

ENVIRONMENT & COASTAL ZONE MANAGEMENT  
SPECIAL ISSUE COMMITTEE  
DEVELOPMENT PLAN 1997 REVIEW

REPORT ON PROPOSED  
AMENDMENTS TO THE  
DEVELOPMENT PLAN 1997

ENVIRONMENT & COASTAL  
ZONE MANAGEMENT

APRIL 18 2002

# PROPOSED AMENDMENTS TO THE DEVELOPMENT PLAN 1997

## ACHIEVING THE BALANCE BETWEEN DEVELOPMENT & PROTECTION OF CAYMAN'S NATURAL ENVIRONMENT

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### INTRODUCTION

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The Environment and Coastal Zone Management Special Issue Committee (SIC) is a subcommittee of the Development Plan Review Committee (DPRC). The Environment and Coastal Zone Management SIC membership includes representatives from the Department of Environment, the National Trust for the Cayman Islands, the Planning Department, and members of the community. A list of members can be found in Appendix 1. This SIC was charged with investigating how the Development Plan 1997 should be amended to protect Grand Cayman's natural environment and coastal zone, while respecting the rights of landowners and the need for appropriate development in Grand Cayman.

The Environment and Coastal Zone Management Special Issue Committee has reviewed the Development Plan 1997 and the provisions under the current *Development and Planning Law and Regulations*. The Committee was fortunate to have the report of the Wetlands Committee, and the information and recommendations contained in that report. They have also investigated how the delicate balance between environmental protection and development has been achieved in other jurisdictions.

As a result of their work, the Committee has arrived at the following recommendations:

- (1) Create a Protected Areas System for Barkers, Mastic Reserve, and the Central Mangrove Wetland. Protect these areas through two new zones, a Conservation Zone and a Land for Acquisition Overlay. (p. 8)
- (2) Create a new Special Planning Area overlay zone for areas of environmental significance outside of the Protected Areas System. (p. 9)
- (3) Create a Nature Tourism Zone to assist in the promotion the Protected Areas System as a Nature Tourism attraction. (p. 10)
- (4) Include provisions requiring Environmental Assessment of certain types and locations of projects. (p. 11)
- (5) Create an Environmental Assessment Board, whose membership contains the appropriate technical expertise, to manage the Environmental Assessment process. (p. 12)
- (6) Include provisions for the creation of an Integrated Coastal Zone Management programme (p.16):

- (a) Recognize the interconnection between land and sea in all decision making on coastal development. (p. 17)
- (b) Include the Marine Parks on the Development Plan map. (p. 18)
- (c) Amend the coastal development approval process to address the current split jurisdiction. (p. 18)
- (d) Provide increased protection for the remnant mangrove on Cayman's coastline through amendments to the provisions for Mangrove Buffer zone and the associated laws and regulations. (p. 19)
- (e) Include provisions that recognize the importance of Cayman's beaches and coastlines and the need to ensure responsible development that is sensitive to the ecological importance of this valuable resource. (p. 21)
- (f) Use the permanent vegetation line as the baseline for coastal construction setbacks. (p. 22)
- (g) Coastal setbacks should be site-specific and reflect the type of coastline and the energy level of the shore. (p. 23)
- (h) All redevelopment and / or repair of damaged coastal structures should be subject to planning permission and must conform with the laws and regulations in force at the time of redevelopment / repair. (p. 23)
- (i) Appropriate locations for public marinas should be identified and zoned Marine Commercial. (p. 24)
- (7) Include a policy statement governing applications for excavation in the Plan and draft associated laws and regulations. (p. 24)
- (8) Apply standard conditions of planning approval to development in areas of primary vegetation to encourage retention of native primary vegetation. (p. 26)
- (9) Expand the scope of the existing Planning Appeals Tribunal to include a review of whether CPA decisions are based on sound planning principles. (p. 28)
- (10) Review the composition of the Central Planning Authority to ensure that its membership is representative of the broad public interests of the country and the relevant areas of expertise. (p. 28)
- (11) Move toward making CPA meetings and minutes fully accessible and open to the public. (p. 28)
- (12) Require that the CPA provide written reasons for making a decision that is contrary to the advice given by advisory boards and commenting agencies. (p. 28)
- (13) Revise the Objectives (s. 1.2) and Strategies (s.1.3) of the Development Plan 1997 (p. 29)

- (14) Revise section 2.3 of the Development Plan 1997 to reflect the recommendations of this report and named “Natural Environment”. (p. 30)
- (15) The legislation should be amended to give the Central Planning Authority the authority to require an applicant to mitigate against the adverse environmental impacts of a proposed development. (p. 30)
- (16) The legislation should be amended to give the Central Planning Authority the ability to require an applicant to post a performance bond as a guarantee that the conditions of approval will be met. (p. 31)
- (17) The legislation should be amended so that the Central Planning Authority is not liable for compensation when refusing applications for development on the basis that they are premature, fail to meet the needs of the community, or not necessary or in the best interests of the public. (p. 31)

The Committee feels very strongly that achieving the balance between environmental protection and development is of paramount importance for ensuring the continued health of Cayman’s economy, as well as the quality of life that residents of the islands enjoy. Without the natural beauty that can only be preserved through a healthy environment and coastal zone, the things that attracted business and tourism to Cayman will be lost. As an island nation, we cannot afford to make mistakes with respect to development in areas of environmental significance, including the coastal zone.

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#### BACKGROUND

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THE COMMITTEE HAS been formed as part of the on-going review of the Development Plan 1997. It is a subcommittee of the Development Plan Review Committee, the steering committee for the review.

#### ***The District Subcommittees’ Vision Statements***

Each of the District Subcommittees addressed the natural environment in their Vision Statements. The Vision Statements were written from a future perspective, looking back on the changes that the District Subcommittees hope occur in the time between now and 2011. The following are extracts from each of the District Subcommittee reports:

#### ***Bodden Town’s Vision for the Natural Environment in 2011***

Development in Bodden Town has become environmentally sensitive, thanks to an environmental education programme for developers and landowners which has exposed them to environmentally friendly means of development and has resulted in better informed decisions regarding development. The focus is on sustainable development, with a careful balance between desired development and what the environment can cope with. The need for environmental protection of very sensitive areas has been balanced with landowner’s rights, and a compensation programme for landowners with land of environmental

significance has been implemented. The role and funding of the National Trust has been reviewed with extensive public consultation.

### ***East End's Vision for the Natural Environment in 2011***

East End's natural beauty has been preserved and developed into a growing Ecotourism industry. Protection of water resources and preservation of East End's scenic coastline have been priorities. No new development has been permitted on the water lens, the quarry site has been rehabilitated to a more natural state, and the marine parks enjoy better enforcement of the Marine Parks laws. The expansion of the Marine Parks towards Morrith's Tortuga has increased the protection of the marine habitat in East End. Strict guidelines and regulations regarding the importation, use, and disposal of hazardous chemicals are rigorously enforced, resulting in the elimination of incidents of accidental poisoning. Regular citizen "clean-up" days, where volunteers work to clean up the litter in the district, have helped to keep East End clean. Aggressive campaigns for waste reduction and recycling have reduced the need for solid waste disposal, reducing the amount of waste that is taken out of the district to the landfill site. East End does not have a landfill site in the district.

### ***George Town's Vision for the Natural Environment in 2011***

George Town respects its natural environment and values the need for sustainable, responsible and sensible development, in order to achieve the following key objectives:

- protection of beaches as follows:
  - prohibit any alteration of the shoreline such as seawalls and walls going into the sea
  - where seaside parcels are narrow, encourage development of the inland side of road only and prescribing Scenic Coastline as undeveloped
- protection of mangroves as follows:
  - prohibit removal (with exception of limited access channels) of any mangroves lying within the intertidal zone and in the open waters of the district (and the Island)
  - increase the width of Mangrove Buffer zones to 1000 feet where possible (north of airport runway to GT Barcadere to Caymarl site dock and up to the Hyatt)
  - protect the South Sound and Red Bay coastal mangroves
  - mitigation and protection of Central Mangrove Wetland
- provision of environmentally-friendly parks as follows:
  - develop swamps into parks, as Eco Tourism attractions
  - set aside some areas of mature indigenous vegetation as parks

### ***North Side's Vision for the Natural Environment in 2011***

In 2011, North Side is still a district that has been blessed with a great deal of natural beauty. From the beautiful blue sea to the rich mangrove wetlands, the people of North Side have continued to take their role as stewards of the land very seriously. North Siders have worked to preserve the district's environmental wealth so that it can be passed on for

their descendants to enjoy and cherish. This has been achieved, in part, through the following:

- Proper wastewater management is part of all new developments, and existing development has been encouraged to embrace good wastewater management principles.
- The issue of the zoning of the Central Mangrove Wetland has been resolved through extensive negotiation with affected landowners. The important balance between property owners' rights and the need to protect the environment has been the basis of these negotiations, and the affected property owners have been given a voice in the process.
- The Mangrove Buffer zone has been reviewed island-wide. This review has included ensuring that the Mangrove Buffer zoning in North Side is consistent with the rest of Cayman.
- The water lens has been protected through careful planning and regulations governing development on it.
- The natural environment is an important consideration in the economic development of the district.

### ***West Bay's Vision for the Natural Environment in 2011***

West Bay respects its natural environment and values the need for sustainable development, in order to achieve the following key objectives:

- preservation of ocean views along the coastline and undeveloped beaches by leaving access roads against the beach and development on the land-side only
- "Preservation of the Barcus Area for Evermore and for Everyone" by developing a large national park with absolutely no development at the Head of Barcus
- preservation of several and various environmentally significant areas in West Bay, namely
  - Mary Molly Hydes Road as pedestrian-only with a boardwalk & nice landscaping
  - Sea Pond
  - Vulgners Pond
  - Pappagallo
  - Sandy Pond
  - Black Mangrove Pond
  - Sand Hole, Bosun Bay

It is important to note that there were many other areas in the District Subcommittee Vision Reports where the natural environment was addressed, reflecting the important link between the natural environment and areas such as economic development, historic sites and areas, and Cayman's history and heritage. Members of the public are encouraged to review the full District Subcommittee reports, available from the Planning Department or on the government website.

### **The Wetlands Committee Report on the Proposed Environmental Overlay Zones**

In 1999, the Central Planning Authority released the proposed amendments to the Development Plan 1997. These amendments included two proposed Environmental Overlay zones: Environmentally Sensitive (ES) and Environmental Protection (EP). The proposed zones generated a significant amount of discussion among the public, particularly among affected landowners. By the end of the mandatory sixty-day public comment period, the Planning Department had received nearly 1,000 representations from members of the public, many of which pertained to the proposed Environmental Overlay Zones. There was both support and opposition in these representations, and as a result of the discussion and controversy, the Central Planning Authority (CPA) decided to form a subcommittee of the CPA to further investigate the issue before forwarding it on to the Development Plan Appeals Tribunal. This subcommittee of the CPA, which submitted their report to the CPA in November 2001, came to be referred to as “The Wetlands Committee.”

The Wetlands Committee made a number of recommendations regarding the proposed environmental overlay zones. These recommendations can be found in Appendix 2 of this report. Given the extensive research and consultation that the Wetlands Committee had undertaken, and the tight timeframe that the Special Issue Committee has been working under, the Committee has taken the recommendations of the Wetlands Committee as a starting point for their deliberations.

### **Cayman’s Commitments for Environmental Protection**

The Cayman Islands is a Contracting Party through the UK to various Multilateral Environmental Agreements (MEAs). These mandate that development planning must be carried out with regard for the protection and sustainable use of our natural environment and resources, by employing strategies including environmental assessments in combination with a national system of protected areas. The relevant provisions of these MEAs are as follows:

- The Specially Protected Areas and Wildlife (SPA) Protocol requires that prior to decisions on projects or activities, consideration must be given to their negative impacts and significant effects on areas or species that have been afforded special protection under this Protocol (Article 13). Article 4 requires the establishment of protected areas, in order to conserve, maintain and restore the natural environment.
- The Convention on Biological Diversity calls for appropriate procedures requiring environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimising such effect and allow for public participation in such procedures (Article 14). Article 8 requires parties to establish a system of protected areas, in order to promote the protection of ecosystems, biodiversity, natural habitats and the maintenance of viable populations of species in natural surroundings.
- The Convention on Wetlands of International Importance commits Contracting Parties to formulate and implement their planning so as to promote the conservation and wise use of wetlands in their territory, through means such as conducting

environmental impact assessments before transformations of wetlands (Article 3), and establishing nature reserves on wetlands (Article 4).

Other agreements that speak to the need for formalised assessment procedures are the Environment Charter and Vision 2008.

- The Environment Charter commits the Cayman Islands to “*undertake environmental impact assessments before approving major projects and while developing our growth management strategy*” (Commitment 4). Another of Cayman’s commitments under the Environment Charter is the creation of a protected areas system to “*Ensure the protection and restoration of key habitats, species, and landscape features through legislation and appropriate management structures and mechanisms, including a protected areas policy, and attempt the control and eradication of invasive species.*”
- The National Strategic Plan Vision 2008 contains numerous community-developed action plans. These call for legislative requirements for environmental assessments and a system of protected areas (Strategies 10 – Growth Management, 11 – Environment and 13 - Economy).

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#### PROPOSED ZONES

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Three areas have been identified as priorities for the Grand Cayman Protected Areas System; the Barkers area, the Central Mangrove Wetland and the Mastic Reserve. In March 2002, Government unveiled its proposal to create a national park in Barkers. In their Vision Statement, the West Bay District Subcommittee called for such a park to ensure the “Preservation of the Barcus Area for Evermore and for Everyone.” The importance of the Central Mangrove Wetland has been discussed for many years and was the primary focus of the Wetlands Committee. The Mastic Dry Forest has been identified as the area of highest terrestrial biodiversity in Grand Cayman, 40% of which is already under protective legislation.

At present, no zone exists to provide protection for environmentally significant areas, such as the three areas identified above. The Committee feels very strongly that one of the only ways that Cayman can meet its commitment to create a Protected Areas System is to create a set of zones that afford different levels of protection to these ecologically important areas.

Further, the Committee feels that once the protected areas system is created, it will afford the opportunity to diversify Cayman’s tourism product by creating a Nature Tourism sector. However, it is important to bear in mind that the Nature Tourism will not be successful unless there are protected areas to ensure that there is some “nature” to attract the tourists.

The Committee therefore recommends the creation of the following zones and overlays: Conservation Zone, Land for Acquisition Overlay, Special Planning Area Overlay, and Nature Tourism Zone.

### **The Conservation Zone**

This is the most restrictive of the proposed zones. This zoning should be applied to land that is owned by Government in areas that have been identified for the Protected Areas System and land acquired by the National Trust and declared inalienable for the purposes of environmental protection.

Within the Conservation Zone, the only permitted development is for low impact nature-tourism activities, such as walking trails and interpretive stations. All development within this zone will be subject to strict performance standards to ensure that the impact on the natural environment is minimised. To this end, the Central Planning Authority shall require a Project Evaluation Report / Environmental Assessment be submitted with any application for development in this zone.

### **Land for Acquisition Overlay**

This overlay should be applied to land that is not owned by Government or the National Trust, in the areas that have been identified as critical to the protected areas system (Central Mangrove Wetland, Mastic Reserve, Barkers).

This overlay designates land that should be acquired by Government utilizing Environmental Protection Fees and does not change the underlying zoning. Government should enter into acquisition negotiations with affected landowners based on the existing zoning of the land and the overlay should not be interpreted as a devaluation of the subject lands.

After land in this area has been acquired by Government or the National Trust, it should be immediately rezoned to “Conservation Zone.”

### **Special Planning Area Overlay**

The Special Planning Area (SPA) Overlay is being proposed for a diverse range of environmentally sensitive areas, representing a number of different habitat and vegetation types across the Island. The intention of this overlay is that the existing underlying zoning is maintained, preserving the development potential of a parcel. The SPA alerts the landowner to the environmental features of their property and encourages them, through the Environmental Assessment Process (Step 1 and 2, outlined in section on Environmental Assessment below), to design their development in such a way that the natural features of their property are preserved and enhance their development.

The goal of the SPA is to achieve the necessary balance between development and the environment by encouraging environmentally sustainable development. All applications for development in a SPA overlay shall be required to submit a Project Evaluation Report (see Appendix 6) and, depending on the nature, scale and likely impact of the proposed development, a full environmental impact assessment may be required.

Prior to undertaking the design stage of a development, landowners that have a SPA overlay on their parcels are encouraged to consult with the Planning Department and / or

Department of Environment. This will help to identify the unique environmental features on their site and allow the landowner and / or their agent to gain guidance on utilizing some of the tools of environmentally sensitive development available to the landowner.

The “Special Planning Area” designation would allow landowners to utilize some of the alternative development tools that were proposed for the SPA in the Wetlands Committee report. Some of the alternative development standards may include:

- Decreased road width requirements
- Use of porous road surfaces instead of hard surfaces
- Use of alternative construction techniques (e.g. pilings, etc.)
- Minimal site clearing and filling
- Use of special lighting to protect habitat features
- Environmentally sensitive design, such as clustering

### **Nature Tourism Zone**

In establishing Nature Tourism in the Cayman Islands, the Department of Tourism should work with the Department of Environment and Planning Department when creating the framework for development of this tourism product. The successful diversification of the Cayman Islands’ tourism product into the area of Nature Tourism, as was called for in the Ten Year Tourism Development Plan (1992-2002), will require input from all three agencies.

It is also important to realise that the Nature Tourism Zone should not be implemented unless there is a Conservation Zone and the Protected Areas System is pursued through acquisition of properties in the Land for Acquisition Overlay. Without the Protected Areas System there is no Nature Tourism product and, therefore, no need for Nature Tourism zoning.

Nature Tourism is intended for the development of low-impact tourism accommodation. Sites have been designated based on existing road access, topography, proximity and access to Conservation Zones, and the presence of previously disturbed land. Development in Nature Tourism zones will be subject to strict performance standards, at a density that falls between Low Density Residential and Beach Resort Residential. Single family homes should also be permitted in the Nature Tourism zone.

Cottage colony development, similar to Pirate’s Point and Southern Cross Club in Little Cayman, would be an appropriate scale for this zone. This would allow for physical development that will allow the people to “use” the land in the conservation zones. It would also help to diversify our tourism product.

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**ENVIRONMENTAL ASSESSMENT & ENVIRONMENTAL ASSESSMENT BOARD**

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No legislated Environmental Assessment (EA) process exists within physical development planning in the Cayman Islands. However, various Multilateral Environmental Agreements (MEAs) to which the Cayman Islands is a Contracting Party through the UK require formalised procedures to evaluate and take into consideration the possible direct and indirect negative environmental impacts of projects and activities being contemplated in the planning process. These MEAs are as follows:

- The Specially Protected Areas and Wildlife (SPA) Protocol requires that prior to decisions on projects or activities, consideration must be given to their negative impacts and significant effects on areas or species that have been afforded special protection under this Protocol (Article 13).
- The Convention on Biological Diversity calls for appropriate procedures requiring environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimising such effect and allow for public participation in such procedures (Article 14).
- The Convention on Wetlands of International Importance commits Contracting Parties to formulate and implement their planning so as to promote the conservation and wise use of wetlands in their territory, through means such as making environmental impact assessments before transformations of wetlands (Article 3).

Other agreements that speak to the need for formalised assessment procedures are the Environment Charter and Vision 2008. The Environment Charter commits the Cayman Islands to “undertake environmental impact assessments before approving major projects and while developing our growth management strategy” (Commitment 4). Numerous action plans within the community-developed National Strategic Plan Vision 2008 call for legislative requirements for environmental assessments (Strategy 10 Action Plans 2 and 7, Strategy 11 Action Plan 6, and Strategy 13 Action Plan 8).

Current provisions for environmental impact statements are set out in Appendix 3 in the Development Plan 1997, the content requirements of which are outlined as follows:

*“The submission of an environmental impact statement (EIS) for development projects which, because of the characteristics of the site or the particulars of the proposal, may be required in order for the Authority to carefully examine the potential impacts of the development prior to the determination of the application. An environmental impact statement shall include the appropriate plans, information and data in sufficient details to enable the Authority to determine, examine and assess the potential environmental impacts of the proposal.”*

While this outlines the purpose and content of the document, which is essentially the outcome of the environmental assessment process, it does not detail the process itself. The

ad hoc system that presently exists lacks formal public involvement and allows for a vast amount of discretion to be exercised by the CPA, a body that does not reflect all of the technical expertise that may be required to review applications with significant environmental impacts. As a result the likelihood of making poor planning decisions with the potential for negative cumulative or long-term implications will continue. Therefore, a codified assessment process is needed which clearly sets out the procedures by which certain applications are required to conduct an EA and produce an EIS for consideration by the decision-makers, and which stipulates the body or bodies responsible for managing this process.

Economic analysis and engineering feasibility studies are tools that provide the basis for designing robust and economically viable projects. Likewise, EA is an equally important tool in designing an environmentally viable project. The EA report is a **decision-making tool** for officials and managers who must make important decisions about major development projects. In this context environmental assessment would address not only predicted impacts in the natural environment, but also probable social and economic impacts. EA does not make the decision but rather attempts to set out the possible impacts from a proposed project in as clear and objective a way as possible, and includes means to minimise adverse impacts.

### **Recommendation: Environmental Assessment Board**

It is important to establish the entity or entities responsible for managing the EA process. The proposed institutional arrangements for implementing the EA process in the Cayman Island would be three entities: Departments of Planning, Environment, and an appointed committee, for the time being called the Environmental Assessment Board (EAB). The EAB would be a multidisciplinary technical committee of representatives from the various departments and agencies that presently review planning applications. The EAB would likely comprise the Directors of Planning, Environment and Water Authority, Chief Engineer Public Works, Chief Environmental Health Officer, and Director of Economics Research & Development Office. Other members could be co-opted from time to time as required by the nature of the application.

The purposes of the EAB are to 1) facilitate review of projects from a broad perspective and 2) administer the process requiring projects to complete full environmental assessments. For instance, the EAB would scope issues to be included in the EIS, assess the environmental impacts of proposed developments as set out in the EA documents, hold public meetings and submit its findings. The EAB would *not* have any development approval authority; it would make recommendations to the CPA as to whether or not the EIS accompanying an application for development was complete, as well as it may recommend conditions for approval or reasons to support refusal of the application. If the EAB is established and functions as proposed, the committee recommends the dissolution of the Developments Advisory Board.

**Recommendation: Triggers for the EA process**

Tiers of assessment would be employed as a basic procedure to determine the requirements for submission, i.e. a Project Evaluation Report, as well as whether an application would be ‘bumped up’ to a full environmental assessment and as a result an EIS required as part of the application process.

**1. Screening and requirements for submission**

The flowchart entitled “Step 1: Screening of Applications” (Appendix 4) outlines the screening process by which submission requirements are determined and whether an application will trigger the EA process outlined in Step 2. Projects that fall outside of the screening criteria are not required to submit a Project Evaluation Report and therefore go through normal planning approval procedures. Minor applications (i.e. single family homes and duplexes) located within areas of primary vegetation are required to submit a project evaluation report (see Appendix 6), which shall include how impacts will be mitigated. Standard planning conditions (see Policy Statement on Areas of Primary Vegetation) would be applied to approval of such applications, and would include requiring retention of mature native vegetation on the site and selected clearing permitted for the building footprint, driveway and a reasonable area around the footprint. Applicants not found in compliance with these standard planning conditions will be required to replant vegetation before receiving their Certificate of Occupancy.

Project evaluation reports are required for applications that trigger the EA process either by virtue of their location or type of development.

- **Location** triggers relate to two maps (“Triggers for the EA Process” and “Primary Vegetation Map” Appendix 8 and 9, respectively) proposed as addenda to the Development Plan and for inclusion as a schedule in the regulations. Location triggers include:
  - All development proposed in the Land for Acquisition Overlay
  - All development proposed in the Conservation Zone
  - All development proposed in the Special Planning Area Overlay
  - All coastal development
- **Type of development** triggers relate to all ‘major’ applications, which for Planning purposes are projects other than single family homes and duplexes. These triggers should be similar to the current triggers for the Developments Advisory Board (DAB), such as large projects or those of national importance.
  - Large scale residential developments
  - Hotel and resort developments
  - Commercial developments
  - Subdivision of land
  - Industrial developments
  - Excavation operations
  - Reclamation projects
  - Infrastructure projects

See Appendix 5 for a complete list of projects.

## **2. Full environmental assessments**

The flowchart entitled “Step 2: Environmental Assessment Process” (Appendix 4) outlines the process by which applications meeting the above-mentioned criteria automatically enter the EA process. The Planning Department circulates the application and accompanying project evaluation report to the Department of Environment and other agencies for comment. The Directors of Planning and Environment consider whether the submitted documents adequately address any likely adverse impacts as a result of the development or whether there are significant environmental impacts. The application is forwarded to the CPA if no significant impacts are determined. When considering the application, the CPA shall have regard for the recommendations from the Directors of Planning and Environment. This may include recommendations regarding site specific conditions of approval.

The application is referred to the EAB if the Directors of Planning and Environment agree that there are significant environmental impacts or if they disagree as to whether the project is likely to incur adverse effects. The EAB will then address the need for a full EA and if so confirmed, initiate the selection of consultant and scoping phases of the process.

If the EAB determines that a full EA is required, the applicant shall be notified and the process of selecting a consultant to undertake the assessment shall commence. The EAB will provide the applicant with a list of project-specific expertise required to adequately carry out the EA. The applicant will then provide information on three potential consulting firms. These proposed firms are then reviewed by the EAB who will select one firm to undertake the consultancy. The EAB is not obliged to accept the consultants proposed by the applicant if the EAB feels that the proposed consultants are not appropriately qualified or have little or no relevant experience. If the consultants proposed to conduct the EA are not deemed to be acceptable by the EAB then the EAB can request that an alternative firm, recognised as a qualified firm by the EAB, be proposed.

While the selected consultant shall work for the EAB, the applicant shall incur the costs associated with an EA. An escrow account shall be set up using applicant funds, from which consultant’s fees will be drawn. This arrangement should address a major criticism of environmental assessment processes worldwide by reducing the bias associated with whichever entity funds the EA.

The EAB together with the applicant and consultant determine the scope of the EIS. The scope shall include the “No Project” option and address the country’s need for the proposed development. A preliminary scoping document shall be released to the public with a 14 day period in which to receive comments (see Appendix 4). The aim of public involvement in scoping is to ensure that the study addresses all the issues of importance that will factor into the decision-making process. Once the scope of the study has been finalised by the EAB, applicant, and consultant, inclusive of the primary concerns of the public, the consultant can begin with data collection and analysis and preparation of the EA documents.

The ongoing EA process will necessitate continuous communication between the EAB, the consultant and the applicant. The EAB will review interim and draft documents against the agreed scope and in accordance with a predetermined schedule. Comments on the interim and draft reports shall be provided to the consultant within 14 days of receipt, and shall contain among other things, whether the EAB considers the scope is being met. The consultant shall likewise respond to the EAB's comments within 14 days of receipt.

The consultant shall submit the final report, referred to as the Environmental Impact Statement, or EIS. The EAB will review the EIS and determine whether the scope has been met and the EIS deemed complete. If the EAB, consultant or applicant are in disagreement regarding the scope, findings or conclusions set out in the EIS, either party may wish to initiate a Third Party Review of the EIS, which shall run concurrently with the public review process. The third party reviewer shall be selected and funded in a similar manner to the selection of the consultant commissioned to conduct the EA. Once the third party report is received it shall also be made available to the public.

Public involvement in the review of the EIS shall commence with a notice for comment on the study to be received within 21 days. Another notice shall be placed in the newspaper indicating the availability of the third party report, if applicable. Once the public comment period has elapsed and the third party report received, if applicable, the EAB shall hold a public hearing to entertain representations by persons with valid concerns associated with the EIS.

The EAB shall submit to the CPA the EIS, documentation of the public hearing and EAB recommendations, which may include a recommendation on whether to approve or deny the application. There should be no binding decision made by the CPA on applications until the EIS has been completed, reviewed, accepted and forwarded by the EAB.

### ***Proposed Amendments to the Development Plan 1997 and Map***

Provisions must be added to the Plan to explain the need for environmental assessment, namely the fact that the Cayman Islands is party to a number of Multilateral Environmental Agreements. These require Contracting Parties to integrate sustainable environmental management into Government decision-making and physical development planning through use of decision-making tools such as environmental impact assessments. Specifically, the "Ecology" section and Appendix 3 (Provisions for Environmental Impact Statement) of the Development Plan 1997 must be amended to reflect the recommendations outlined above.

Appendix 3 of the Development Plan should include –

- a list of multilateral environmental agreements that require environmental assessments
- an outline of the EA review process described above
- a list of projects which trigger the EA process (Appendix 5 of this report)
- the contents of a Project Evaluation Report (Appendix 6 of this report)

### ***Proposed Amendments to the Development and Planning Law and Regulations***

The Development and Planning Legislation should contain a schedule that would detail the EA process outlined above. This schedule should include –

- the Proposed Environmental Assessment Procedures flowcharts entitled “Step1: Screening of Applications” and “Step 2: Environmental Assessment Process” (Appendix 4 of this report)
- a list of projects by location and type of development which trigger the EA process (Appendix 5 of this report)
- a map entitled “Triggers for the EA Process” (Appendix 8)
- a map entitled “Primary Vegetation Map” (Appendix 9)

The Development and Planning Law (1999) must be amended to replace the DAB with the EAB.

The legislation should be amended to ensure that when a CPA decision is contrary to the technical advice given them by the EAB, the CPA shall provide reasons, in writing, for varying from these recommendations. These reasons shall be recorded in the minutes, which shall then be sent to the members of the EAB.

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## **COASTAL ZONE MANAGEMENT**

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A review of the literature indicates that there is growing evidence of the inadequacy of traditional sectoral approaches to the management of resources and activities in coastal areas. At a global level, sectoral management has tended to result in national policies that are fragmented and haphazard, with few linkages between decisions and policies in different sectors. As a consequence, natural coastal systems continue to degrade and resource use conflicts are mounting. In addition, nearly all renewable and non-renewable coastal resources are being rapidly depleted, some to the point of irreversibility. The current situation in the Cayman Islands mirrors this global trend.

Integrated Coastal Management (ICM), is a concept which has been internationally adopted as a means of seeking to balance the demands on coastal resources and promote sustainable use by taking an integrated approach to planning and management. It can be defined as a coordinated and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources. Issues typically addressed by the ICM paradigm include protection and management of coastal resources such as beaches and coral reefs; protection of important coastal habitats such as wetlands and sea grass beds; protection of coastal water quality; management of coast-dependent economic uses such as tourism; improvement of public access for recreational purposes; reduction of loss of life and property due to coastal hazards such as storms and hurricanes; management of beach erosion; and management of use of coastal space.

**Recommendations:**

There are many models for the implementation of ICM programs ranging from enactment of specific coastal management legislation and creating a coastal management agency to establishing an interagency mechanism for coordinating existing sectoral policies and plans that impact the coastal zone. While the Committee recommends that Cayman adopt the ICM approach to planning and management on the coast, it is recognised that determining precisely which form a Cayman ICM program should take will require significantly more time and discussion. The following general recommendations are offered to assist this future process:

- (i) ICM should not supplant existing sectoral programs but should supplement and strengthen them;
- (ii) Integration should be viewed as a continuum rather than an absolute. The goal is to move away from a situation in which agencies do not talk to one another and toward a situation in which a forum for coordinating and harmonizing policies exists and is used frequently and effectively; and
- (iii) While the long-term goal should be the formulation and implementation of an ICM program by an interagency team formed for this purpose, it was felt that this could best be achieved by concentrating on a small number of issues and incrementally developing a fully-fledged ICM program.

In the interim, the Committee has identified a number of actions that can be taken within the context of a review of the Development Plan in order to achieve the sustainable use, development, and protection of coastal areas and resources.

**1. Governance Issues:**

**(i) Interconnection between land and sea:**

Neither the current Development Plan nor the existing Development and Planning legislation recognises the high degree of interconnection between ecological and physical processes on land and in the sea, especially on small islands. For example, aside from the effects on land, deforestation or reclamation of mangrove wetlands will have significant negative impacts on offshore sea grass beds and coral reef ecosystems. Likewise, in addition to the impacts in the marine environment, deepening of the seabed offshore from a beach will likely destabilise the beach system resulting in significant erosion and a dramatic altering of the depth and width of the beach.

**Recommendations**

The Committee therefore recommends that the Development Plan be amended to include a statement requiring the Central Planning Authority (CPA) to have regard for the impact of land-based development on marine and coastal resources. Further,

it is recommended that the Cayman Islands Marine Park system be included on the Development Plan map and that due regard be given to the purposes of the marine protected areas when decisions are made with respect to development.

**(ii) Coastal Development Approval process:**

The current approval process for a proposed development which spans land and sea involves both Executive Council (ExCo) and the CPA, with matters seaward of the High Water Mark falling under the jurisdiction of Executive Council and matters landward of the High Water Mark falling under the jurisdiction of the CPA. For example, an application on a section of coastline bounded by a coastal lagoon and fringing reef for a project which involves a proposal to remove sea grass and create boating access through the reef and construct a hotel on land will require both a license from Executive Council for the works on the marine environment and Planning permission from the CPA for the hotel. Current policy dictates that the applicant must receive a Coastal Works License from Executive Council for the marine works before proceeding with the application for Planning permission. Although there is no legal requirement for the CPA to grant Planning permission for a project which has received approval from Executive Council, the reality is that the CPA appear to feel obliged to concur. This creates a situation where no one entity can be held accountable for bad planning decisions. Further, it is clear that planning decisions that are inconsistent with the broad goals of ICM will be the likely outcome from a process where there is no requirement for the *overall* impact of development proposals to be considered by one entity.

In their report to the Cayman Islands Government on the Provision of Construction Aggregate and Fill in the Cayman Islands, the consulting firm CH2MHill highlighted the undesirability of the existing situation with respect to approval for dredging projects. They recommended that a single governmental body be tasked with review of dredging applications in order to “enhance accountability for resource management decisions and simplify the process both for applicants and the government.” The consultants further recommended that the CPA could serve this function provided that:

- (a) it was comprised of lay men and women who collectively represent the broad public interests of the country
- (b) decisions on applications were taken in a forum open to the public and
- (c) each decision was published together with an analysis supporting the decision. The proposed process would recognise Executive Council’s (ExCo) role as the “proprietors” of Crown property and would require them to allow or refuse work to be conducted on such property. A flow chart illustrating the proposed process was developed by the consultants and is attached in Appendix 10.

**Recommendations**

The Committee supports the recommendation of the CH2M Hill report provided that their recommendations regarding the CPA are adhered to. In addition, the Committee is of the view that ExCo should be concerned with policy and should

not be burdened with the regulation of development activity. In order to allow ExCo to focus their efforts on national policy, approval of Coastal Works applications would best be left to the CPA with appropriate input from relevant technical experts. The Committee therefore recommends that the relevant Development and Planning legislation be amended to accommodate the proposed coastal development review process as outlined in the flow chart.

## **2. Mangrove Protection:**

All over the world mangrove forests are now recognised as environmentally valuable, productive biological communities that are essential to the health, welfare and safety of the people who live in and around them. In their natural state mangrove wetlands perform a variety of functions including storm protection and flood mitigation; shoreline stabilization and erosion control; groundwater recharge; retention of sediments and pollutants; export of organic matter to coastal areas; stabilization of local climate conditions, particularly rainfall and temperature; provision of nursery grounds and habitat for a variety of marine and terrestrial species.

In Cayman the protection of these ecologically important areas currently falls under Section 3.08 of the Development Plan 1997 and Section 17 of the Development and Planning Regulations (1998 Revision). No other legislation exists for the protection of mangroves. This notwithstanding, Cayman is party to the Convention on Wetlands of International Importance (“Ramsar Convention”) which places an obligation on Contracting Parties to formulate and implement their planning so as to promote the conservation and wise use of all wetlands in their territory. The Convention defines wise use of wetlands as “their sustainable utilisation for the benefit of humankind in a way compatible with the natural properties of the ecosystem”.

Current policy on the protection of mangroves as stated in the 1997 Development Plan involves the establishment of Mangrove Buffer Zones where “red and predominantly red mangroves” are protected from development “except in exceptional circumstances”. The Committee reviewed Section 17 of the Development and Planning Regulations which gives effect to this policy in order to gauge how well the objective of protection for both the storm buffer and the ecological role of the mangroves was being achieved.

### **Recommendations**

The Committee submits that the Planning Statement should be amended to explicitly recognise the ecological value of mangroves and to change the incorrect notion that only red mangroves are important in the coastal context. The recommended statement is: ***In Mangrove Buffer Zones mangroves will be protected from development in order to maintain both the storm buffer function and the ecological role of the mangroves. Under exceptional circumstances, access channels may be considered. These channels shall be designed and regulated so as to protect the natural properties and maintain the ecological functioning of the mangrove buffer.***

It was also determined that while the regulations do explicitly recognise the ecological functions of mangroves and require the CPA to have regard to these

functions when considering any matter in a Mangrove Buffer Zone, there are a number of inadequacies and gaps which need to be addressed through relevant amendments. These are:

- (i) The reference to “the ecological role of the *peripheral* mangroves” in 17 (2) needs to be amended to read “the ecological role of the *mangrove buffer*”;
- (ii) The provisions of the Mangrove Buffer zone should be changed so that the **only** development permitted is a 75’ wide access channel, and only where the Authority is satisfied that – (*per existing regulations*)
  - a) *it is absolutely necessary to gain safe boating access to and from a development area;*
  - b) *there is no other safe and suitable alternative boating access located within a neighboring development;*
  - c) *the width of the access is kept to a practical minimum and does not exceed seventy-five feet;*
  - d) *any dredging complies with the conditions of approval from the responsible authority; and*
  - e) *all requisite approvals, licenses, and permission for any work relating to the seabed have already been granted approval by the Governor in Council and other responsible authorities* (N.B. see recommendation regarding approval of coastal development)
- (iii) The Regulations need to make clear that in cases where mangroves grow and result in an accretion of land, the area zoned Mangrove Buffer will be expanded to include the new land. The in-land boundary of the Mangrove Buffer zoning shall not move seaward with expansion of the land.
- (iv) The regulations should provide for ***maintenance trimming*** of the mangroves to allow landowners to benefit from their sea view while maintaining the property protection and ecological function of the mangrove buffer. Specific criteria for the trimming of mangroves should be developed using, for example, the Florida Mangrove Trimming and Preservation Act.

In reviewing the Development Plan (1997) map for areas designated as Mangrove Buffer and taking into account the wishes of the George Town Committee and representation made by the Committee of Concerned Citizens, the Committee further recommends that the remaining coastal mangrove along South Sound and Red Bay should be designated as Mangrove Buffer. The most recent aerial photographs together with a ground-truthing exercise should be used to determine the exact location of the mangroves. A preliminary look at aerial photos suggests that the Mangrove Buffer would have a maximum width of 75 feet, the current coastal setback for mangrove shorelines. The Committee strongly believes that this zoning is consistent with the objectives of the South Sound/Red Bay lagoon Replenishment Zone and therefore with the principles of ICM.

In its review of the Development and Planning legislation regarding Mangrove Buffer Zones, the Committee also discovered that Section 29 of the Development

and Planning Law (1999 Revision) still refers to Storm Belt and not Mangrove Buffer; this discrepancy needs to be eliminated.

### **3. Beach Management and Coastal Setbacks:**

Beaches are one of the most dynamic systems in nature as they show changes over hours, days, months and years. They exist because of the complex interaction of biological, geological and physical processes. Healthy beaches are dependent on healthy marine environments and vice-versa. For small Caribbean islands such as Grand Cayman beaches represent one of their most important natural and economic resources. While Cayman's beaches are indeed an extremely important economic resource for the tourism industry, they are also important to residents. Quality of life for residents is enhanced by unfettered physical access to our clean, sandy beaches for recreation, and significant corridors for visual access. Beaches and beach ridges also provide a barrier between the sea and the land thus preventing flooding from storms. Many of Cayman's beaches (including Seven Mile Beach) are also nesting habitat for endangered sea turtles.

One of the most dominant characteristics of beaches is their constant changes in form, shape, and sometimes the very material of which they are composed. The best way to conserve beaches is to allow them the space to move – in a seaward direction during accretionary phases and in a landward direction during erosionary phases. The prudent use of coastal development setbacks can ensure that space is provided for a beach to move naturally, both during normal events and infrequent hurricanes, thereby ensuring that the beach is conserved for all to enjoy and that coastal infrastructure remains intact.

Threats to Cayman's beaches include inappropriately sited coastal development, illegal and legal sand-mining, predicted climate change effects such as more frequent and more intense storms and hurricanes, and global sea level rise. (Based on a very conservative predicted sea level rise of 1 foot by the year 2100 which translates to 4 inches by the year 2030, the predicted shoreline recession is 33 feet by 2030.) Additionally, many of the islands' hotels and condominiums occupy a large portion of the islands' best beaches and there is a growing level of frustration and perceived threat regarding the public's right of access to beaches around Cayman. Assurance of public access must be addressed.

In the Development Plan 1997, references to beach protection are confined to the Scenic Coastline Zone, where the CPA is directed to ensure the open character of scenic coastline and to safeguard the public's access to beaches through public rights of way. Section 31 of the Development and Planning Law makes it an offence to remove sand, gravel etc. from coastlines and Section 31 of the Regulations directs the CPA to require developers of land with 200 feet or more of shoreline in Hotel/Tourism Zones to dedicate a public right of way of not less than 6 feet in width from the public road to the sea.

#### **Beach Management – Recommendations:**

1. The Planning Statement should be amended to reflect the total value of beaches and coastlines to Cayman. It should include reference to the following:
  - The importance of the beaches to Cayman's economy and quality of life

- The importance of protecting Cayman's beaches as one of our valuable natural resources
  - Recognition that the beach is a dynamic system
  - The need for prudent use of coastal development setbacks to ensure that space is provided for a beach to move naturally, both during normal events and infrequent hurricanes
  - The importance of ensuring the open character of scenic coastline and safeguarding the public's access to beaches through public rights of way
2. The Regulations regarding public access to beaches in Hotel/Tourism zones should be rigorously enforced as well as the marking, gazetting/recording and maintenance of public rights of way and easements. Traditional areas of beach access in other zones should also be gazetted as public rights of way.
  3. The Regulations should be amended to prohibit the practice of mining and removal of beach sand and back-filling with marl or rocks.
  4. The Regulations should be amended to require that any beach sand excavated during the construction of foundations, pools etc. be put back into the local beach system.
  5. Coastal development should be strongly encouraged to utilize native vegetation in landscaping, including the removal of any exotic species (e.g. Casaurina trees). Exotic plants, when removed, should be replaced by native species on a one:one (or greater) ratio.
  6. Special conditions regarding beachfront lighting and beach use should be attached to planning permission for any development on turtle nesting beaches.
  7. All development on beaches should be reviewed for environmental impact.

### **Coastal Construction Setbacks –**

1. The Regulations should be amended so that the line of permanent vegetation is used as the baseline for coastal setback determination.

The line of permanent vegetation is recommended as the best baseline for the measurement of setbacks as it is reflective of the energy level of the coast and gives a fairly clear picture of the area of the site that is subject to the greatest amount of wave activity. It is possible to determine the location of the vegetation line even in areas that have been developed by examining aerial photography. In addition, it can be extrapolated from adjacent undeveloped sites, or from direct observation of the clear absence of vegetation on portions of the site (particularly for ironshore coastlines). No development should be permitted seaward of the permanent vegetation line with the obvious exception of jetties and docking facilities.

On beaches, actual setbacks from the line of permanent vegetation should be developed for each site based on the following parameters;

- (i) Historical changes in the coastline position using the aerial photography dating back to the 1960's.
- (ii) Recent beach changes using beach monitoring data collected by the Department of Environment and Lands and Survey.
- (iii) Changes in coastline position likely to occur as a result of predicted rise in sea level.
- (iv) Offshore features and changes.
- (v) Coastal geomorphological features such as exposed beachrock and anthropogenic features such as beach mining and back-filling.
- (vi) Planning considerations such as lot size, Marine Parks and protected area designations.

The Committee therefore recommends that a Coastal Setback Category Map be generated, reflecting the criteria outlined above (i – vi) for the beach coastlines in Grand Cayman. A similar exercise was done in Anguilla in 1997, which resulted in the generation of Anguilla's Coastal Setback Categories Map for Beaches, which designates minimum coastal setbacks from the permanent vegetation line ranging from 60 feet to 300 feet in four categories.

2. On ironshore coastlines, no new development should be permitted seaward of the line of permanent vegetation. The CPA should consider, on a site-specific basis, additional setback from the line of permanent vegetation that is required for the purposes of property protection in storm events.
3. On mangrove coastlines that are not protected with Mangrove Buffer zoning, all new development (including ancillary structures) should be setback a minimum of seventy-five feet (75') from the seaward edge of the line of continuous mature vegetation.
4. Current provisions in Regulations for Mangrove Buffer zoning (s.17 (5)) that requires all development be setback a minimum of fifteen feet (15') from the landward edge of the Mangrove Buffer zoning should be maintained.
5. All re-development / repair of damaged coastal structures should require planning permission and will be subject to the existing regulations (which may mean increased setback requirements).

#### **4. Marina Facilities**

The Committee feels that public moorings and / or marinas should be provided in strategic locations across the island(s). This will help to reduce the need for private docks and moorings, and will also help to protect the coastline and nearshore while generating revenue for Government.

Public marinas could be developed as private / public ventures and should be subject to strict operating procedures with respect to greywater, oil spill prevention, etc. A holding tank pump-out facility should be part of any public marina, which will pave the way for better regulation and enforcement of wastewater disposal in the marine environment. The operation of the public marina(s) could be contracted out to private companies, keeping operating costs low for Government.

Two potential locations for public marinas that are being discussed in some circles are the Crown land presently zoned Public Open Space in Salt Creek and the eastern end of the Ritz – Carlton site, across from Safehaven.

Once suitable sites for public marinas have been identified, they should be rezoned to Marine Commercial, while ensuring that any development in the Marine Commercial zone has regard for the link between coastal development and the marine environment.

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#### **ADDITIONAL POLICY STATEMENTS**

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#### **Excavation**

The Committee does not recommend the creation of a zone specifically for excavation. Preliminary constraints mapping done by CH2MHill in their “Study on the Provision of Construction Aggregate and Fill” suggested that there is in fact very little “suitable” land on Grand Cayman for excavation when all constraints or screening levels are applied. However, recognising that there will continue to be pressure for excavation the Committee strongly recommends that a policy statement and associated regulations be developed to govern the design and approval of all excavations.

Traditionally there has been some confusion regarding what types of projects constitute "excavation". The distinction between commercial quarries, which require planning permission, and water features for residential subdivisions, which have not always required planning permission, has resulted in the proliferation of unfinished excavation projects that form a blight on the landscape of Cayman. The Committee feels very strongly that this distinction is an artificial one, and that all excavation activities, regardless of the ultimate use of the material being excavated, should be subject to similar provisions for review and rehabilitation.

Therefore, the following definition of excavation is recommended:

1. “Excavation development” means the development or use of land and buildings for:-
  - i. *the extraction of stone, sand, marl, soil or other material;*
  - ii. *the works, machinery and plant associated with the on-site storage and processing of material extracted from the site; and / or,*
  - iii. *the storage and processing of material brought to the site from elsewhere and any works, machinery and plant associated with such an operation;*

*but does not include the extraction of material carried on in the course of site preparation works in accordance with a valid building permit, or in accordance with a Coastal Works license”.*

The Bermuda Plan 1992 Planning Statement contains provisions governing quarry development. Based on the Bermuda plan, the Committee recommends including the following provisions in the Development Plan (associated changes to the Development and Planning Law and Regulations will also be required):

2. The Authority shall apply the Excavation Development provisions and other relevant provisions of the Planning Statement to new Excavation development and extensions of existing excavation development in a manner best calculated to -
  - i) protect the environment of neighbouring areas, particularly any residential area;
  - ii) upgrade the condition and appearance of worked sites and to restore and prepare them for an appropriate form of development; and
  - iii) eliminate existing conditions that are causing a nuisance to the residents of the surrounding area.
3. In determining applications for excavation, the Authority shall differentiate between sites depending on their characteristics and suitability for the different forms of excavation development, and in approving an application, the Authority shall specify which form of excavation development is being approved by reference to the excavation definition sub-paragraph (i), (ii) and/or (iii).
4. In determining whether or not a site is suitable for any type of excavation development, including an application to modify the extent and /or the levels of an existing excavation, the Authority shall take into consideration:
  - (i) the location and size of the site; the quality of the material to be extracted and the existing reserves of that material in the Cayman Islands;
  - (ii) the topography, visual prominence and environmental quality of the land;
  - (iii) the nature, density and character of development in the surrounding area;
  - (iv) the suitability of the roads and accesses serving the site and the effects of traffic generation on the surrounding area; and
  - (v) the potential use and development of the site once the excavation operation has ceased.

- (3) Further to sub-paragraph (2), excavation development, including a proposal to modify the extent and/or levels of an existing excavation, may only be approved if the Authority is satisfied that
- (i) the site is served directly by a suitable access road and the traffic to be generated will not be injurious to the amenity and environment of a surrounding residential area;
  - (ii) the development will not be injurious to the environment of the surrounding areas by reason of the scale of operation, appearance, noise, odors, vibration, smoke or dust;
  - (iii) the buildings will not have a detrimental visual impact on the surrounding area, particularly any residential area, by reason of their siting, scale or height;
  - (iv) the levels to be created and the general condition of the site will be compatible with the use and development to be accommodated once the excavation development has ceased;
  - (v) the proposal includes sufficient buffer areas, landscaping and screen planting to minimise the impact of operations on the surrounding area; and
  - (vi) the grounds in support of the application as submitted by the applicant justify the exercise of the Authority's discretion.
- (4) Any application for new excavation development shall include full details of the site restoration work, landscaping and planting to be carried out to upgrade the appearance of a worked-out site and to restore it for an appropriate use when excavation ceases, and the scheme shall be designed so that landscaping and planting is carried out as each phase of any excavation is completed.

The legislation should be amended to give the CPA the authority to require that an applicant post a performance bond as a guarantee that the conditions of approval and rehabilitation will be met. In the event that an applicant does not rehabilitate the site to the satisfaction of the CPA, the bond will be forfeited and utilised to undertake the required rehabilitation. Similar provisions for performance bonds may be useful for other applications, such as subdivisions, major development, etc.

The Interdepartmental Review Committee for Excavation applications recommended by CH2Mhill should be implemented and viewed as an integral part of the application review process. The CPA should look to this committee for comprehensive technical recommendations regarding all applications for excavation.

### **Development in Areas of Primary Vegetation**

Standard conditions of approval limiting site clearing and filling shall be automatically applied by the Central Planning Authority (or the Department of Planning in the case of administrative approvals), in all cases where development is proposed on land which has at least 30% of its area under primary vegetation, or a minimum of 1 acre of primary

vegetation, whichever is the smaller. Land currently under extensive primary vegetation is indicated in the accompanying map (Appendix 9).

Primary vegetation is here defined as vegetation which has never been fully cleared by human agency, and so is dominated by native species growing in their natural state.

The purpose of these standard conditions is to better balance development with preservation of our natural environment, by integrating areas of primary vegetation as attractive features within new developed areas. Continuous strips of natural vegetation along boundary setbacks will serve as wildlife corridors, while all areas of retained natural vegetation will conserve native flora, and allow some native fauna to survive.

Landowners are required to permanently leave the specified native vegetation in its natural state, other than footpaths to a maximum of 4ft wide. Individual trees in natural vegetation areas may be selectively removed only if they create a demonstrable hazard to buildings or utility lines. After approval of a development involving these conditions in forested areas, the natural vegetation to be retained will automatically be placed under a Tree Preservation Order.

1. Regardless of the specific minimum standards set out below, primary vegetation should be retained on all parts of the land not required for specific uses indicated in the application and shown on the plans.
2. Where land is only partially under primary vegetation, applicants should design their development to impact disturbed areas in preference to areas under natural vegetation.
3. For all applications falling under these conditions, natural vegetation shall be retained (wherever it exists) within the setback area, excepting a maximum of two driveway accesses. Ancillary structures shall not be permitted within the setback area.
4. For applications on parcels between 0.5 and 1.0 acres, a minimum of 25% of the land shall be retained in primary vegetation, including setback areas.
5. For applications on parcels over 1.0 acres, a minimum of 30% of the land shall be retained in primary vegetation, including setback areas.
6. For new subdivisions proposed on land with primary vegetation, no lots shall be cleared prior to development. The above conditions will apply to each subdivision lot at the time it is developed. Primary vegetation in new subdivisions may only be cleared for approved subdivision roads and utilities. Survey work in areas with native vegetation shall be conducted using manually cut survey lines, with minimal disturbance of native vegetation. Any required Land for Public Purposes should be left in natural vegetation.
7. In event any person clears vegetation on land otherwise falling under these conditions without Planning Permission so to do, he shall be required to restore native vegetation to meet the criteria listed above within a period of five years.

The Committee feels that the above provisions will benefit landowners when they develop their parcels. These benefits include:

- greater options with regards to style of development,

- fill costs are reduced,
- additional privacy through the retention of vegetation in the setback areas,
- the aesthetic and wildlife value is retained, which can be an amenity of the development
- landscaping costs are minimised, and
- landscaping maintenance costs are reduced due to the prevalence of native vegetation that is pre-adapted to the environmental conditions of the site.

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#### OTHER RECOMMENDATIONS

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### ***Appeals Tribunal***

Presently, the Planning Appeals Tribunal reviews whether decisions by the Central Planning Authority (CPA) are legal. According to section 52 of the Development & Planning Law (1999 Revision), the only grounds for an appeal of a decision by the CPA are:

- *it is erroneous in law;*
- *it is unreasonable;*
- *it is contrary to the principles of natural justice; or*
- *it is at variance with a development plan having effect in relation thereto.*

These grounds have been interpreted to test the legality of the CPA decision, but not whether the decision was based on sound planning principles.

The Appeals Tribunal should be a review of the quality of the CPA's decision, not just the legality of it. It is important that there is a mechanism whereby the substance of the CPA's decision can be subject to review. There is a concern that the present system does not have sufficient "checks and balances" to ensure good decision making, not just "legal" decision making, particularly because of the absence of public access to the decision-making process.

### ***Central Planning Authority***

In the past few years, there has been an increased emphasis on the importance of transparency and accountability in decision making. The prevailing belief is that increased transparency results in better decisions. The Committee therefore makes the following recommendations regarding the review and approval of applications for development:

- The composition of the Central Planning Authority (CPA) should be reviewed to ensure that its membership is representative of the broad public interests of the country and the relevant areas of expertise.
- CPA Minutes in their entirety should be made public.
- Meetings of the CPA should be open to the public.
- In the event that a CPA decision is contrary to the technical advice given them by the advisory boards and commenting agencies, the CPA should provide reasons, in

writing, for varying from these recommendations. These reasons should be recorded in the Minutes, which should then be sent to all the commenting agencies and members of advisory boards.

### ***Development Plan 1997 – Objectives and Strategies***

Borrowing from the Bermuda Plan 1992 Planning Statement, Section 1.2 and 1.3 of the Development Plan 1997 should be deleted and replaced as follows:

General Aim To maintain the quality of life in Cayman by the wise use of resources by effectively controlling and directing development so as to safeguard the environment, and as a consequence, the economic, cultural, social and general welfare of the people.

#### Broad Goals

The broad goals of the Plan are as follows-

- (a) to conserve open space and to promote a high quality environment;
- (b) to provide sufficient development potential to meet the community's needs: and
- (c) to encourage a more efficient use and development of land.

#### Objectives

The objectives of the Plan are as follows-

- (a) To allocate sufficient land for future housing needs and to ensure optimum use is made of designated land without prejudicing high standards of residency amenity
- (b) To encourage the development of a range of housing types to meet the specific needs of different sections of the community.
- (c) To conserve sufficient open space throughout Cayman for the use and enjoyment of all residents and visitors.
- (d) To protect and conserve areas and features of biological, ecological and geological significance.
- (e) To conserve all important agricultural land and encourage its use for farming.
- (f) To protect sufficient land for the development of the National System of Protected Areas.
- (g) To allocate sufficient land throughout Cayman for a range of active and passive recreational activities.
- (h) To protect the character and scenic quality of undeveloped areas which contribute to the visual amenity of Cayman
- (i) To enable an adequate level of education, health, social and welfare facilities to be provided for local communities.
- (j) To provide for the regulated development and upgrading of tourist facilities consistent with the operation of a successful tourism industry

- (k) To provide for the controlled development of shops and services in appropriate locations to serve the local needs of the community.
- (l) To provide for the controlled development of industrial uses in suitable locations.
- (m) To ensure that the scale, density and design of development are sensitive to a site's physical and environmental characteristics
- (n) To encourage a high standard of design and landscaping in all new developments.
- (o) To promote improvements to areas of poor environmental quality.
- (p) To conserve buildings of architectural and historical importance and sites of archaeological significance.
- (q) To conserve and enhance the fabric and appearance of developed areas with a special character and visual quality.
- (r) To provide for the safe movement of traffic and pedestrians and to encourage the development of an accessible public transport system.
- (s) To promote the implementation of the National Strategic Plan Vision 2008, the community-based ten-year plan for the country.

### ***Section 2.3 of the Development Plan 1997 - Ecology***

Section 2.3 of the Development Plan 1997 should be revised to reflect the recommendations of this report and renamed "Natural Environment". In addition to the areas currently addressed in this section, it should also address:

- Interconnection between marine and terrestrial systems
- Preserving Biodiversity through strategies including, but not limited to, the establishment of a National System of Protected Areas
- Cayman's obligations under Multilateral Environmental Agreements and the Environment Charter

### ***Mitigation***

The legislation should be amended to give the CPA the authority to require an applicant to mitigate against the adverse environmental impacts of a proposed development. Mitigation measures may include:

- On-site mitigation e.g. implementation of Best Management Practices, monitoring, use of native vegetation, etc.
- Off-site mitigation e.g. acquisition of land in areas identified for the National Protected Areas System, restoration of impacted land in areas of environmental significance, etc.

### ***Performance Bonds***

The legislation should be amended to give the CPA the authority to require an applicant to post a performance bond as a guarantee that the conditions of approval will be met. In the event that an applicant does not complete the development to the satisfaction of the CPA, the bond should be forfeited and utilised to undertake the required works.

### ***Growth Management – Premature Development***

Amend section 35 of the Law to add the following:

Compensation shall not be payable in the respect of the refusal of planning permission for development or a plan of subdivision if the Authority is satisfied that the proposed development or subdivision:

- i) Is premature;
- ii) Fails to meet the development needs of the community; or
- iii) Is not necessary or in the best interests of the public;

Provided reference is made to supporting evidence to justify the Authority's decision and the applicant has been given an opportunity to respond to this evidence.

## **Appendix 1: Environment & Coastal Zone Management SIC Members**

Gina Ebanks-Petrie, Chair	Director, Department of Environment
Carson Ebanks	Permanent Secretary, Ministry of Community Affairs, Women, Youth, and Sports.
Willam H “Billy” Adam	Chairman, George Town District Subcommittee
David Foster	Member, Developments Advisory Board
Fred Burton	National Trust for the Cayman Islands
Mat Cottam	National Trust for the Cayman Islands (from March 26 <sup>th</sup> )
Lisa - Ann Hurlston	Environmental Assessment Officer, Department of Environment
Jennifer Ahearn	Planning Officer, Planning Department
Adrian Bodden	Planning Assistant I, Planning Department

## Appendix 2: Recommendations of the Wetlands Committee

### 1. Environmental Protection Zone:

Because of the number of landowners that objected to the proposed environmental overlay zones (PADP-99), it is recommended that:

- i) the Environmentally Sensitive (ES) zone be removed from further consideration, and
- ii) that the proposed Environmental Protection (EP) be applied only to government and National Trust parcels within the area previously proposed for ES and EP, and;
- iii) the EP zone should not be applied to privately owned land.

### 2. Development in the Environmental Protection Zone:

Within the EP zone (Government and Trust land), permit only development that supports Eco-tourism and / or national parks. Any development in the EP zone should be at the discretion of the Central Planning Authority and should be subject to an Environmental Impact Assessment being completed by the developer and reviewed by the relevant authorities. Any development in the EP zone will be subject to strict performance standards to ensure that impact on the environment is minimized.

### 3. “Land Recommended for Acquisition” Overlay:

Designate the privately owned land in the central area of the Central Mangrove Wetland (CMW), and parcels outside the CMW that had been proposed for the EP overlay, with a “Land Recommended for Acquisition Overlay” (see attached map). This would be an overlay to the existing zoning and should not change the development potential on the land. These parcels should be acquired by Government at fair market value through negotiated acquisition and / or using a “land in lieu” option for development outside this area. Once Government or the National Trust acquires parcels, their zoning should be changed to EP.

### 4. Funding for Acquisition:

Funding for acquisition could come from the following sources:

- a) A portion of the Environmental Protection Fee that is currently collected (see recommendation #5 below)
- b) Investment opportunities (e.g. Treasury bonds / debentures)
- c) Owner-financed acquisition by Government or the National Trust
- d) Using funds donated by benevolent donors
- e) Acquiring land through donation
- f) Acquiring land through mitigation
- g) Acquiring land through a “land swap” for land outside the Central Mangrove Wetland

## **5. Review of the Environmental Protection Fee Fund:**

The Committee understands that the Environmental Protection Fee Fund (EPFF) is currently “ring-fenced” in general revenue. The Committee strongly recommends that a review of this fund be carried out in order to determine the best means to ensure that:

- a) The money in the fund is used for environmental projects such as studies, protection and maintenance of environmental areas, acquisition of environmentally significant land and preservation of the underwater environment
- b) The fund is prudently managed so that it is readily available when the need arises for funding for environmental projects.

## **6. Special Planning Area:**

Designate the outer half of the Central Mangrove Wetland area and other parcels Island-wide that had been proposed for ES overlay as “SPECIAL PLANNING AREA”. Allow development at the existing density and encourage wise use of land and “environmentally friendly” development through the use of tools and options such as:

- a) Clustering
- b) Alternative development standards
- c) Planned Unit Development (should be encouraged Island-wide)
- d) Land-in-lieu (donation of land in Acquisition Overlay in lieu of fees, LPP requirements, etc.)

## **7. Education Program to Promote Environmentally Sensitive Development:**

An education program should be developed and implemented to highlight how development can be designed and carried out with minimal environmental impact. This would help to educate developers, and the general public, as to how to ensure that development is sustainable for future generations. This will also assist landowners undertaking development projects in the Special Planning Area, as it will help to give them ideas on how to minimize the environmental impacts of their development proposal.

## **8. Wise Use Study of CMW:**

Initiate a wise use study of the Central Mangrove Wetland and Water Lens to determine how best to achieve a balance between conservation and wise use, and to update the data on the Water Lens. This study should be funded by the Environmental Protection Fee Fund. There are many guidelines on such studies that may be useful in drafting the Terms of Reference for the Study. International sources of funding for the study should be researched as some agencies may provide small grants toward funding such a study. It is important that the study be a broad study to address whether what is being proposed for protecting the wetlands and Water Lens is appropriate, and to put the issue of protection in to a broader context.

## **9. Tools for Future Study and Consideration:**

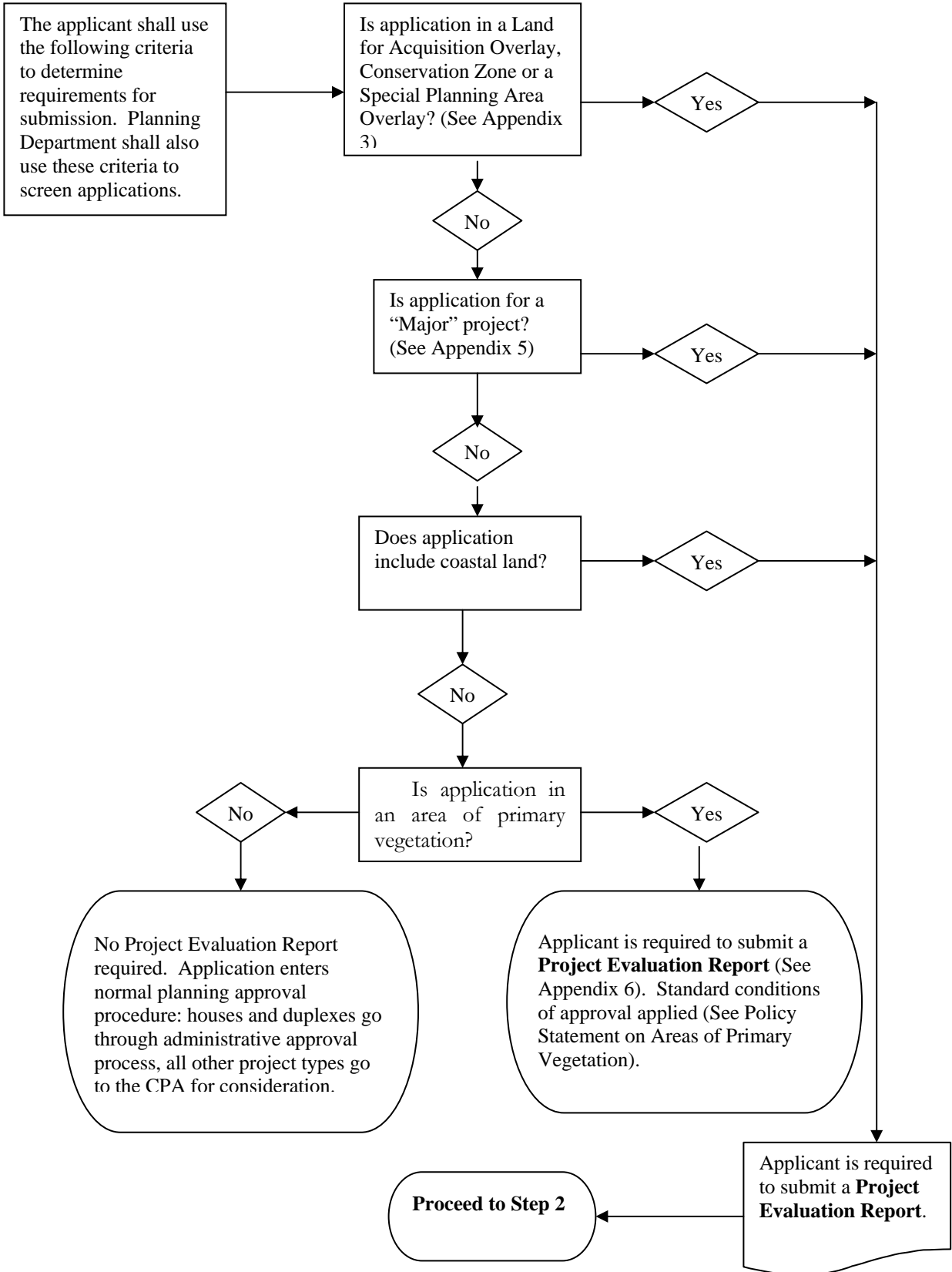
The Committee also investigated a number of tools and options which, for various reasons, had merit but were not recommended at this time. These tools and options should be the subject of further study and investigation in to their possible implementation in Cayman. They include:

- Transfer of Development Rights (TDR)
- Off-Site Mitigation (development outside the environmental areas pays the costs of rehabilitating land which has been impacted)
- Stewardship Programs
- A portion of the “cash-in-lieu” fund for the LPP in subdivisions (once implemented)
- Fee Incentives (such as discounts on planning fees where development protects environmentally significant areas)
- Landowner Trust Fund (where landowners would own shares in the fund in exchange for agreeing not to develop their land)

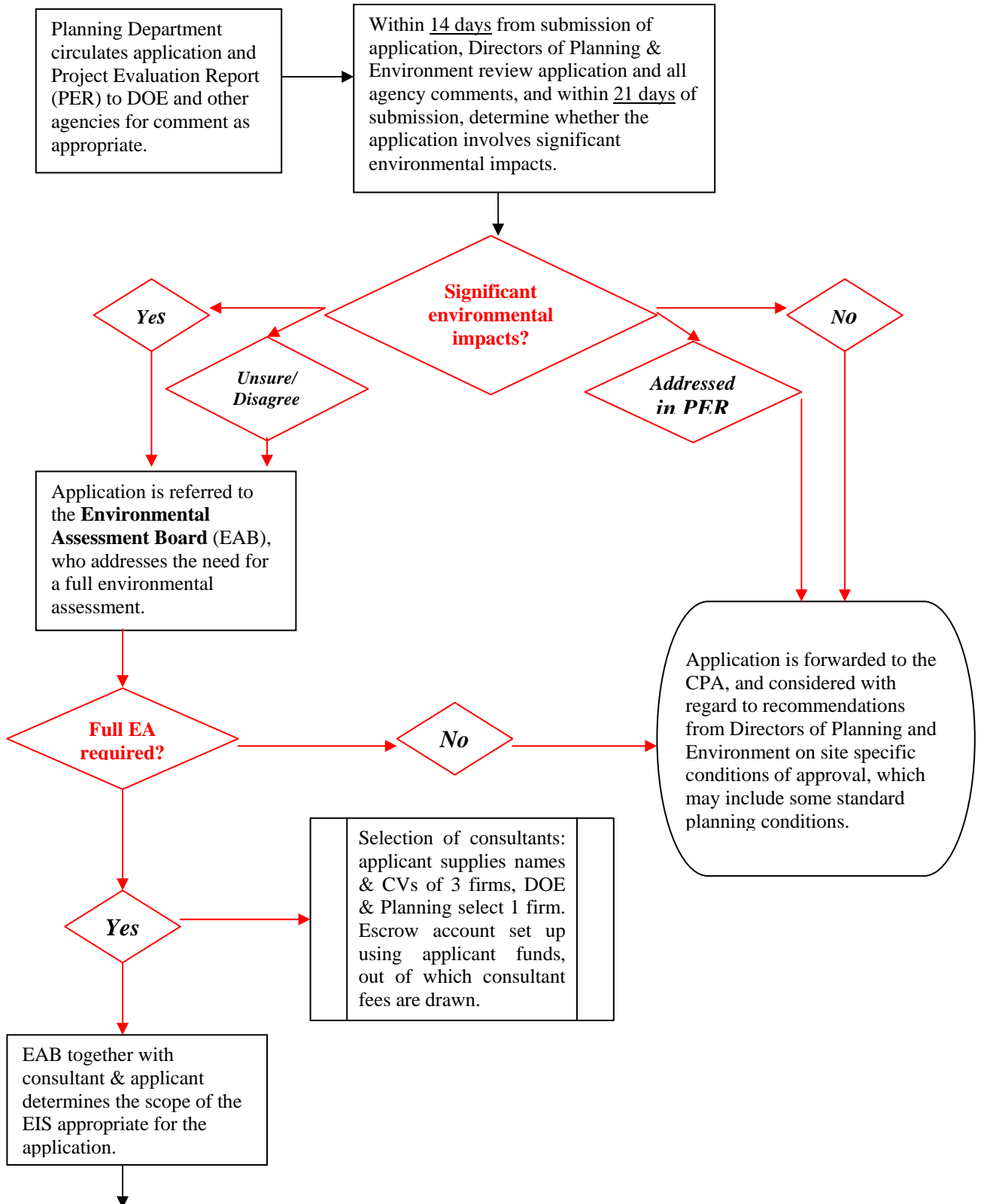


## Appendix 4: Proposed Environmental Assessment Procedures

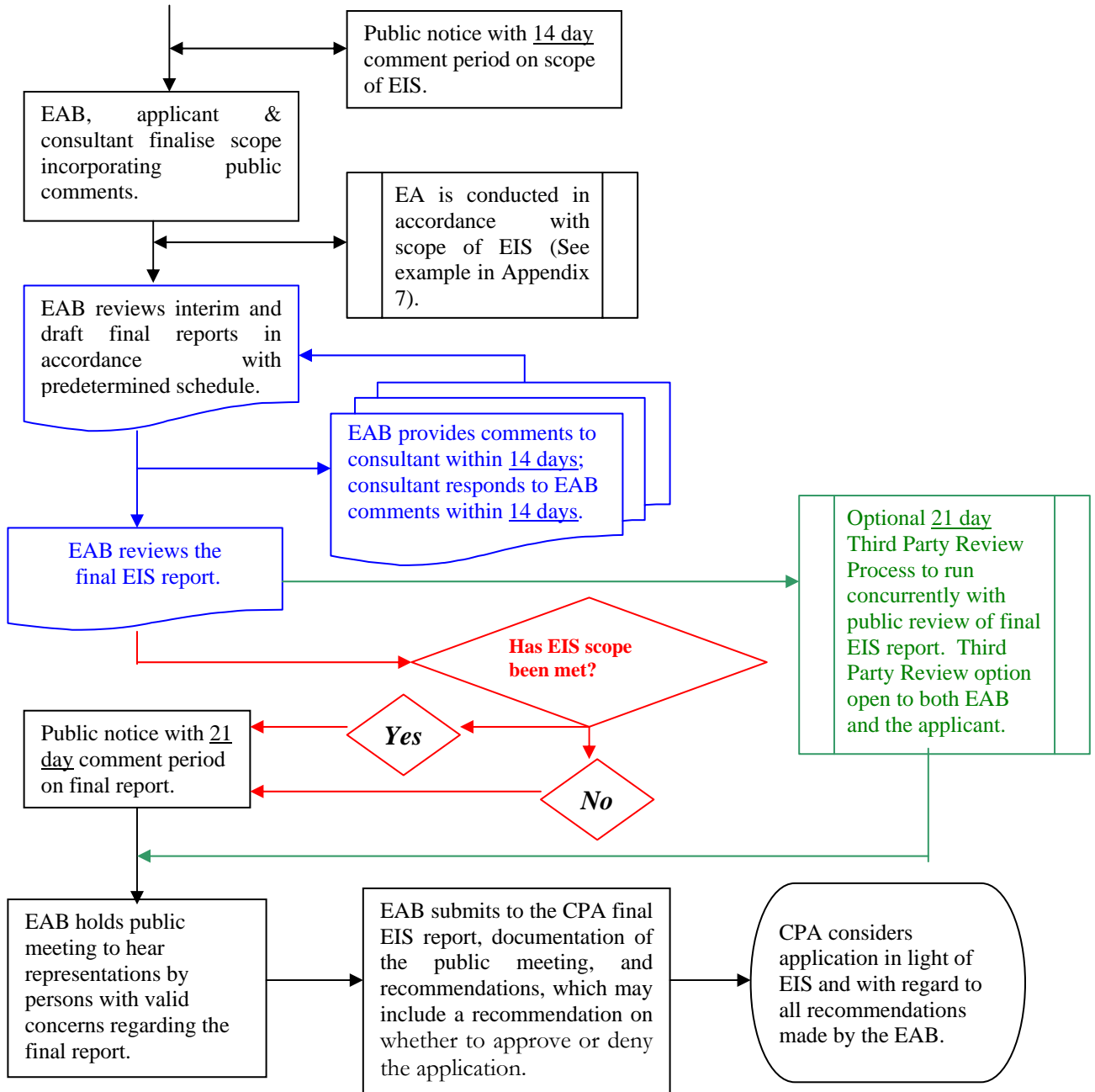
### Step 1: Screening of Applications for Submission Requirements



## Step 2: Full Environmental Assessment Process



## Step 2: Full Environmental Assessment Process Continued



## **Appendix 5: Types of Projects which trigger Environmental Assessment Process**

There are two types of triggers for the Environmental Assessment process: location and type of development.

### **A. Location triggers include:**

- All developments proposed in a Land for Acquisition Overlay Zone
- All developments proposed in a Conservation Zone
- All developments proposed in a Special Planning Area Overlay
- All coastal development
- Major applications in areas of primary vegetation

### **B. Type of development**

1. For Planning purposes, 'major' applications are all project types except single-family homes and duplexes. Therefore the types of development that would trigger the environmental assessment process would include the following –
  - a. Large scale residential developments
  - b. Hotel and resort developments
  - c. Commercial developments, including gas stations and garages
  - d. Subdivision of land
  - e. Industrial developments, including manufactories, obnoxious and other industrial plants such as workshops and similar establishments
  - f. Excavation operations
  - g. Reclamation projects
  - h. Infrastructure projects
    - Power plants and water supply systems, including a long-distance aqueduct
    - Waste water treatment plant and disposal systems
    - Solid waste disposal systems, including a waste-disposal installation for the incineration of chemical treatment of special waste
    - Major road proposals, including a line for long-distance road traffic, a tramway, elevated or underground railway, suspended line or similar line for passenger transport
    - An industrial estate development
    - An oil or gas pipeline
    - A crude-oil refinery or an installation designed for the handling and storage of petroleum products
    - Canalisation of flood-relief works
    - A dam or other installation designed to hold or store water on a long-term basis
    - Airports and airstrips
    - Ports, harbours, yacht marina and inland waterways which permit the passage of vessels
    - Coast protection works
  - i. Special purpose developments, including projects of national importance

2. Development for any of the following purposes -
  - a. Agriculture, including installation of aquaculture and the reclamation of land from the sea for such purpose.
  - b. Extractive industry, including extraction of minerals such as sand, gravel by deep drilling or open-cast mining, extraction of petroleum, natural gas or ores, or installation for the manufacture of cement.
  - c. Energy industry, including an installation for the production of electricity, steam and hot water; an industrial installation for carrying gas, steam or hot water or the transmission of electrical energy by overhead cables; the surface storage of natural gas; the underground storage of combustible gases.
  - d. Processing of metals, including ironworks or steelworks; an installation for the production of non-ferrous metals, other than precious metals; the pressing, drawing or stamping of large castings; the surface treatment and coating of metals; manufacturing or assembling motor vehicles or manufacturing motor-vehicle engines; a shipyard; an installation for the construction or repair of aircraft.
  - e. Glass making
  - f. Chemical industry, including the treatment of intermediate products and production of chemicals; the production of pesticides or pharmaceutical products, paints or varnishes, elastomers or peroxides; the storage of petroleum or petrochemical or chemical products.
  - g. Food industry, including the manufacture of vegetable or animal fats; the packaging of canning of animal or vegetable products; the manufacture of dairy products; brewing or malting; confectionery or syrup manufacture; an installation for the slaughter of animals; a fish-meal or fish-oil factory.
  - h. Textile, leather, wood and paper industries
  - i. Rubber industry
  - j. Other projects, including a permanent or testing track for cars or motor cycles; an installation for the disposal of controlled waste(s) from mines and quarries; a site for depositing sludge; the storage of scrap iron.

## **Appendix 6: Project Evaluation Report**

A project evaluation report shall comprise of a detailed description of the proposal from inception to the operational phase, including -

- 1) a description of measures to be implemented to avoid, reduce or remedy any potential adverse effects, and
- 2) a plan or plans at an appropriate scale and drawn, coloured and annotated in sufficient detail to accurately show such information as -
  - (a) any contours and boundaries of the site taken from an accurate topographical survey;
  - (b) the location, width and status of all roads adjoining the site;
  - (c) existing vegetation, hedges, mature trees and other natural features such as wells, ponds, sink holes and caves. In coastal areas, location of the beach ridge must be shown and the coast described by indicating presence of ironshore, sand, rock/rubble, boulder, mangrove or other;
  - (d) other physical features such as walls and existing buildings;
  - (e) the outline of the proposed development or the outline of notional building positions on a plan of subdivision;
  - (f) details of existing easements, including public rights of way, and restrictive covenants;
  - (g) the location and use of existing buildings on adjoining sites and across any roads, indicating vacant lots;
  - (h) if application includes an excavation component, plans shall detail the proposed depth, area and cross-section, including anticipated volumetric yield. An operation plan shall accompany drawing(s) and shall describe proposed methods of phasing works, stockpiling material, sediment and erosion control of stockpiles and pit edges, site rehabilitation options, etc.; and
  - (i) other information presented alongside the drawn plan as is necessary to summarize and explain the proposal, such as
    - (ii) the area of the site;
    - (iii) evidence as is necessary to determine the status of the lot, such as the subdivision number, date of approval and/or registration of subdivision;
    - (iv) details of the proposal, such as site coverage, building height, floor space, and number of dwelling units by bedroom size, etc.;
    - (v) percentage of site vegetation proposed for clearance and proposed method of disposal of cleared vegetation;
    - (vi) percentage of site proposed for filling, if applicable;
    - (vii) proposed method of construction, such as details of foundation, use of pilings, etc.; and
    - (viii) arrangements for securing an adequate supply of water and the safe and efficient disposal of sewage.

## **Appendix 7: General Guidelines for Content of Environmental Assessment Documents**

### **1. Introduction**

- 1.1. Project Purpose and Need: describe the project's purpose and define the country's need for the project and benefits to the country/community expected as a result of the project
- 1.2. Project Description
  - 1.2.1. Master Plan Overview: overall concept plan for the entire property. The concept need not depict buildings but should indicate zones or proposed land uses, existing and proposed roadways, and open space (including Land for Public Purpose) networks.
  - 1.2.2. Site Development Phasing: a detailed phasing plan for the entire project, which should address the sequence and timing of development, including roads, excavations to create waterways, and open space networks.
  - 1.2.3. Land Reclamation (Fill Requirements)
  - 1.2.4. Marina and/or Waterway/Canal Design and Construction
  - 1.2.5. Infrastructure requirements (roads, water, sewage, stormwater management, solid waste disposal, energy, labour, and other services (e.g. schools, hospitals))
  - 1.2.6. Operation and Maintenance Activities and Best Management Practices

### **2. Project Design Alternatives:** describe and compare the positive and negative benefits/advantages and disadvantages of each alternative and provide the rationale for selection of the preferred alternative:

- 2.1. 'Do Nothing' or 'No Project' Alternative
- 2.2. Design Alternative One, Two, etc.
- 2.3. Applicant's Preferred Alternative

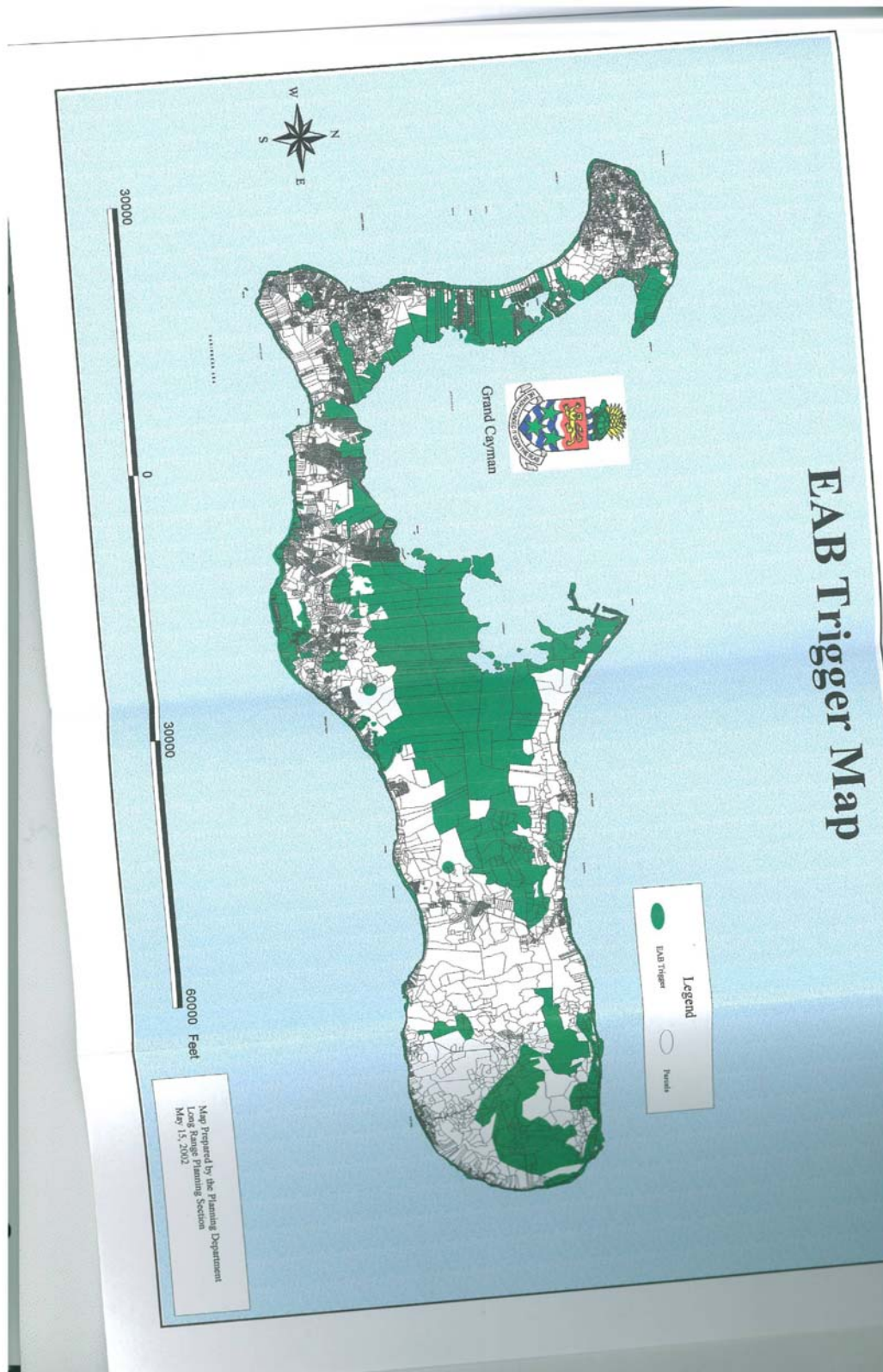
### **3. Affected Environment:** collection, analysis and presentation of baseline data, including review of existing literature and field surveys to facilitate impact assessment of physical, ecological and socio-economic conditions, limitations and constraints of the project, including the North Sound and unique environmental features where applicable. The level of effort of data collection and analysis shall be proportional to the importance of the impact. Deficiencies in information and data sources shall be identified.

- 3.1. Physical Resources (e.g. geology, ambient water quality)
- 3.2. Biological Resources (e.g. terrestrial, mangrove, shallow marine and reef habitats)
- 3.3. Socio-economic Conditions (identify the present demands/needs and degree of utilisation of social, cultural, economic opportunities, services and any linkages to environmental resources regarding demographics, labour and staff housing requirements, land-use and zoning, traffic, etc. that can be evaluated)

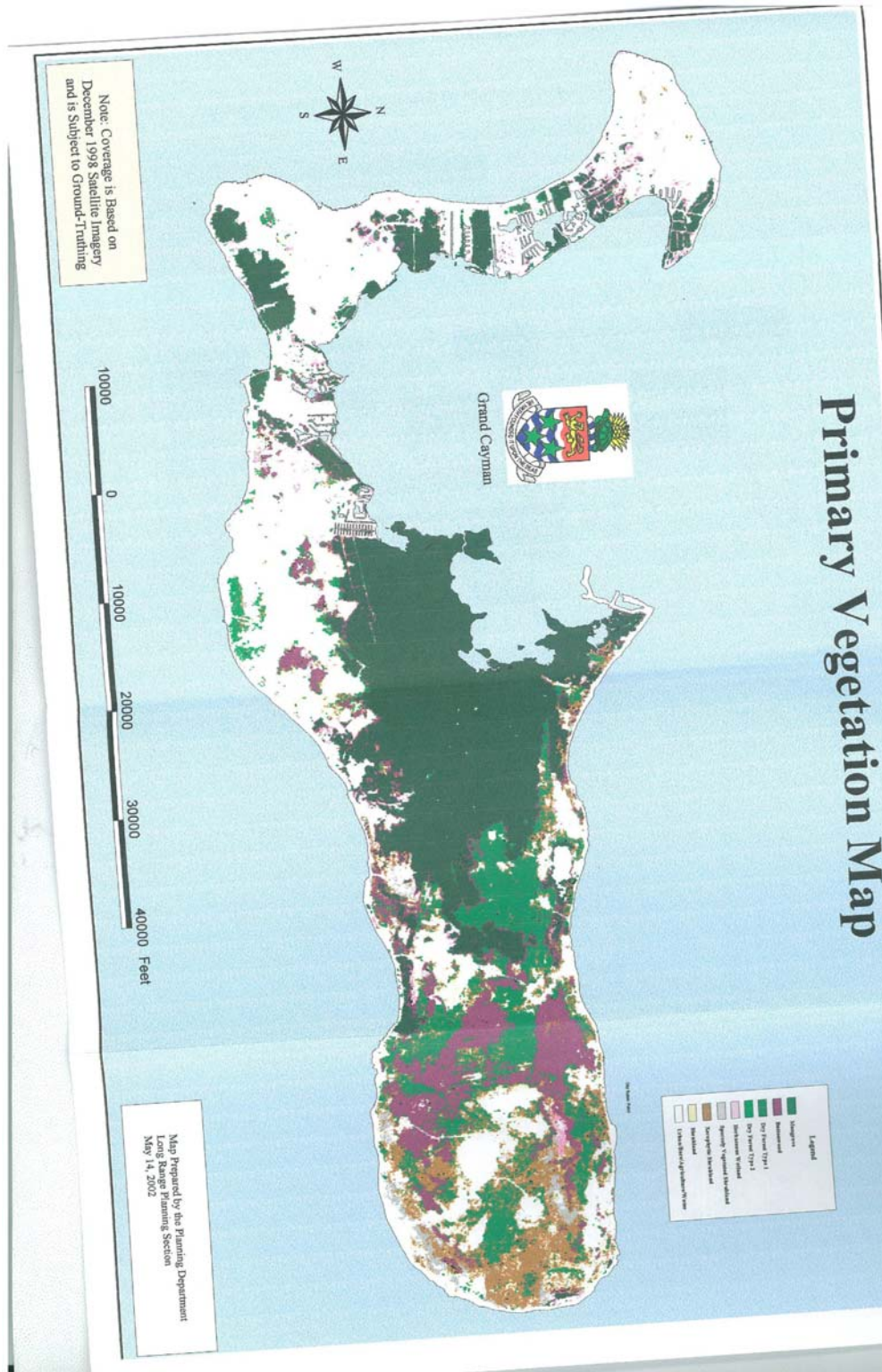
- 4. Impact Assessment:** identify and evaluate potential physical, ecological and socio-economic impacts of the proposed development in terms of magnitude, extent and significance. Impact will be quantified where practicable in terms of environmental and socio-economic costs and benefits. Assessment criteria shall include positive and negative effects, direct and indirect impacts, immediate and long-term condition of the resource base, unavoidable impacts or irretrievable commitments of resources, and cumulative impacts. Any deficiencies in predictions of impact shall be identified.

  - 4.1. Physical Resources
  - 4.2. Biological Resources
  - 4.3. Socio-economic Conditions
  
- 5. Mitigation and/or Compensation:** describe measures to avoid, minimise or compensate for adverse impact of the proposed development. Measures shall include various design elements and BMPs to address for example water quality maintenance of waterways/lakes, landscape and revegetation scheme, and monitoring activity to minimise impact while maximising recovery of resources in disturbed areas. Monetary compensation based on fair market value of resources and / or off-site mitigation are options that should be explored.
  
- 6. Schedule for review** of Interim (if applicable), Draft and Final Reports, including public participation in review process.

## Appendix 8: Map Showing Location Triggers for EA Process



## Appendix 9: Primary Vegetation Map



### Appendix 10: Proposed Review Process for Coastal Development Projects (CH2MHill)

