APPENDICES

FINAL DRAFT

ENVIRONMENTAL IMPACT ASSESSMENT

OF THE

RIU HOTEL DEVELOPMENT

IN

HANOVER, JAMAICA

Submitted to

RIU HOTEL INTERNATIONAL
Hanover, Jamaica

CL ENVIRONMENTAL
Taking Care of You and Your Environment.

NOVEMBER 2001

LIST OF APPENDICES:

APPENDIX 1: WATER CONSERVATION STRATEGIES. RIU'S DESIGN AND DESIGN NOTES

CLUB HOTEL RIU NEGRIL

WATER CALCULATIONS

1.-Potable water supply:

Brunches design:

Bathroom (typical)

wc	consumption = .16 lps
washbasin	consumption = .21 lps
shower	consumption = .29 lps

Bathroom consumption = .66 lps

Average water consumption = 1.5%

.66 x 1.5% =..0099 lps x 420 rooms = 4.158 lps = 359,251.2 liters per day

The total consumption is of 359,251.2 liters per day

Total consumption 359,251.2 liters per day divided 10 hours is similar to 35,925.12 liters per hour, divided 3,600 second per hour it is similar to 9.979 liters per second (lps) so this flow is equal to 158.19 GPM and size pipe diameter recommended for this job is 100mm diameter or 4" Ø

So we need to install a 4"Ø pipe for the make up water RIU tank.

2.-Water consumption

wash basin	consumption = .21 lps
shower	consumption = .29 lps

Bathroom consumption = .50 lps

Average water consumption = 1.5%

0.5 x 1.5% = 0.0075 lps x 420 rooms = 3.15 lps = 272,160 liters per day

The total consumption is of 272,160 liters per day

3. - W.C. tank capacity 1.6 gallons or 6 liters

4.-W.C. consumption

wc consumption = .16 lps

Average water consumption = 1.5%

0.16 x 1.5% = 0.0024 lps x 420 rooms = 1.008 lps = 87,091.2 liters per day

5.- General specs on pumping and water treatment for watering.

For this system we considerate the follow technical steps:

- We going to install a apart drain pipe for soap water from washbasin and shower
- This water going to the soap water pumping stations distributed on the hotel area.
- In this points sump pumps send the soap water to the first storage tank in the water treatment plant outside the hotel area
- In this plant we going to make a filter process sending the soap water in the first storage tank to the second storage tank with multiple steps centrifugal pumps
- Meanwhile 1 centrifugal pump and 1 odor eliminator installed in each storage tank are pumping the soap water across this system 24 hrs per day.
- The last process is send back the filtered and no odor soap water to the garden in the hotel area using a multi-steps centrifugal booster pack

Note: For a better idea about this system we attached a Soap Water Flow Diagram

6- Faucets

We going to install MARTI bath accessories this is an Spanish Company established since 1921 and the products are certified with Europe rules and standards for water saving process.

7.- Sewage brief description

For this system we considerate the follow technical steps:

- We going to install a apart drain pipe for sewage water from the WC
- This water going to the sewage pumping stations distributed on the hotel area.
- After this pumps sump pumps send the sewage water to the Government absorption well outside the hotel area.

Note: For a better idea about this system we attached a Sewage Water Flow Diagram

APPENDIX 2: PROJECT INFORMATION FORM

THE NATURAL RESOURCES CONSERVATION AUTHORITY ACT
THE NATURAL RESOURCES CONSERVATION AUTHORITY
(PERMITS AND LICENCES) REGULATIONS 1996

PROJECT INFORMATION FORM

Note:. Please read the following before completing this form

1. This document is designed to provide information on your project to the Natural Resources Conservation Authority in accordance with section 10 (1) (a) of the Act in order to determine if the project requires the preparation of an Environmental Impact Assessment (EIA).

2. Please attach certified copies of all statutory approvals and planning permission granted to date and copies of all applications made and not yet determined.

3. This application form must be completed in order to avoid delay in its processing. Where attached sheets and other technical documents are utilized in lieu of the space provided, indicate appropriate cross-references. Paragraphs that are not applicable to your application should be marked N/A.

4. This form is supplemental to your permit application form and may be subject to further verification and public review. Provide any additional information that you believe will be useful in processing your application.

5. It is expected that completion of this form will be dependent on information that is currently available to you and will not involve new studies, investigation and research. Where such studies are required in order to provide the information please indicate and specify in each instance.

A. PROJECT NAME AND OWNERSHIP

1) NAME AND ADDRESS OF APPLICANT:

RIU JAMAICOTEL LTD.

(SURNAME) (FIRST NAME)

P.O BOX 2985, BLOODY BAY

(STREET)

NEGRIL, HANOVER

(TOWN AND PARISH)

609-0458 **609-0771**

(TELEPHONE) (FAX)

pollyanna@cwjamaica.com

(E-MAIL)

2) NAME AND ADDRESS OF OWNER (if different from applicant)

(SURNAME) (FIRST NAME)

(STREET)

(TOWN AND PARISH)

3) NAME OF PROJECT

RIU JAMAICOTEL DEVELOPMENT

4) LOCATION OF PROJECT: (Provide map as well as address)

RUTLAND PEN, BLOODY BAY

(STREET)

HANOVER, JAMAICA

(TOWN AND PARISH)

4.1) Do you own the property on which you propose to carry to out this development project. √Yes ☐ No.
4.2) If Yes Please attach certified copies of Proof of Ownership
4.3) If No, What is the nature of your interest in this property. Please attach supporting documents, justifying your claim.

5) NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS:

AS ATTACHED

B PROJECT TYPE

Description or prescribed category of enterprise, construction or development for which approval is sought: (Check and identify as many as are appropriate.)

1. ☐ Power generation plants
2. ☐ Electrical transmission lines and substations greater than 69 kV

3. ☐ Pipelines and conveyors, including underground cables, gas lines and other such infrastructure with diameter of 15 cm and over.
4. ☐ Port and harbour developments
5. ☑ Development projects
    - ☐ subdivisions of 10 or more lots
    - ☐ housing projects of 10 houses or more
    - ☑ hotel/resort complex of more than 12 rooms
    - ☐ airports including runway expansion greater than 20%
    - ☐ office complex greater than 5000 square metres
6. ☐ Ecotourism projects
7. ☐ Water treatment facilities including water supply, desalination plants, sewage and industrial waste water
8. ☐ Mining and mineral processing
    - ☐ bauxite
    - ☐ minerals - including aggregate, construction and industrial minerals
    - ☐ peat ☐ metallic
    - ☐ sand ☐ non-metallic
9. ☐ Metal processing
    - ☐ non-ferrous metals
    - ☐ ferrous metals
    - ☐ foundry operations, metal plating
10. ☐ Industrial projects
    - ☐ chemical plants
    - ☐ pulp, paper and wood processing
    - ☐ petroleum production, refinery, storage and stockpiling
    - ☐ food processing plants
    - ☐ fish and meat processing plants
    - ☐ tanneries
    - ☐ detergents manufacturing, including manufacturing of soap
    - ☐ distillery, brewing and fermenting facilities
    - ☐ cement and lime production
    - ☐ manufacture of textiles
    - ☐ manufacturing of pesticides or other hazardous or toxic substances
    - ☐ paint manufacture
    - ☐ boxing plants
    - ☐ manufacture of containers and packaging materials including cans, bottles, boxes and cartons
    - ☐ manufacturing of edible fats, oils and associated processes
    - ☐ citrus, coffee, cocoa, coconut, sugarcane processing factories
    - ☐ solar salt production
11. ☐ Construction of new highways, arterial roads and major road improvement projects

12. ☐ River basin development projects
13. ☐ Irrigation or water management projects including improvements
14. ☐ Land reclamation and drainage projects
15. ☐ Watershed development and soil conservation projects including river training, check dams, and retaining walls
16. ☑ Modification, clearance or reclamation of wetlands
17. ☐ Solid waste treatment and disposal facilities
18. ☐ Hazardous waste storage or treatment or disposal facilities
19. ☐ Processing of agricultural waste
20. ☐ Cemeteries and crematoriums
21. ☑ Introduction of species of flora, fauna and genetic material
23. ☐ Felling of trees and clearing of land of 10 hectares or over for agricultural development
24. ☐ Clear cutting of forested areas of 3 hectares and over on slopes greater than 25 degrees
25. ☐ Other. Please specify! _____

If your project falls within the first 24 categories, then a permit under Section 9 of the NRCA Act is required.

Note: Other licences may be required if sewage or trade effluent are proposed to be discharged (Section 12). These licences are subject to an **Environmental Impact Assessment** being submitted to the Authority. Contact the NRCA for further information.

C. SITE DESCRIPTION (physical setting of overall project, both developed and undeveloped areas)

1. General character of land: generally uniform slope ____ or generally uneven and rolling or irregular ____ (check one)☑
2. Approximate percentage of proposed site with slopes ☑ 0-10%; ☐ 10-25%; ☐ 25% or greater.
3. What is the predominant soil type (s) on the project site? ☐upland plateaux soils; ☑alluvial soils; ☐highland soils
4. Are there bedrock outcroppings on project site? ☐Yes; ☑No
5. Are there any karst or limestone i.e. sinkhole conditions on site? ☐Yes; ☐No
6. Is the project located in ☐flood plain or ☑coastal zone or ☐water catchment area? ☐No
If no, specify_____

_____

7. Site is ☐below Sea level; ☐at Sea level; ☑above the 10 m contour line.
8. Are there any water wells on or adjacent to the site? ☑No; ☐Yes; if yes please describe

_____

_____

_____

9. Are there any rivers or streams or drainages within or adjacent to the project site?
☑No; ☐Yes; If yes, name the water body _____

10. Are there any lakes, ponds or wetland areas within or contiguous to the project site?

☐No; ☑Yes; If yes, name the water body **NEGRIL MORASS OPPOSITE SIDE**

11. Present site land use: ☐Urban; ☐suburban; ☐rural; ☐industrial; ☐commercial; ☐agriculture; ☑forest; ☐other (please specify): **COASTAL / WETLAND**

12. Is the project site presently used by the community or neighbourhood as an open space or recreational area?
☐No; ☑yes; If yes, identify **SWIMMING, BEACH PARTIES AND FOOD SHACK**

D. BIOLOGICAL RESOURCES

FLORA

1. General plant ecosystem and dominant types

Forests
- inland
- √coastal

Fields
- agricultural
- pasture
- open field

Wetlands
- √mangroves
- morass and √swamps
- √seagrasses

Any other ecosystem types yes √no, if yes please indicate. _____

_____

2. Name the watershed that your project is being developed in **THE NEGRIL / ORANGE BAY WATERSHED**

3. Are there exotic species present at the site? Yes √No

If yes, state the scientific and common names of these exotic species.

N/A

_____
_____
_____

4. Do you plan to introduce exotic species? √Yes No
If yes, state the scientific and common names of these exotic species and their places of origin.

_____
_____
_____
_____

5. Are there any endangered animal species in the area where your project is to be developed?
Yes √No If yes, state their scientific and common names.

_____
_____
_____

6. Are there specimens of scientific or aesthetic interest in your project development area?
Lignum Vitae

Blue Mahoe
Orchids
√Ferns
√Mangroves
√Sea grasses
√Royal Palms
√Bromeliads
√Feeder trees for birds
Any others (i) _____
(ii) _____
(iii)_____

7. Are there endemic species present at the site? √Yes No
If yes, state their scientific and common names.

BULL THATCH - *Sabal jamaicensis,*
ROYAL PALM - *Roystonea princeps*
Phyllanthus acuminatus

8. What is the degree of disturbance of the plant community?
pristine
√semi-degraded
totally degraded

FAUNA

1. General types
Vertebrates
Mammals
√Birds
Fishes
Amphibians
Reptiles

Invertebrates
√Insects
√Corals (coral reefs)
Sponges
√Crustaceans
Any others (i) _____
(ii) _____
(iii) _____

Please provide a species list for general fauna types indicated.

2. Habitat type

Forests
inland

√coastal

Fields

agricultural
pasture
open field

Wetlands

√mangroves

morass and √swamps

√Seagrass

√Coral reefs

√Sea (marine)

Freshwater/brackish water

River/stream (any flowing body of water), state the name/names _____
Pond/lakes (any standing body of water), state the name/names _____

Any others Yes No If yes, please state (i) _____
(ii) _____
(iii) _____

3. Are there any commercially valuable species in the area? Yes √No
If yes, state scientific and common names

_____
_____
_____

PROTECTED AREAS

1. Is your proposed project located in an existing Protected Area? √Yes No
If yes, then name the Protected Area: _____

E. PROJECT DESCRIPTION

1. Provide physical dimensions and scale of the project (fill in dimensions as appropriate)
a) Total contiguous area owned by project sponsor **8.9** hectares
b) Project area developed: hectares initially **8.9**; hectares ultimately **8.9**.
c) Project area to remain undeveloped **0** hectares

2. Operational aspects of the project

a) Will there be sewage or trade effluent discharge during construction and or operation? ☐No;☐Yes
√**SEWERED**
If yes describe the type(s), amount(s) and source(s). (If a discharge application has been prepared please attach.)

b) Is it ☐sewage or ☐trade effluent? (tick please)

c) Please indicate what effect if any your project will or is likely to have on the following. (tick appropriate categories)

☑Land resources, ☐Water resources, ☐Air quality (including noise), ☑Ecological resources, ☑Visual resources, ☑Open space and recreation, ☑Growth and character of community, ☐Energy, ☐Transportation, ☐Human health

d) Will there be air emissions (including fugitive dust) produced during construction and operation?

☐No; ☑Yes; If yes describe type(s) and source(s)_____
√
FUGITATIVE DUST FROM CONSTRUCTION

e) Will there be any other poisonous, noxious or polluting matter discharged during construction and operation? ☐No; ☐Yes; If yes describe type(s) and source(s)_____

f) Will blasting occur during construction? ☑No; ☐Yes

g) Will project routinely produce odours (more than one hour per day) ☑No; ☐Yes

h) Total water usage per day **359,251.2** litres/day; source: ☐surface; ☐underground; ☐other:__√_

i) If water supply is from wells indicate pumping capacity _____ litres per min.

j) Is surface or underground liquid waste involved? ☑No; ☐Yes. If yes indicate the type of waste (sewage, trade, including leachate, etc.)_____

N/A

k) If surface disposal, name receiving water body (fresh water, gully or marine) into which effluent will be discharged into. **N/A**

l) Will the project use herbicides or pesticides? ☑No; ☐Yes. If yes, specify type(s)

m) How many hectares of vegetation (trees, shrubs, ground cover) will be removed from the site? ____ ha

n) Will the project involve the construction of access roads? ☐No; ☐Yes;

o) Will surface area of existing water bodies e.g. streams, rivers, bays etc be increased or decreased by the project? ☐No; ☐Yes; If yes, how much? ____. Give detail_____

p) Will project require relocation of ☑people; ☐houses; or ☑facilities? ☐No. If yes, give details:

A SMALL BAR/FOOD SHACK LOCATED ON SITE

q) Does the project involve the disposal of solid waste? ☐No; ☑Yes; If yes, will existing municipal solid waste facility(s) be used? ☐No; ☐Specify location: **RETIREMENT DUMPSITE, ST. JAMES**

3. Where the project is a waste treatment and disposal facility please complete the following:

3.1 Nature of waste disposal facility (please tick) - **N/A**

- ☐ a) Landfill;
- ☐ b) Transfer station - incorporating also,
  - ☐ (i) static compaction;
  - ☐ (ii) pulverization;
  - ☐ (iii) baling;
- ☐ c) Treatment plant involving -
  - ☐ (i) pulverization;
  - ☐ (ii) composting;
  - ☐ (iii) incineration;
  - ☐ (iv) chemical treatment;
  - ☐ (v) other treatment (please specify);_____

3.2 Estimated maximum quantities of general waste of the following description delivered or to be delivered daily at the facility: Liquid Sludge Solid

	(tonnes)	(tonnes)	(tonnes)
a) domestic and commercial wastes -			
(i) untreated;	_____	_____	_____
(ii) pulverized or compost;	_____	_____	_____
(iii) baled;	_____	_____	_____
(iv) incinerator residues;	_____	_____	_____
b) medical, surgical and veterinary wastes;	_____	_____	_____
c) hazardous wastes	_____	_____	_____
d) non-hazardous industrial wastes -			
(i) potentially combustible substances;	_____	_____	_____
(ii) inert and non-flammable substances;	_____	_____	_____
e) wastes from the construction industry;	_____	_____	_____
f) old cars, vehicles and trailers;	_____	_____	_____
g) sewage, sludge etc.;	_____	_____	_____
h) mine and quarry waste;	_____	_____	_____
i) farm waste.	_____	_____	_____

3.3 Current or anticipated maximum rate of use of the facility. (Specify as tonnes per day of landfill sites and tonnes per hour for treatment plant.) _____

3.4 State capacity of treatment plant:
Current capacity _____ million litres per day (ML/d)
Total design capacity _____ ML/d
Proposed operational capacity _____ ML/d

4. Project approvals:

a) Is there any other GOJ licence or approval required? ☐No; ☑Yes ; If yes list approvals with responsible department or body_____

N.W.C – WATER SUPPLY AND SEWAGE. CABLE AND WIRELESS -TELEPHONES

TOWN PLANNING / NEPA – BUILDING APPROVAL

b) List any previous licences or permits granted in respect of this project:

	Date	Project Title	Reference No.
Issued:	_____	_____	_____
Denied:	_____	_____	_____
Other:	_____	_____	_____

c) Are there any town or local approvals? ☐No; ☑Yes. If yes, list approvals and responsible agency.

HANOVER PARISH COUNCIL

NEGRIL GREEN ISLAND AREA PLANNING AUTHORITY

E. OTHER INFORMATIONAL DETAILS

Attach any other additional information as may be needed to clarify your project.

PREPARER'S NAME: _____

PREPARER'S SIGNATURE _____

TITLE: **MANAGING DIRECTOR - C.L. ENVIRONMENTAL CO. LTD**

REPRESENTING: *RIU HOTEL DEVELOPMENTS (RIU JAMAICOTEL)*

DATE: **JUNE 27, 2001**

APPENDIX 3: APPROVED TERMS OF REFERENCE

NEPA
NATIONAL ENVIRONMENT & PLANNING AGENCY
10 Caledonia Avenue, Kingston 5, Jamaica W.I.
Tel: (876) 754-7543, 754-7544, 754-7547, 754-7548, 754-7549, 754-7550 Fax: (876) 754-7595, 754-7596
E-mail: ceo@nepa.gov.jm toll free help-line: 1-888-991- 5005 Web Site: http://www.nepa.gov.jm

Ref. No.: L10/401

NRCA
Natural Resources Conservation Authority

July 12, 2001

Mr. Carlton Campbell
CL Environmental
Apt. 37, 117 Constant Spring Road
Kingston 10.

TPD
Town Planning Department

Dear Sir:

Re: Permit Application for Hotel Resort Complex at Bloody Bay, Westmoreland by RIU Jamaicotel Limited

LDUC
Land Development & Utilization Commission

During a review of the captioned application it has been determined that an Environmental Impact Assessment (EIA) should be done for the project.

The EIA should address, but not be limited to the following areas:

1. Vegetation survey and analysis inclusive of a map showing those trees that are to be retained.
2. A clear management plan inclusive of parties responsible for the retention of trees during the construction phase.
3. Drainage on the site during the construction and operational phases. These plans should be designed so as to prevent storm water flows across the beach area.
4. A description of the proposed project
5. Alternatives to the proposed development.
6. The loss of vegetation and hence the loss habitat for the fauna in the area.
7. Disposal of the solid waste to be generated during the construction phase of the development.
8. The cumulative effect of this development on the environment when taken in context of the existing and approved developments in the area.
9. The room density and setback limits of the Local Area Planning Authority should also be clearly presented in the designs proposed and evaluated by the document.

Managing and protecting Jamaica's land, wood and water
A Government of Jamaica Agency

Mr. Carlton Campbell
Re RIU Jamaicotel Limited
Page 2
July 12, 2001

Enclosed is a copy of the Authority's Guidelines for Conducting Environmental Impact Assessment for your use. The specific Terms of Reference must be submitted to this agency for approval prior to commencement of the EIA.

It will be necessary to obtain and forward to this agency letters of approval from the relevant authorities relating to solid waste collection and disposal, storm water drainage and the collection and treatment and disposal of sewage.

If you have any question or require clarifications, please do not hesitate to contact the undersigned.

Yours sincerely

Krishna Desai
for Chief Executive Officer.

Copied to Miss Issia Madden

CL ENVIRONMENTAL
Taking Care of You and Your Environment.

Apartment 7. 117 Constant Spring Road. Kingston 10
Telephone: (876) 925-8329. Fax: (876) 925-8329
E-mail: clcamp@cwjamaica.com or
clenvironment@hotmail.com

July 13, 2001

The Manager
Permit and Licence Secretariat
National Environment & Planning Agency
10 Caledonia Avenue
Kingston 5

Re: Proposed Terms of Reference for RIU Jamaicotel Ltd.

Dear Sir/Madame,

Please find listed below the proposed **Terms of Reference** for the conducted of an environmental impact assessment of the above mentioned project.

The proposed terms of reference developed for this project are:

1. **Project Implementation**: Collaborating with project's design, landscaping, construction and management teams, to ensure that the design criteria are implemented in the most environmentally sound manner possible.

A detailed description of all the elements of the project during the pre-construction, construction and occupational phases will be prepared. The elements to be analysed will include the infrastructural arrangements of the project, including the proposed sewage disposal systems, drainage features, roads, solid waste collection, disposal and management, and utility requirements.

During this task, all features of the project, which could impact on the environment, will be identified. Recommendations will be made as necessary for mitigative measures to be implemented. Special attention will be given to the sensitive elements of the project.

Deliverable: Analysis and assessment of designs to ensure environmental soundness, sustainability and regulatory compliance.

2. **Site Surveying**: A survey of the proposed development site will be conducted. The survey will include a photo-inventory of the physical and biological features of the site and its environs. The areas will be viewed with respect to their suitability for the proposed facility.

Deliverable: Comprehensive site survey and resource assessment with accompanying recommendations.

3. **Field Assessments**: These will be conducted on the physical, biological and socio-economic aspects of the site and associated environs to determine the potential impacts, if any, of the proposed project. The study will include, but necessarily be limited to:

A). **Physical**: Climate, Geology, Topography, Hydrology, Hazard Vulnerability, Site Drainage, and Water Quality Analysis.

B). **Biological:** Terrestrial and Marine: - species composition of the floral and faunal communities, presence of rare, endangered and/or endemic species, community structure and health.

C). **Socio-economic:** Demography, Regional setting, Location Assessment, Land use, Social Services, Attitudes and Perceptions of surrounding communities (residential and commercial)

Deliverable: Detailed assessments of the physical, biological and socio-economic conditions associated with the site.

4. **Analysis of Alternatives**: This will include the no action alternative, the identification of (possible) alternative site locations, and alternatives to the project design. These alternatives to the developments as proposed will be discussed in light of their merits and drawbacks, and assessed against the physical, ecological and socio-economic parameters of the site. The rationale for the identified alternatives will be examined and the preferred alternative substantiated. Where necessary, appropriate recommendations will be made for enhancing the features of the project.

Deliverable: All alternatives to the development will be evaluated and the best possible development option will be presented.

5. **Legislation and Regulatory Considerations**: All Government policies, legislation and regulations relevant to the project will be identified and highlighted. Local plans and policies e.g. Parish Council will also be taken into consideration. Project characteristics will also be analysed to ensure compliance with these policies, legislation and regulations. Appropriate recommendations will be provided to ensure that the conditions of compliance are met.

Deliverable: The legislation relevant to the development will be summarized and presented in the Draft and Final Reports.

6. **Identification of Environmental Impacts**: A detailed analysis of the elements of the proposed project and their interaction with environmental parameters and setting will be conducted to identify the potential impacts of the project. These will be ranked as major, moderate and minor and represented in an impact matrix for all elements and phases (pre-construction, construction, and occupation) of the project and each parameter of the environment.

Dale Webber, Ph.D. (Chairman), Carlton Campbell, M.Phil.; CIE (Managing Director), Sandra Isaacs, B.Sc. (Director/Secretary), Daisy Campbell (Director)

Deliverable: All potential environmental impacts (both positive and negative) likely to result from the development will be identified and ranked in an environmental impact matrix.

7. **Mitigation of Environmental Impacts**: For each potential negative impact identified, recommendations will be made for their avoidance, minimization or mitigation. In the case of beneficial

impacts, recommendations will be made on how these may be further enhanced.

Deliverable: Recommendations for the avoidance, minimization and mitigation of the identified environmental impacts will be developed.

8. **Environmental Monitoring**: An environmental monitoring and management plan will be developed for the sensitive elements of the environment that may require monitoring during the construction and operation of the facility. Recommendations will be made on the institutional arrangements that will be necessary to ensure effective monitoring and management.

Deliverable: A detailed management and monitoring programme will be developed to reduce the effects of the negative environmental impacts identified.

9. **Client Representation**: The Consultants will maintain regular contact with both the Client and the National Environmental Planning Agency (NEPA) to ensure that all problems are rectified as quickly as possible in an environmentally sound manner. Additionally, the Consultants undertake to represent the Client at meetings with NEPA and other relevant Government bodies as necessary.

Deliverable: The Consultant will represent the Client at the NEPA and all relevant Government bodies to ensure that regulatory compliance is maintained.

10. **Public Participation**: On completion of the EIA, the NEPA may require public meeting(s) to present the findings of the EIA for public review and comment. The Consultants undertake to represent the Client on these occasions.

Deliverable: The Consultant will present the findings of the EIA at a public meeting if required by the NEPA.

Sincerely,

……..
CARLTON CAMPBELL

C. Ms. Rochelle Brown

Dale Webber, Ph.D. (Chairman), Carlton Campbell, M.Phil; CIE (Managing Director), Sandra Isaacs, B.Sc. (Director/Secretary), Daisy Campbell (Director)

NEPA
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Tel: (876) 754-7543, 754-7544, 754-7547, 754-7548, 754-7549, 754-7550 Fax: (876) 754-7595, 754-7596
E-mail: ceo@nepa.gov.jm toll free help-line: 1-888-991- 5005 Web Site: http://www.nepa.gov.jm

Ref. No.: L10/401

NRCA
Natural Resources Conservation Authority

August 21, 2001

Carlton Campbell
CL Environmental
Apt. 7
117 Constant Spring Road
Kingston 10.

TPD
Town Planning Department

Dear Sir:

Re: Terms of Reference for Hotel Resort Complex at Bloody Bay, Negril - Westmoreland by RIU Jamaicotel Limited

LDUC
Land Development & Utilization Commission

The Terms of Reference (TOR) submitted to this Agency as part of the Environmental Impact Assessment (EIA) process is deemed to be adequate after being reviewed both internally and externally by the Negril Coral Reef Preservation Society and the Negril Green Island Area Local Planning Authority to ensure that all relevant factors were considered.

The following represents a synthesis of all the comments received:

1. The final EIA document must identify the parties to be responsible for the implementation of the mitigation plan, environmental monitoring and management plan aspects of the project.

2. The awareness of the project proponent with regards to the planning regulations of the area inclusive of setbacks and room densities must be clearly demonstrated in plans presented.

3. The vegetation identification and assessment must be exhaustive and special attention must be given to the identification of any endemic or rare plants on the site.

4. If *Phyllanthus acuminatus* is found on the site it must be clearly marked and protected at all costs. *Broughtonia negrilensis* must be collected and reintroduced to the site if it is found on any trees that are to be removed. The EIA document must indicate where this is to be done.

5. Tree preservation plans should be clearly indicated and be agreed upon by the proponents.

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A Government of Jamaica Agency

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6. Links between flora and fauna should be identified e.g., feeder trees, habitat for tree frogs, etc.

7. The EIA should address the issue of the potential conflict between the proposed development and the recently demarcated marine area that has been zoned as a fish sanctuary

8. The socio-economic section mentioned in the TOR must include surveys to gauge public perception/support for the project.

Yours sincerely

Krishna Desai
for Chief Executive Officer.

Copied to Miss Issia Madden -RIU Jamaicotel Limited

APPENDIX 4: TEAM OF PROFESSIONALS

The multidisciplinary team that was assembled to conduct the environmental impact assessment comprised of the following individuals.

Dale Webber, Ph.D.	Terrestrial Ecologist - Project Coordinator
Carlton Campbell, M.Phil., CIE	Environmental Scientist - Team Leader
Earl Wright, M.Sc.	Hydrogelogist
Christopher Burgess, M.Sc., P.E.	Coastal Engineer
Shakira Azan, B.Sc. (M.Phil. pending)	Botanist and Wetland Specialist
David Narinesingh, M.Sc.	Marine Biologist

APPENDIX 5: NRCA'S – "GUIDELINES FOR PUBLIC PARTICIPATION"

SECTION 1: GENERAL GUIDELINES

1.1 Introduction

There are usually two forms of public involvement in the environmental impact assessment (EIA) process. The first is direct involvement of the affected public or community in public consultations during EIA study. These consultations allow the developer to provide information to the public about the project and to determine what issues the public wishes to see addressed. The extent and results of these consultations are included in the documented EIA report.

The second level of involvement takes place after the EIA report and addendum, if any, have been prepared after the applicant has provided the information needed for adequate review by NRCA and the public.

Public involvement in the review process is in keeping with Principle 7 of the United Nations Environment Programme (UNEP) decision published as Goals and Principles of Environmental Impact Assessment [Decision 14/25 of the Governing Council of UNEP, of 17, June, 1987]

1.2 Purpose

These guidelines are prepared for the use of the developer/project proponent, the consultants who did the EIA study and prepared the EIA report and the public.

SECTION 2: SPECIFIC GUIDELINES FOR PUBLIC PRESENTATIONS/MEETING

2.1 Requirements

When a decision is taken by the Authority that a pubic presentation is required, the developer and consultant will be notified by the NRCA. [See Appendix 1] On receipt of the notification arrangements must be made for the public presentation in consultation with the NRCA in respect of date, time, venue and participants.

2.2 Public Notification

The developer/consultants must in addition to specific invitation letters, put a notice in the press advertising the event. Specific notice to relevant local NGOs should be made by the developer/consultants. The notice should indicate where the EIA report is available. A typical

notice is in Appendix 2.

2. 3 **Responsibility of Developer/Consultant Team**

The consultant is responsible for distribution of copes of the EIA report to make them available to the public in good time for the meeting. A summary of the project components and the findings of the EIA in non-technical language should be prepared for distribution also in good time for the meeting. Three (3) to four (4) weeks in advance of the meeting is recommended. Copies should be placed in the Local Parish Library and the Parish Council office as well as at the nearest NRCA Regional Coordinator's office and other community location.

The consultant is also responsible for making the arrangements to document the proceedings of the meeting. A permanent record of the meeting is required and one can consider tape recording from which a written record can be made.

2.4 **Conduct of the Meeting**

With respect to the conduct of the meeting, the NRCA will advice on the selection of a Chairman and will make arrangements to document the concerns of the audience for its own records. The Chairman should be "neutral", that is, not have a direct interest in the project. NRCA staff may on occasion be responsible to chair the meeting. The role and responsibilities of the chairmen are in

Appendix 4.

The technical presentation by the proponent and the consulting team should be simple, concise and comprehensive. The main findings of the EIA with respect to impacts identified and analysed should be presented both adverse and beneficial.

The mitigation measures and costs associated with these measures should be presented. The presentation should inform the public on how they will get access to monitoring results during construction and operational phases of the project, bearing in mind that the public and NGO groups are expected to be involved in post-approval monitoring. Graphic and pictorial documentation should support the technical presentation.

Presenters are advised to keep the technical presentation simple and within a time limit of 20-30 minutes depending on the complexity of the project and to allow up to 30-60 minutes for questions.

Please note that the public will be given a period of thirty (30) days after the meeting to send in written comments.

A typical agenda for a meeting is given in Appendix 3

APPENDIX 1

Date

Name of Organization Submitting EIA
Address of the Organization
Attention: Responsible Party
Dear
Subject: Notification of Requirement of Public Presentation/Meeting

The Natural Resources Conservation Authority (NRCA) has determined that a public meeting is required to adequately assess the potential environmental impacts associated with the following proposed activity:

_____
_____
_____

NRCA guidelines for conducting public meetings are attached. As noted in the guidelines, a Notification of Public Meeting must be issued by you once the date, time, venue and programme has been established in consultation with the NRCA. Please note that further processing of your application will halt until the public meeting be carried out by the developer and consulting team and that the public will be allowed a period of thirty (30) days after the meeting to send in written comments.

Questions regarding the public presentation process should be directed to:
_____
_____

Signature_____
Name _____
Title_____
Date_____

cc: other government agencies

APPENDIX 2

NOTIFICATION OF

P U B L I C M E E T I N G

THERE WILL BE A PUBLIC PRESENTATION ON THE ENVIRONMENT IMPACT ASSESSMENT REPORT

OF:

VENUE:

DATE:

TIME:

THE PUBLIC IS INVITED TO PARTICIPATE IN THE PRESENTATION BY WAY OF ASKING QUESTIONS RELATING TO THE PROPOSED PROJECT.

A COPY OF THE ENVIRONMENTAL IMPACT ASSESSMENT REORT MAY BE CONSULTED AT THE

_____ PARISH LIBRARY
_____ PRAISH COUNCIL OFFICE
_____

For further information contact:

APPENDIX 3

A G E N D A

1. WELCOME AND INTRODUCTION

2. PRESENTATION OF EIA FINDINGS AND MEASURES TO MINIMIZE IMPACTS

3. QUESTION AND ANSWER SESSION

4. CLOSING REMARKS

APPENDIX 4

ROLE AND RESPONSIBLITIES OF THE CHAIRMAN

The Chairman has the main role of guiding the conduct of the meeting and seeing to it that the concerns of the public are adequately aired and addressed by the consultants/ proponent.

The responsibilities of the Chairman include explaining the NRCA approval process, that is, the steps involved and the role of the NRCA at these public presentations. In other words, the Chairman should explain the context within which the meeting is taking place.

The Chairman should ensure that adequate time is allowed for questions and answers, and must understand clearly and communicate the purpose of the meeting to the audience. The Chairman is responsible for introducing the presenters.

The Chairman should contribute but not monopolize the meeting.

APPENDIX 6: VEGETATION OBSERVED ON THE PROPOSED SITE FOR HOTEL CONSTRUCTION

Species	Common Name	Status
Allamanda cathartica	Yellow Allamanda	
Artocarpus altilis	Breadfruit	
Bidens pilosa var.*radiata*		
Bidens sp.		
Borreria laevis		
Borreria verticillata	Wild Scabious	
Bucida buceras	Black Olive	
Caesalpinia bonduc	Nicker (bean), Gray Nickal	
Calophyllum calaba	Santa Maria	
Cecropia peltata	Trumpet tree, Snake Wood	
Centrosema virginianum		
Coccoloba uvifera	Seaside Grape	
Colubrina asiatica	Hoop With	
Conocarpus erectus	Button Mangrove	
Dalbergia ecastaphyllum		
Dendropanax arboreus	Angelica Tree, Galipee	
Echites umbellate	Deadly Nightshade	
Emilia sp.		
Eupatorium villosa	Bitter Bush	
Ficus maxima		
Guazuma ulmifolia	Bastard Cedar	
Haematoxylum campechianum	Logwood	
Hohenbergia negrilensis		**Endemic**
Hymenocallis littoralis	Spider Lily	
Ipomoea pes-caprae	Beach Morning Glory	
Ipomoea sp.		
Lippia sp.		
Mikania micrantha	Guaco	
Mimosa pudica	Shame-o-lady	
Moghania strobilifera	Wild Hops	
Morinda citrifolia	Hog Apple, Duppy Soursop (Noni)	
Nectandra antilliana	Yellow Sweetwood, Long-leaved Sweetwood	
Nectandra coriacea	Timber Sweetwood, Small-leaved Sweetwood	
Nectandra sp.		

APPENDIX 6 (CONT'D):

Species	Common Name	Status
Nephrolepsis sp.		
Philodendron sp.		
Phyllanthus acuminatus		
Piper amalago	Jointer'	
Piscidia piscipula	Dogwood	
Pisonia aculeate	Cockspur	
Polygonum punctatum		
Polypodium sp.		
Psychotria sp.		
Renta		
Rhizophora mangle	Red mangrove	
Rhynchospora nervosa	Stargrass	
Roystonea princeps	Swamp Cabbage	**Endemic**
Selenicereus grandiflorus	Queen-of-the-night	
Sida acuta	Broomweed	
Simarouba glauca	Bitter Damson	
Smilax balbisiana	Briar With, Chainy Root	
Solanum bahamense		
Sporobolus		
Stachytarpheta jamaicensis	Vervine	
Syngonium auritum	Five finger	
Tabebuia angustata		
Terminalia catappa	West Indian Almond	
Thespesia populnea	Seaside Mahoe	
Thrinax sp.		**Endemic**
Tropida polystachya		**Rare**
Turnera ulmifolia	Ram-Goat Dashalong	
Vernonia cinerea		
Vigna sp.		
Wedelia trilobata	Marigold, Creeping Ox-eye	
Unknown Species		
Species 1 (Lauraceae)		
Species 2 (Lauraceae)		
Species 3 (Lauraceae)		
Species 4 (Convolvulaceae)		

APPENDIX 7: VEGETATION OBSERVED ON THE PROPOSED SITE FOR PARKING

Species	Common Name	Status
Bursera simaruba	Red Birch	
Cecropia peltata	Trumpet tree, Snake Wood	
Crescentia cujete	Calabash Tree	
Ficus sp.		
Haematoxylum campechianum	Logwood	
Hohenbergia negrilensis		**Endemic**
Ipomoea horsfalliae		
Metopium brownii	Burnwood	
Nectandra antiliana	Yellow Sweetwood, Long-leaved Sweetwood	
Philodendron sp.		
Roystonea princeps	Swamp Cabbage	**Endemic**
Syngonium auritum	Five finger	
Tillandsia balbisiana		
Tillandsia elongata		
Tillandsia flexuosa		
Tillandsia recurvata		
Unknown Species		
Species 1 (Lauraceae)		
Species 2 (Lauraceae)		
Species3 (?Moraceae/Sapotaceae)		

Notes[1]

[1] The species of the Family Lauraceae is not ecologically important but is economically important for few species, none of which were found at either site. There are only two endemic species within the family, belonging to the genus *Ocotea*, namely *O. staminea* (Spicewood) and *O. robertsoniae*. However, none of these were found at either sites.

APPENDIX 8: DHV DIVE TRANSECTS

Table 1 Presence/absence summary of the fish population for offshore reefs of Bloody Bay (DHV International Limited, 1999)

Scientific Name	Common Name	Dive 1 30m	Dive 2 10m	Dive 3 20m
Clepticus parrai	Creole wrasse	*		*
Chromis multilineatus	Brown chromis		*	
Chromis cyaneus	Blue chromis	*	*	*
Lutjanus apodus	Schoolmaster snapper		*	
Ocyurus chrysurus	Yellowtail snapper		*	
Epinephelus fulvus	Coney		*	
Epinephelus cruentatus	Graysby	*	*	*
Gramma loreto	Fairy basslet	*		*
Bothus lunatus	Peacock flounder			*
Bodianus rufus	Spanish hogfish			*
Myripristis jacobus	Blackbar Soldierfish	*	*	*
Holocanthus tricolor	Rock beauty		*	
Acanthurus bahianus	Ocean surgeon	*	*	*
Caranx ruber	Bar jack	*	*	*
Thalassoma bifasciatum	Bluehead wrasse	*	*	*
Pomacentrus fuscus	Dusky damselfish	*	*	*
Microspathodon chrysurus	Yellowtail damselfish		*	
Pomacentrus partitus	Bicolor damselfish		*	*
Pomacentrus planifrons	Threespot damselfish	*	*	
Serranus tabacarius	Tobacco fish	*	*	
Serranus tigrinus	Harlequin bass		*	
Haemulon flavolineatum	French grunt		*	
Sparisoma aurofrenatum	Redband parrotfish	*	*	*
Scarus coeruleus	Blue parrotfish		*	
Scarus taeniopterus	Princess parrotfish	*	*	*
Scarus croicensis	Striped parrotfish	*	*	*
Hypoplectrus sp.	Golden hamlet	*		

Scientific Name	Common Name	Dive 1 30m	Dive 2 10m	Dive 3 20m
Hypoplectrus puella	Indigo hamlet		*	
Chaetodon ocellatus	Spotfin butterflyfish		*	
Chaetodon capistratus	Foureye butterflyfish	*	*	
Melichthys niger	Black durgon	*		*
Pseudupeneus maculatus	Spotted goatfish	*		
Mulloidichthys martinicus	Yellow goatfish	*		*
Holocentrus rufus	Longspine squirrelfish			*
Holocentrus marianus	Longjaw squirrelfish			*
Abudefduf saxatilis	Sergeant major			*
Hemiramphus brasiliensis	Ballyhoo		*	*
Total Species = 37				

Table 2 Presence/absence summary of stony corals for offshore reefs of Bloody Bay (DHV International Limited, 1999)

Scientific Name	Common Name	Dive 1 30m	Dive 2 10m	Dive 3 20m
Scleractinian corals	Stony corals	*	*	*
Montastrea annularis	Boulder star coral	*	*	*
Montastrea cavernosa	Great star coral	*	*	*
Madracis mirabilis	Yellow pencil coral	*		*
Madracis decactis	Green cactus coral		*	*
Acropora cervicornis	Staghorn coral			*
Agaricia lamarcki	Sheet coral	*		*
Agaricia agaricites	Lettuce coral	*	*	*
Porites porites	Club finger coral		*	*
Porites astreoides	Mustard hill coral		*	*
Colpophyllia natans	Giant brain coral		*	*
Meandrina meandrites	Butterprint brain coral			*
Diploria strigosa	Smooth brain coral		*	*
Diploria labyrintheformes	Grooved brain coral		*	
Diploria clivosa	Knobby brain coral		*	*
Mycetophyllia aliciae	Thin fungus coral	*		*
Siderastrea siderea	Massive starlet coral		*	
Eusmilia fastigiata	Flower coral	*		
Dichocoenia stokesii	Elliptical star coral		*	
Dendrogyra cylindrus	Pillar coral		*	
Isophyllia sinuosa	Sinuous cactus coral		*	
Millepora alcicornis	Encrusting stinging coral		*	
Millepora complanata	Leafy stinging coral		*	

Table 3 Presence/absence summary of selected flora and fauna for offshore reefs of Bloody Bay (DHV International Limited, 1999)

Scientific Name	Common Name	Dive 1 30m	Dive 2 10m	Dive 3 20m
Marine algae				
Lobophora variegata	Encrusting fan leaf alga	*		*
Halimeda spp.		*		*
Dictyota spp.		*	*	*
Codium isthmocladum	Dead man's fingers		*	*
Ventricaria ventricosa	Sea pearl		*	
Udotea cyathiformis			*	
Sponges				
Iotrochota birotulata	Green finger sponge	*	*	*
Cinachyra sp.	Orange ball sponge		*	*
Niphates digitalis	Pink vase sponge			*
Ircinia strobilina	Black ball sponge	*	*	*
Xetospongia muta	Giant barrel sponge			*
Mycale laevis	Orange icing sponge	*		*
Callyspongia plicifera	Azure vase sponge			*
Aplysina cauliformis	Purple rope sponge			*
Strongylacidon sp.	Cructose white sponge	*		*
Agelas conifera	Brown tube sponge			*
Pseudoceratina crassa	Branching tube sponge	*		
Chondrilla nucula	Chicken liver sponge		*	
Anthosigmella varians	Brown variable sponge		*	
Urchins				
Diadema antillarum	Long-spined black urchin		*	
Tripneustes ventricosus	Sea egg		*	
Anemones				
Palythoa caribaeorum	Encrusting colonial anemone		*	
Echinoids				

Scientific Name	Common Name	Dive 1 30m	Dive 2 10m	Dive 3 20m
Nemeaster spp.	Sea lilies	*	*	*
Marine turtles				
Eretmochelys imbricata	Hawksbill turtle	*	*	
Conchs				
Strombus gigas	Queen conch	*		
Sea cucumbers		*	*	*
Lobsters				
Panulirus argus	Spiny lobster			*

APPENDIX 9: LIST OF OBSERVED CORALS, FISH AND INVERTEBRATES

Table 1 List of the stony and soft coral species observed within the seagrass/coral bed community of the fish sanctuary, immediately offshore of the proposed RIU hotel site.

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	DAFOR
Faviidae	*Cladocora arbuscula*	Tube Coral	**Size:** Colony usually 1 - 6 in. **Depth:** Usually 3 - 65 ft. Inhabit shallow areas of high sedimentation, such as Turtle Grass Beds. Rarely on clear water reefs. Common to occasional in the Caribbean.	R
Faviidae	*Manicina areolata*	Rose Coral	**Size:** Colony usually 2 in. - 6 in. **Depth:** Usually 2 - 200 ft. Inhabit areas of coral rubble, sand and turtle grass beds. Common to uncommon in the Caribbean.	R
Siderastreidae	*Siderastrea radians*	Lesser Starlet Coral	**Size:** Colony usually 4 in. - 12 in. **Depth:** Usually 0 - 90 ft (rarely below 30 ft) Inhabit flat rocky/sandy substrates, most common from low tide line to 20 ft. Can tolerate surge sandy & silty conditions. Common in the Caribbean.	O
Siderastreidae	*Siderastrea siderea*	Massive Starlet Coral	**Size:** Colony usually 1 ft. - 6 ft. **Depth:** Usually 2 - 220 ft Tend to inhabit shallow to moderate reefs between 25-45 ft. Prefer clear water. Usually deeper than similar Lesser Starlet Coral. Common in the Caribbean	O
Fire Corals - Hydrocorals Milleporina	*Millepora complanata*	Blade Fire Coral	**Size:** Colony usually 1 in. - 18 in. **Depth:** Usually 0 - 45 ft. Inhabit shallow water reef tops. Usually in areas with some water movement; most common in areas with constant surge. Abundant to common in the Caribbean.	O

KEY:

D	-	Dominant	-	Numbers dominate the site
A	-	Abundant	-	Many individuals observed
F	-	Frequent	-	Individuals observed frequently
O	-	Occasional	-	Individuals observed a few times
R	-	Rare	-	Individuals observed once or twice

Table 2 List of the fish species observed within the seagrass/coral bed community of the fish sanctuary, immediately offshore of the proposed RIU hotel site.

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUND-ANCE
Acanthuridae	Acanthurus coeruleus	Blue Tang	**Size:** 6 - 15 in ., max. 18 in. **Depth:** Usually 10 - 60 ft Can be solitary, but more often in large aggregations foraging about shallow reef tops, grazing on algae. Schools can include Surgeonfish and Doctorfish. Abundant to common in the Caribbean.	S
Holocentridae	*Holocentrus rufus*	Longspine Squirrelfish	**Size:** 5 - 10 in ., max. 12½ in. **Depth:** Usually 4 - 100 ft During the day, drift inconspicuously in shaded areas near bottom. Common in the Caribbean.	F
Holocentridae	*Myripristis jacobus*	Blackbar Soldierfish	**Size:** 3½ - 5½ in ., max. 8½ in. **Depth:** Usually 15 - 60 ft Hide in dark recesses. Common to occasional in the Caribbean.	M
Labridae	*Thalassoma bifasciatum*	Bluehead Wrasse	**Size:** 4 - 5 in ., max. 6 in. **Depth:** Usually 6 - 80 ft Usually inhabits most reefs environments. May act as cleaners, removing parasites and debris from larger fish. Often swims in schools. Very common in the Caribbean.	S
Lutjanidae	*Ocyurus chrysurus*	Yellowtail Snapper	**Size:** 1 - 2 ft ., max. 2½ ft. **Depth:** Usually 10 - 60 ft Swim alone or in loose schools or aggregations, well above reefs. Abundant in the Caribbean.	S
Mullidae	*Pseudupeneus maculatus*	Spotted Goatfish	**Size:** 5 - 8 in ., max. 11 in. **Depth:** Usually 5 - 60 ft Use barbs to dig in sand and around areas of rubble for food. Often congregate in small groups of four to six. When not searching for food, often rest on bottom and match colour to blend with background. Common in the Caribbean.	F
Pomacentridae	*Abudefduf saxatilis*	Sergeant Major	**Size:** 4 - 6 in ., max. 7 in. **Depth:** 1 - 40 ft Swim in all habitats; most often in midwater. Usually in loose aggregations. Abundant in the Caribbean.	F
Pomacentridae	*Stegastes planifrons*	Threespot Damselfish	**Size:** 3 - 4 in ., max. 5 in. **Depth:** 0 - 130 ft Inhabit reef tops in areas of algae growth. Territorial; pugnaciously guard relatively large areas, and rapidly dart about, nipping and chasing away intruders. Abundant to common in the Caribbean.	F

Table 3 List of the invertebrate species observed within the seagrass/coral bed community of the fish sanctuary, immediately offshore of the proposed RIU hotel site.

SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUN-DANCE
Anemones			
Condylactis gigantea	Giant Anemone	**Size:** 6 -12 in. across tentacles & body **Depth:** 15 - 100 ft Inhabit reef and lagoonal areas. Common in the Caribbean.	F
Cnidarians - Scyphozoa *Aurelia aurita*	Moon Jelly	**Size:** 6 - 8 in., 16 in. max. **Depth:** 0 - 20 ft Inhabit surface waters, often over reefs. Mildly toxic; can sting bare sensitive skin and cause slight itchy rash. Common in the Caribbean.	S
Cassiopea frondosa	Upsidedown Jelly	**Size:** 4 - 5 in., 10½ in. max. **Depth:** 1 - 25 ft Inhabit shallow sand flats in back reef areas and lagoons. Mildly toxic; contact with bare skin can produce sting. May cause redness and welt. Common in the Caribbean.	S
Echinoderms - Asteroidea *Oreaster reticulatus*	Cushion Sea Star	**Size:** 8 - 14 in . **Depth:** 5 - 35 ft Inhabit shallow seagrass beds and sand flats. Common to occasional in the Caribbean.	F
Echinoderms - Echinoidea *Diadema antillarum*	Long-spined Urchin	**Size:** (Body) 2 - 3 in ., (Spines) 4 - 8 in. **Depth:** 0 - 130 ft Found in all habitats. Hide during day in sheltered locations. Feed in the open on algae at night. Abundant to common in the Caribbean.	F
Echinometra lucunter	Rock-boring Urchin	**Size:** (Body) 1¼ - 3 in ., (Spines) ¾ - 1¼ in. **Depth:** 0 - 15 ft Most common in shallow rocky and tidal areas. Bore holes in substrate, which they occupy during day. Feed on algae in the open (near their holes) at night. Common to uncommon in the Caribbean.	F
Tripneustes ventricosus	West Indian Sea Egg	**Size:** (Body) 4 - 5 in ., (Spines) ¼ - ¾ in. **Depth:** 0 - 30 ft Inhabits sea grass beds, occasionally on shallow reef. Abundant to uncommon in the Caribbean.	F
Echinoderms- Holothuroidea *Holothuria mexicana*	Donkey Dung Sea Cucumber	**Size:** 10 - 14 in . **Depth:** Usually 10 - 60 ft Inhabit seagrass beds and sandy areas around reefs. Common in the Caribbean.	F
Fire worms - Amphinomidae *Hermodice carunculata*	Bearded Fireworm (Greenish variety)	**Size:** 4 - 6 in; max. 12 in. **Depth:** 1 - 130 ft Inhabit reefs, areas of reef and seagrass beds. Often hide under rocks, slabs of coral and in recesses. Occasionally forage in open. When disturbed display bristles which can easily penetrate and break off in skin causing a painful burning sensation and irritating wound. Common in the Caribbean.	S

ABUNDANCE CODE:

S - Single - One (1) sighting

F	-	Few	-	Two (2) to ten (10) sightings
M	-	Many	-	Eleven (11) to one hundred (100) sightings
A	-	Abundant	-	Over one hundred (100) sightings

APPENDIX 10: LIST OF CORALS, FISH AND INVERTEBRATES OBSERVED ON THE FORE REEF AND THE BACK REEF LAGOON

Table 1 List of the stony and soft coral species observed on the Little Bloody Bay fringing reef.

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	DAFOR
Stony Coral				
Agariciidae	*Agaricia agaricites*	Lettuce Coral	**Size:** Colony usually 4 in. - 3 ft. **Depth:** Usually 3 - 240 ft Inhabit most marine environments from mangroves and back ref areas to outer reefs and walls. Abundant to common in the Caribbean.	R
Faviidae	*Diplora strigosa*	Symmetrical Brain Coral	**Size:** Colony usually 6 in. - 6ft. **Depth:** Usually 3 - 130 ft. Inhabit many marine environments, most common between 20 - 40 ft. Abundant to common in the Caribbean.	O, F
Faviidae	*Montastraea annularis*	Boulder Star Coral	**Size:** Colony usually 1 - 10 ft. **Depth:** Usually 3 - 160 ft. Inhabit most reef environments. Common to abundant in the Caribbean.	R
Mussidae	*Mycetophyllia lamarckiana*	Ridged Cactus Coral	**Size:** Colony usually 6 in. - 12 in. **Depth:** Usually 10 - 190 ft Tend to inhabit shaded areas of moderate and deeper reefs, often on ledges and along walls. Most common between 40-100 feet. Occasional in the Caribbean.	R
Poritidae	*Porites astreoides*	Mustard Hill Coral	**Size:** Colony usually 6 in. - 2 ft. **Depth:** Usually 3 - 160 ft Inhabit all reef environments. Most common between 15-80 feet. Abundant to common in the Caribbean.	O, R
Poritidae	*Porites branneri*	Blue Crust Coral	**Size:** Colony usually 2 - 6 in. **Depth:** Usually 10 - 35 ft Inhabit shallow, dead areas of older reefs. Often in back reef areas of sand, coral rubble and coral heads. Occasional to uncommon in the Caribbean.	R
Siderastreidae	*Siderastrea radians*	Lesser Starlet Coral	**Size:** Colony usually 4 in. - 12 in. **Depth:** Usually 0 - 90 ft (rarely below 30 ft) Inhabit flat rocky/sandy substrates, most common from low tide line to 20 ft. Can tolerate surge sandy & silty conditions. Common in the Caribbean.	O
Siderastreidae	*Siderastrea siderea*	Massive Starlet Coral	**Size:** Colony usually 1 ft. - 6 ft. **Depth:** Usually 2 - 220 ft Tend to inhabit shallow to moderate reefs between 25-45 ft. Prefer clear water. Usually deeper than similar Lesser Starlet Coral. Common in the Caribbean.	D
Fire Corals - Hydrocorals				

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	DAFOR
Milleporina	*Millepora alcicornis*	Branching Fire Coral	**Size:** Colony usually 1 in. - 18 in. **Depth:** Usually 3 - 130 ft Inhabit all marine environments. Abundant to common in the Caribbean.	O
Milleporina	*Millepora complanata*	Blade Fire Coral	**Size:** Colony usually 1 in. - 18 in. **Depth:** Usually 0 - 45 ft Inhabit shallow water reef tops. Usually in areas with some water movement; most common in areas with constant surge. Abundant to common in the Caribbean.	F
<u>Gorgonians - Octocorals</u>				
Briareidae	*Briareum asbestinum*	Corky Sea Finger	**Size:** Colony height ½ - 24 in. **Depth:** Usually 3 - 100 ft Inhabit most reef environments, especially shallow fringing, patch and back reef areas. Abundant to common in the Caribbean.	O
Gorgoniidae	*Gorgonia ventalina*	Common Sea Fan	**Size:** Colony height 2 - 6 ft. **Depth:** Usually 3 - 100 ft Prefer clear water with some movement. Inhabit the seaward side of shallow reefs, slopes and patch reefs. Only occasionally on reefs and along the lips of drop-offs deeper than 50 ft. Common in the Caribbean.	O
Gorgoniidae	*Pseudopterogorgia sp.*	Sea Plumes	**Size:** Colony height 1 - 7 ft. **Depth:** Usually 3 - 180 ft Inhabit most reef environments, from shallow, seaward sandy areas to patch reefs to deep clear water reefs along drop-offs. Common in the Caribbean.	F
Plexauridae	*Plexaurella sp.*	Slit-pore Sea Rods	**Size:** Colony height ½ - 3½ ft. **Depth:** Usually 3 - 160 ft Inhabit most clear water reef environments. Common in the Caribbean.	F

KEY:

D - Dominant - Numbers dominate the site
A - Abundant - Many individuals observed
F - Frequent - Individuals observed frequently
O - Occasional - Individuals observed a few times
R - Rare - Individuals observed once or twice

Table 2 List of the fish species observed on the Little Bloody Bay fringing reef.

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUND-ANCE
Acanthuridae	Acanthurus bahianus	Ocean Surgeonfish	**Size:** 6 - 12 in ., max. 15 in. **Depth:** Usually 15 - 80 ft Inhabit reefs. May swim in loose aggregations that can include Blue Tangs and look-alike Doctorfish. Common to occasional in the Caribbean.	F
Acanthuridae	Acanthurus coeruleus	Blue Tang	**Size:** 6 - 15 in ., max. 18 in. **Depth:** Usually 10 - 60 ft Can be solitary, but more often in large aggregations foraging about shallow reef tops, grazing on algae. Schools can include Surgeonfish and Doctorfish. Abundant to common in the Caribbean.	F
Bothidae	*Bothus lunatus*	Peacock Flounder	**Size:** 5 - 10 in ., max. 15 in. **Depth:** Usually 2 - 40 ft Inhabit sand, coral rubble and seagrass areas, often near patch reefs. Rest motionless on the bottom, blending with background. Common in the Caribbean.	S
Chaetodontidae	*Chaetodon capistratus*	Foureye Butterflyfish	**Size:** 3 - 4 in ., max. 6 in. **Depth:** Usually 10 - 60 ft Flit about reef tops; often in pairs. Common to occasional in the Caribbean.	F
Grammatidae	*Gramma loreto*	Fairy Basslet	**Size:** 1½ - 2½ in ., max. 3 in. **Depth:** Usually 10 - 200 ft Flit about, in or near recesses. Abundant in the Caribbean.	F
Holocentridae	*Holocentrus adscensionis*	Squirrelfish	**Size:** 6 - 12 in ., max. 16 in. **Depth:** Usually 4 - 40 ft During the day, drift inconspicuously in shaded areas near bottom. Most abundant on shallow patch reefs and wall tops. Common in the Caribbean.	F
Holocentridae	*Holocentrus rufus*	Longspine Squirrelfish	**Size:** 5 - 10 in ., max. 12½ in. **Depth:** Usually 4 - 100 ft During the day, drift inconspicuously in shaded areas near bottom. Common in the Caribbean.	F
Holocentridae	*Myripristis jacobus*	Blackbar Soldierfish	**Size:** 3½ - 5½ in ., max. 8½ in. **Depth:** Usually 15 - 60 ft Hide in dark recesses. Common to occasional in the Caribbean.	S
Labridae	*Halichoeres garnoti*	Yellowhead Wrasse	**Size:** 5 - 6 in ., max. 8 in. **Depth:** Usually 10 - 50 ft Constantly swim about reefs. Common in the Caribbean.	F
Labridae	*Thalassoma bifasciatum*	Bluehead Wrasse	**Size:** 4 - 5 in ., max. 6 in. **Depth:** Usually 6 - 80 ft Usually inhabits most reefs environments. May act as cleaners, removing parasites and debris from larger fish. Often swims in schools. Very common in the Caribbean.	F

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUND-ANCE
Mullidae	*Pseudupeneus maculatus*	Spotted Goatfish	**Size:** 5 - 8 in ., max. 11 in. **Depth:** Usually 5 - 60 ft Use barbs to dig in sand and around areas of rubble for food. Often congregate in small groups of four to six. When not searching for food, often rest on bottom and match colour to blend with background. Common in the Caribbean.	F
Pomacanthidae	*Holacanthus tricolor*	Rock Beauty (Juvenile)	**Size:** 5 - 8 in ., max. 12 in. **Depth:** 10 - 80 ft Establish and patrol defined territories on reefs. Juveniles are secretive and hide in shells and recesses of reefs. Common to occasional in the Caribbean.	S
Pomacentridae	*Stegastes diencaeus*	Longfin Damselfish	**Size:** 3 - 4 in ., max. 5 in. **Depth:** 15 - 80 ft Inhabit rocky areas. Territorial; pugnaciously chase away intruders. Occasional in the Caribbean.	F
Pomacentridae	*Stegastes fuscus*	Dusky Damselfish	**Size:** 3 - 5 in ., max. 6 in. **Depth:** 5 - 40 ft Inhabit rocky areas. Territorial; pugnaciously chasing away intruders. Occasional in the Caribbean.	F
Pomacentridae	*Stegastes partitus*	Bicolor Damselfish	**Size:** 2 - 3½ in ., max. 4 in. **Depth:** 20 - 80 ft Inhabit reef tops. Aggressively territorial, but tend to guard only a small area and chase off only small fish. Common in the Caribbean.	F
Pomacentridae	*Stegastes planifrons*	Threespot Damselfish	**Size:** 3 - 4 in ., max. 5 in. **Depth:** 0 - 130 ft Inhabit reef tops in areas of algae growth. Territorial; pugnaciously guard relatively large areas, and rapidly dart about, nipping and chasing away intruders. Abundant to common in the Caribbean.	S
Scaridae	*Scarus croicensis*	Striped Parrotfish	**Size:** 8 - 9 in., max. 10 in. **Depth:** Usually 10 - 80 ft Swim about reefs; stop to scrape algae from rocks and corals. Common in the Caribbean.	F
Scaridae	*Scarus taeniopterus*	Princess Parrotfish	**Size:** 8 - 10 in., max. 13 in. **Depth:** Usually 10 - 80 ft Swim about reefs; stop to scrape algae from rocks and corals. Common to occasional in the Caribbean.	F
Scaridae	*Sparisoma chrysopterum*	Redtail Parrotfish	**Size:** 14 - 16 in., max. 18 in. **Depth:** Usually 5 - 40 ft Prefer shallow areas of coral rubble and seagrass, occasionally on reefs. Occasional in the Caribbean.	F
Serranidae	*Hypoplectrus indigo*	Indigo Hamlet	**Size:** 3 - 4½ in., max. 5½ in. **Depth:** Usually 30 - 130 ft Swim about reefs, near bottom. Rare to occasional in the Caribbean.	S

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUND-ANCE
Serranidae	*Hypoplectrus puella*	Barred Hamlet	**Size:** 3½ - 4½ in., max. 6 in. **Depth:** Usually 10 - 50 ft Swim about reefs, near bottom. Common in the Caribbean.	S
Tetraodontidae	*Canthigaster rostrata*	Sharpnose Puffer	**Size:** 2 - 3½ in., max. 4½ in. **Depth:** Usually 5 - 45 ft Swim about reefs and seagrass beds. Stop to nibble on grass tips; also eat wide range of invertebrates. Common to occasional in the Caribbean.	F
Urolophidae	*Urolophus jamaicensis*	Yellow Stingray	**Size:** 8 - 12 in., max. 15 in. **Depth:** Usually 1 - 80 ft Inhabit sandy areas, especially around reefs. Lie on bottom, often covered with sand. Occasional in the Caribbean.	S

ABUNDANCE CODE:

S	-	Single	-	One (1) sighting
F	-	Few	-	Two (2) to ten (10) sightings
M	-	Many	-	Eleven (11) to one hundred (100) sightings
A	-	Abundant	-	Over one hundred (100) sightings

Table 3 List of the invertebrate species on the Little Bloody Bay fringing reef.

SCIENTIFIC NAME	COMMON NAME	HABITAT & BEHAVIOR	ABUND-ANCE
Anemones			
Condylactis gigantea	Giant Anemone	**Size:** 6 -12 in. across tentacles & body **Depth:** 15 - 100 ft Inhabit reef and lagoonal areas. Common in the Caribbean.	F
Cnidarians - Scyphozoa *Aurelia aurita*	Moon Jelly	**Size:** 6 - 8 in., 16 in. max. **Depth:** 0 - 20 ft Inhabit surface waters, often over reefs. Mildly toxic; can sting bare sensitive skin and cause slight itchy rash. Common in the Caribbean.	F
Cnidarians - Zoanthidea *Palythoa caribaeorum*	White Encrusting Zoanthid	**Size:** Disc ¼ - ½ in. **Depth:** 10 - 40 ft Inhabit shallow reefs; prefer areas with some water movement. Occasional in the Caribbean.	F
Ctenophores - Tentaculata *Mnemiopsis mccradyi*	Sea Walnut	**Size:** 2 - 2½ in., 4 in. max. **Depth:** 0 - 15 ft Float near surface. Often appear in large aggregations over reefs, in bays and harbours, especially in summer months. Common in the Caribbean.	F
Echinoderms - Echinoidea *Diadema antillarum*	Long-spined Urchin	**Size:** (Body) 2 - 3 in ., (Spines) 4 - 8 in. **Depth:** 0 - 130 ft Found in all habitats. Hide during day in sheltered locations. Feed in the open on algae at night. Abundant to common in the Caribbean.	F
Tripneustes ventricosus	West Indian Sea Egg	**Size:** (Body) 4 - 5 in ., (Spines) ¼ - ¾ in. **Depth:** 0 - 30 ft Inhabits sea grass beds, occasionally on shallow reef. Abundant to uncommon in the Caribbean.	F
Echinoderms- Holothuroidea *Holothuria mexicana*	Donkey Dung Sea Cucumber	**Size:** 10 - 14 in. **Depth:** Usually 10 - 60 ft Inhabit seagrass beds and sandy areas around reefs. Common in the Caribbean.	F
Porifera- Demospongiae *Aplysina fulva*	Scattered Pore Rope Sponge	**Size:** 4 - 8 ft. **Depth:** Usually 10 - 130 ft Inhabit deep sloping reefs and walls. Common in the Caribbean.	F
Aplysina fistularis	Yellow Tube Sponge	**Size:** 2 - 4 ft. **Depth:** Usually 15 - 100 ft Inhabit coral reefs, especially in open water areas and on walls. Abundant in the Caribbean.	F
Anthosigmella varians	Brown Variable Sponge	**Size:** 6 - 18 in. **Depth:** Usually 10 - 100 ft Bore into solid substrate of deeper reefs by secreting minute amounts of acid. Common to uncommon in the Caribbean.	F
Callyspongia vaginalis	Branching Vase Sponge	**Size:** 6 - 36 in. **Depth:** Usually 6 - 65 ft Inhabit shallow and mid-range coral reefs, walls and rocky areas. Common in the Caribbean.	F
Mycale laevis	Orange Icing Sponge	**Size:** 4 - 18 in. **Depth:** Usually 20 - 100 ft Grow in association with a variety of living hard coral species, protecting the coral from bioerosion by boring sponges. Common in the Caribbean.	F

ABUNDANCE CODE:

S	-	Single	-	One (1) sighting
F	-	Few	-	Two (2) to ten (10) sightings
M	-	Many	-	Eleven (11) to one hundred (100) sightings
A	-	Abundant	-	Over one hundred (100) sightings

APPENDIX 11: SOCIO-ECONOMIC QUESTIONNAIRES

RIU JAMAICOTEL DEVELOPMENT

COMMUNITY QUESTIONNAIRE

DATE:_____ **INTERVIEWER:**_____

LOCATION: _____

DEMOGRAPHICS

1. What is your name _____

2. Sex M F

3. How old are you? _____ yrs

4. Who is the head of your household?

(1) Father (2) Mother (3) Grandparents (4) Uncle (5) Aunt (6) Other _____

5 What is the age of household head? _____
(Does not apply if the interviewee is the head of the household)

6 Including yourself, how many persons live in your household? _____

7 Could you tell how many are males, females and their ages?

Table 1

AGE GROUPS (YRS.)	No. of Persons		
	MALE	FEMALE	TOTAL
Under 2			
2 - 14			
15 - 44			
45 - 64			
65 and over			
TOTAL			

8 How long have you (household) been living here?

0 - 5 yrs. [ ] 6 - 11 yrs. [ ] 12 - 17 yrs. [ ] 18 - 24 yrs. [ ] Over 24 yrs. [ ]

9 Where did you live immediately before moving to this location?

_____ _____
Location Distance (Km)

10 Why did you choose to live here?

_____

EMPLOYMENT & INCOME

1 How many persons in the household are presently employed?

_____

2 Are you currently: (i) employed; - part time, - seasonal, - full time

(ii) unemployed (iii) retired (iv) self employed (v)other _____

3 If employed, what do you do? _____
(i) casual labour (ii) semi - skilled (iii) skilled (iv) artisan (v) professional

4 Where do you work? _____

5 How far is your work from home? _____ Km.

6 What is the main employment status of household head? (If the interviewee is not the head of the household).
(i) employed; - part time, - seasonal, - full time (ii) unemployed (iii) retired
(iv) self employed (v) other _____

7 What is the trade of the household head?

_____

8 What is the trade of the partner?

_____

** Use Table 2 to answer questions 9 - 11.

1. Below $500	6. $3001 - $4000
2. $ 501 - $1000	7. $4001 - $5000
3. $1001 - $1500	8. $5001 - $6000
4. $1501 - $2000	9. $6001 - $7000
5. $2001 - $3000	10.Over $7000

5. What is the average weekly income of the household head?

_____

6. What is the average weekly income of the partner?

_____

7. What is the average weekly income of the household? (All sources)

_____

8. Do you depend on the beach and adjoining land area for business?

_____

EDUCATION

1. If applicable, how many members of your household attend or attended;

Basic [ ] Primary [ ] All Age [ ] New Secondary [ ] Secondary High [ ]
Comprehensive High [ ] Technical High [ ] Vocational Agricultural [ ] Community College [ ]
Teachers College [ ] University [ ] HEART [ ] Other [ ] _____

NAME / TYPE OF SCHOOL	LOCATION OF SCHOOL (Km)	DISTANCE FROM HOME

2 If applicable, how many members of your household attend or attended;

Basic [ ] Primary [ ] All Age [ ] New Secondary [ ] Secondary High [ ] Comprehensive High [ ] Technical High [ ] Vocational Agricultural [ ] Community College [ ] Teachers College [ ] University [ ] HEART [ ] Other [ ]

_____

NAME / TYPE OF SCHOOL	LOCATION OF SCHOOL (Miles)	DISTANCE FROM HOME (Miles)

3 What is the head of household=s highest level of schooling?

Basic [ ] Primary [ ] All Age [ ] New Secondary [ ] Secondary High [ ] Comprehensive High [ ] Technical High [ ] Vocational Agricultural [ ] Community College [ ] University [ ] HEART [ ] Other [ ]

HOUSING & SOCIAL AMENITIES

1 Approximately how old is the house you are living in? _____ yrs.

2 Do you own the house you are living in? (i) Yes (ii) No (iii) Rent (iv) Squat

(v) Other _____

3 (Interviewer) What is the main types of materials from which the house is constructed?

Roofing Material	**Walls**	**Floors**
(i) Zinc	(i) Block & Steel	(i) Tiles
(ii) Concrete	(ii) Wood	(ii) Concrete
(iii) Thatch	(iii) Zinc / Tin	(iii) Wood (Board)
(iv) Aluminum / Tin Sheets	(iv) Aluminum	(iv) Earth
(v) Wood (Shingled)	(v) Wattle & Daub	(v)Other _____
(vi) Other _____	(vi) Other _____	

4 Number of bedrooms? _____

5 Do you have telephone? (i) Yes (ii) No (iii) Cables are being laid

6 What is your household=s main source of lighting?
(i) Electricity (ii) Kerosene lamp (iii) Candle (iv)Other _____

7 What is the household=s main source of fuel for cooking?
(i) Cooking gas (ii) Kerosene (iii) Coal (iv) Wood (v) Other _____

8 What is the main source from which you get your domestic water?
(i) Collected in drums & small tanks from rain (ii) Delivered by trucks
(iii) Piped water into premises (iv) Stand Pipe (iv) Other _____

9 What type of bathroom facility do you have? (i) Pit latrine (ii) Soakaway (iii) Septic Tank (iv) Sewer (v) Other _____

10 How do you dispose of your garbage? (i) Burn (ii) Dump (iii) Bury (iv) Trucked

11 Where do you dispose of your garbage? _____

LAND TENURE

1 Do you own the land? (i) Yes (ii) No (iii) Lease (iv) Squat (v) Other _____

2 If yes, do you have a title for your land? (i) Yes (ii) No (iii) Have Applied (iv) Did Not Apply (v) Other _____

NATURAL HAZARDS

1 Are there problems with frequent flooding? (i) Yes (Where?)_____
(ii) No

2 Are there problems with frequent earthquakes? (i) Yes (ii) No

3 Are there problems with frequent bush fires? (i) Yes (Where?) _____
(ii) No

SERVICES, COMMUNITY COHESIVENESS & DEVELOPMENT

1. How do you travel? (i) Bus (ii) Personal vehicle (c) Other _____

2. Where do you normally shop for the household? _____

3. Where do you go to market? _____

4. Where do you go for health care when you are sick?
_____

5. Are there any church groups in your area? (i) Yes _____ (ii) No

6. Are there any environmental groups in your area? (i) Yes _____
(ii) No

7. Are there any other organizations in your area? (i) Yes _____
(ii) No

8. How active are the organizations? _____

9. Are you actively involved in any of these groups? (i) Yes (ii) No (iii) Used to be

_____

RECREATION & CONSERVATION

1 Are there any recreational facilities nearby? (i) Yes (ii) No

2 If yes, name and location of facility _____

3 Are you aware of any historic or cultural areas / sites in your community or nearby?
(i) Yes _____ (ii) No

4 If yes, what do you know about the site? _____

5 Are you aware of any environmentally sensitive areas nearby? _____

_____

6 Are you aware of any nature reserves in your community or nearby?(i) Yes (ii)No

7 If yes, where is the site?

_____

8 Are there any wildlife in your community or nearby? _____

_____

PERCEPTION

1 Are you aware that private developers intend to construct a hotel in Bloody Bay?

(i) Yes (ii) No

2 If yes, how were you informed?

_____

3 Do you think the area is suitable for hotel development?

_____

4 If no, what kind of development would you like to see happen if any?

_____

5 How would the construction of the hotel help you? _____

_____

6 Is there anything in particular about your area that you would like to tell us?

_____

_____

_____

7 What else would you like to see done in your area?

_____

_____

8 Any other comments:

Signature: .....
Interviewer

RIU JAMAICOTEL DEVELOPMENT

BEACH USERS QUESTIONNAIRES

DATE:_____ **INTERVIEWER:**_____

LOCATION: _____

1 Where are you from? _____

2 How often do you come to the beach?

_____

3 Why do you come to the beach? (i) recreation (ii) work (iii) other _____

4 What do you like about the beach?

_____

_____

5 What do you not like about the beach?

_____

_____

6 Do you think the beach is over crowded? (i) Yes (ii) No

7 If yes, why do you say so?

_____

_____

8 What is it like going to the beach during major holidays such as Independence weekend?

_____

_____

9 RIU is planning a hotel development for Bloody Bay. How do you think this will affect you?

_____

_____

10 Are there any other concerns?

Signature: .....
Interviewer

RIU JAMAICOTEL DEVELOPMENT

HOTELIERS QUESTIONNAIRE

DATE:_____ **INTERVIEWER:**_____

LOCATION: _____

1 How many rooms do you have? _____

2 When is your busy period? _____

3 What is your occupancy level during your busy period? _____

4 What is your occupancy level during the off peak? _____

5 Where do your workers come from? _____

6 How do your workers get to work? _____

7 Do you have any problems with water supply? _____

8 Do you have any problems with sewage disposal? _____

9 Where is your garbage disposed? _____

10 Do you have any problems with garbage disposal? _____

11 Have your guest had any complaints about the beach? _____

_____

10. Do you have any complaints about the beach? _____

11. With RIU planning to build another hotel in Negril, how do you perceive this will affect your operations?

_____

_____

12. Do you have any other concerns?

Signature: .....

Interviewer

RIU JAMAICOTEL DEVELOPMENT

SHOP OWNERS AND VENDORS QUESTIONNAIRE

DATE:_____ **INTERVIEWER:_____**

LOCATION:_____

1 Where do you obtain the items that you sell?

_____

2 How many persons are employed at the shop/stall? _____

3 What time do you open for business _____ close for the day _____?

4 About how many customers do you get per day? _____

5 About how much you earn (make) per day? _____

6 Who are your regular customers? _____

7 RIU is planning to build a hotel in Bloody Bay. How do you think it will affect you?

_____

_____

8 Are there any other concerns?

Signature: .....
Interviewer

APPENDIX 12: LETTER FROM THE TOWN PLANNING DEPARTMENT

TOWN PLANNING DEPARTMENT
18 OXFORD ROAD,
KINGSTON 5,
JAMAICA,
TEL. 929-7480-5

ANY REPLY OR SUBSEQUENT REFERENCE TO THIS COMMUNICATION SHOULD BE ADDRESSED TO THE GOVERNMENT TOWN PLANNER AND NOT TO ANY OFFICER BY NAME AND THE FOLLOWING REFERENCE QUOTED —

TPD 243/E4/2001
NO.

July 13, 2001
20

Design H.Q. Limited
37 Union Street
Montego Bay
St. James

ATTENTION: Miss. Isiaa Madden

RE: Enquiry Application for a Hotel Development (RIU Negril 2)
Bloody Bay, Hanover
BY: RUI Hotels Limited

Reference is made to the captioned development which is for the proposed construction of a Hotel consisting of 420 guest rooms and ancillary facilities.

The National Environment and Planning Agency offers no objection to the proposed development, in principle subject to the comments/recommendations of other relevant government agencies.

The proposed footprint and plot area ratio are within the required planning policy, which is 331/3% for ground coverage and 0.8:1 for plot area coverage. The proposed layout, setbacks, height of buildings and circulation are acceptable.

In accordance with Appendix I - Vehicle Parking Requirements Within Site Boundaries - of the Town and Country Planning (Negril And Green Island Area) Development Order 1984, this development would require three hundred (300) vehicular parking space plus loading/unloading bay and a designated area for parking and/or storage of service vehicles. The parking requirement was determined as such; 140 for guests, 8 for persons using the Conference Room and 152 for the dining and restaurant (this was calculated for the main dining room only). In view of the above the proposed parking is inadequate.

/2

The following are issues to be taken into consideration prior to submission:

- Location map. In this said application this map was omitted, however the formal application will not be entertained without it.
- Adequate offstreet loading/unloading area. This should be concealed.
- Landscaping plan. This should show existing and proposed vegetation.
- Drainage plans.
- A scheme for safe passage across the Boulevard.
- Facilities for the disabled, including rails, ramps, restroom and parking stalls clearly identified.
- A scheme for staff accommodation
- The adherence of the Natural Resources Conservation Act as it relates to permits and licenses.

Kindly refer to the attached checklist for further information.

Please forward a copy of the decision taken on Hotel Rui 1, as you have promised.

The delay in responding is regretted. We anticipate an amicable working relationship.

Carole Graham (Miss)
For Government Town Planner

/cg

cc. Negril Green Island Area Local Planning Authority

CHECKLIST FOR APPLICATIONS UNDER THE