Francis
for Chief Executive Officer.

cc. Mr Peter Reeson – ESL Management Solutions

APPENDIX:

(Please note that these figures can be magnified by clicking on the figure to select it and then using the zoom feature on the menu bar.)

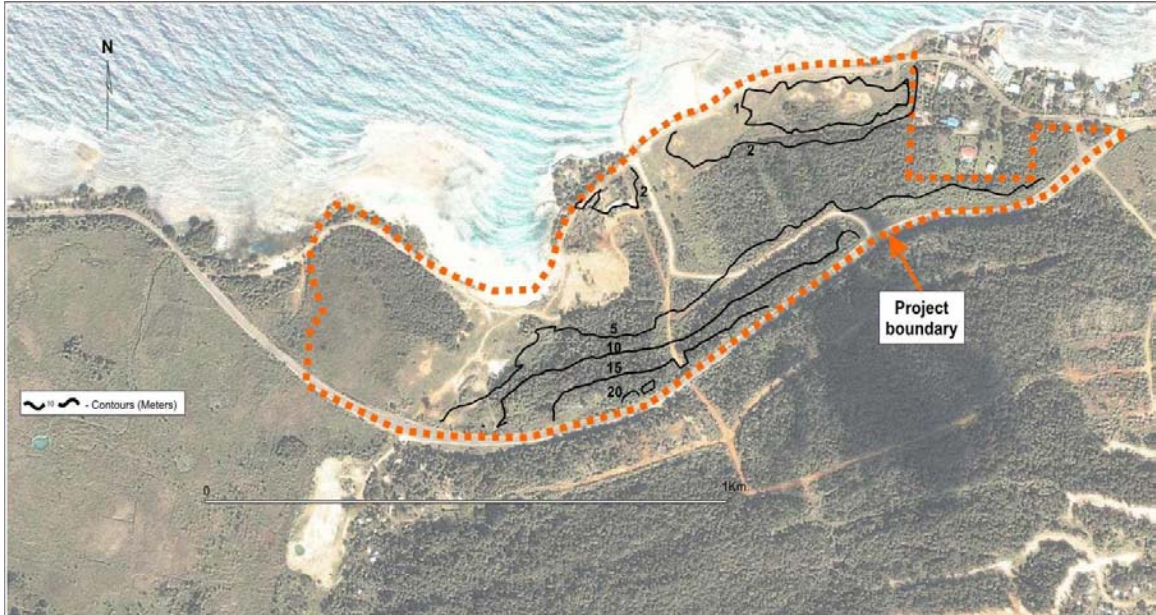


Figure showing topographic contours – substitute for Fig. 3.1.2 in EIA report.

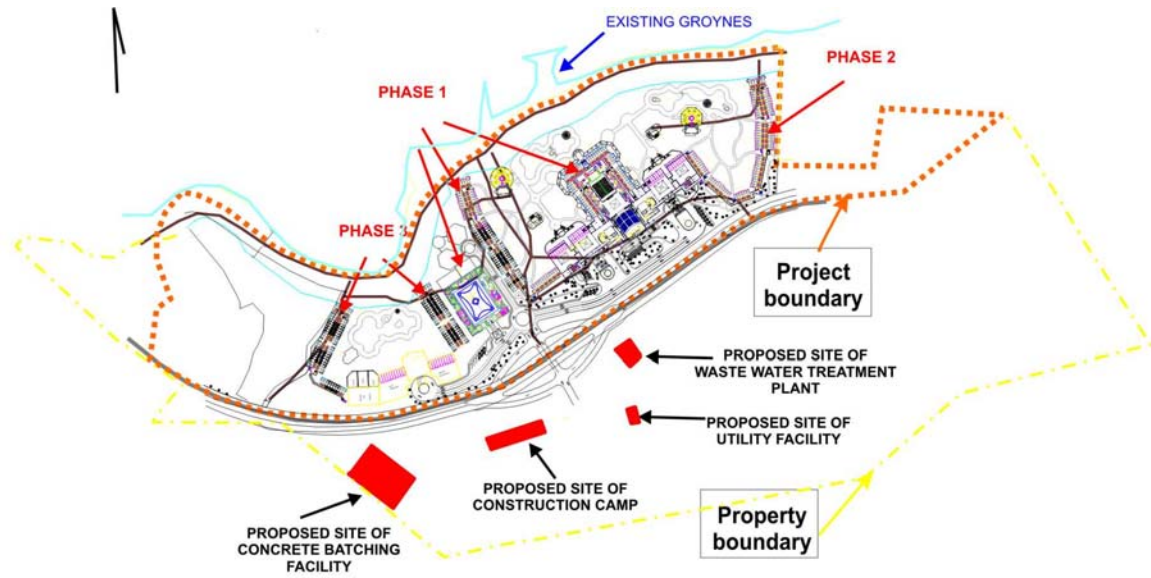


Figure showing master plan of resort – part substitute for Fig. 4.1 in EIA report.

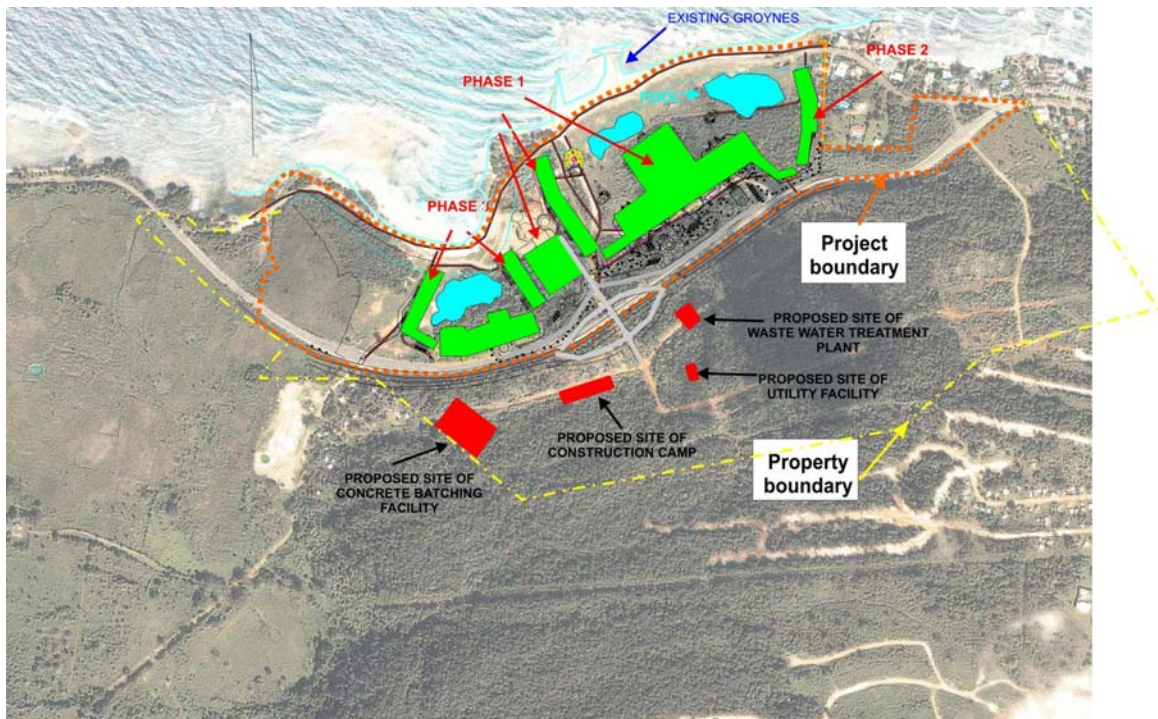


Figure showing footprint of resort – part substitute for Fig. 4.1 in EIA report.