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Attorney-General's Department

Report for Crown Land
Management Plan for the
Indian Ocean Territories

Christmas Island

September 2009



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1. Introduction

1.1 Background

The Attorney-General's Department (AGD) has responsibility for the administration of Crown land on Christmas Island and the Cocos (Keeling) Islands and Parks Australia is responsible for the administration of National Parks. AGD has a Service Delivery Arrangement with the Western Australian Department of Land Information (Landgate) and the Western Australian Department of Planning (DP). Services provided include registration of titles, valuation of land and the provision of planning, legal and administrative advice on land.

Although some land administration and planning assistance is provided through DP, AGD retains responsibility for strategic land planning of Crown land on Christmas Island. DP has suggested that a Crown Land Management Plan (CLMP) would assist with strategic land planning and development. The Shire of Christmas Island administers the local Town Planning Scheme (TPS), the statutory mechanism under WA planning legislation that controls all land use on the Island. The TPS is the primary instrument through which land use and development is controlled on the Island. A TPS generally has an outlook of five years and zones land for certain purposes and contains development provisions for each particular zone, in accordance with the orderly and proper planning of a local government area.

This document should be read in conjunction with the report for the Crown Land Management Plan for the Indian Ocean Territories (IOT) – Cocos (Keeling) Islands.

1.2 Purpose/Objectives

The main objective of the project is to assess Crown land on the Indian Ocean Territories (IOT) and enable informed decisions to be made on its most suitable future uses which will lead to the overall better management of Crown land. The CLMP covers both Christmas Island and the Cocos (Keeling) Islands. The CLMP covers all Crown land: unallocated Crown land, leased Crown land including mining and commercial, vested land, reserved land and Crown land under a management order.

The project has consisted of an initial assessment of Crown land in the IOT which has been undertaken by drawing on readily available information, mostly from resources provided by AGD and from DPI.

The identified Crown land was assessed for conservation, economic, cultural and social values. This assessment provided the basis for a plan of management, which includes recommendations on the appropriate future uses of land, land development priorities (i.e. short term, medium term, long term), and management options for those lands. The CLMP has also been produced in a format which can be incorporated into the existing GIS for Christmas Island and the Cocos (Keeling) Islands.

1.3 Commonwealth Property Disposal Policy

All Commonwealth land on the Island is subject to the Commonwealth Property Disposal Policy (CPDP). The general policy is for 'Commonwealth property, having no alternative efficient use, is to be sold on the open market at full market value.' There are three general exceptions to this general policy:

1. Disposal of property for housing and community outcomes: where surplus Commonwealth property is considered suitable for facilitating an increase in the supply of housing, improved community amenity or the creation of new jobs, the property shall be disposed of under an approved strategy. This



decision is made jointly by the Minister for Home Affairs, Minister for Finance and Deregulation and Minister for Housing.

2. Priority sales: those made direct to a purchaser without having the property first been offered for sale on the open market, for example where it is considered that a sale to State or Local governments would optimise housing and/or community outcomes or where Commonwealth funded organisations seek special consideration in the disposal of surplus property to facilitate Commonwealth Policy objectives. This decision is made jointly by the Minister for Home Affairs and the Minister for Finance and Deregulation.
3. Concessional sales: those priority sales concluded at a purchase price below market value. This decision is made jointly by the Minister for Home Affairs and the Minister for Finance and Deregulation.



2. Literature Review

2.1 Christmas Island Local Planning Strategy Background

The Local Planning Strategy (LPS) was prepared by Koltasz Smith on behalf of the Shire of Christmas Island (SOCI) to provide a strategic vision for the long term planning and development of Christmas Island. The LPS was first released for review and comment in 2003, and public advertising closed in early 2009. The LPS identified the following, amongst others, as key issues for the Island:

- » Need to diversify the economic base of the Island, and particularly eco-tourism is most likely to be the base of the long term economic future of Christmas Island;
- » Need for a holistic approach in dealing with conservation and development;
- » Future urban development should replicate the current urban development form, separated by major landform features;
- » Land use planning for the Island needs to provide for a long term population of 10,000;
- » From a climate perspective, the preferred location for residential development is on the central plateau;
- » Urgent need to undertake a Risk Assessment of rock fall events in Flying Fish Cove;
- » Christmas Island District High School (CIDHS) requires expansion;
- » Increased tourist growth will require service provision for a range of accommodation and visitor facilities;
- » Provision of an Enterprise Development Area;
- » Encouragement of on-island horticultural production and the provision of 'commonages' where residents may grow their own produce;
- » Resolution of National Park boundaries;
- » Provision of a dedicated container handling area near the airport; and
- » The existing landfill site is located within the perched aquifer recharge area.

A strategic land use plan was developed, providing for a long term population of 10,000 people (see [Appendix A](#) for full plan). Several areas of future residential growth were identified, including at Norris Point (Mining Lease 132), Irvine Hill (Mining Lease 133) and at South Point (Mining Lease 100 and 101).

The LPS identified the Settlement area as the principal tourist and commercial focus of the Island, with expanded opportunities for short stay tourist residential, a boulevard treatment and development of a boutique retail/food and entertainment precinct for Gaze Road, and mixed use multi residential and commercial office precinct overlooking the port area.

In terms of employment generating land uses, the LPS proposes an 'Enterprise Development Area' to the west of the airport along with an expanded Light Industrial Area in the current location. It also proposes an 'in-ground' horticultural zone in the vicinity of the existing Horticulture area and a Tropical Zone Research Institute in the vicinity of the Central Area Workshops.



Expansion of conservation areas are also proposed to increase protection of significant bird nesting areas and areas of primary and secondary rainforest. The LPS also proposes the introduction of a Town Planning Scheme-based policy requiring the detailed mapping and evaluation of any caves discovered in the course of development.

In relation to community and infrastructure, the LPS proposes a major community and cultural campus north of the cricket ground, linking with the recreation facilities and proposed residential areas on Irvine Hill. It also encourages new residential areas to utilise effluent treatment systems and recovery technologies. The LPS also advocates the downgrading of several major roads once mining trucks have ceased operation, including reducing widths and visually downgrading them to 'jungle drives'.

2.2 Christmas Island Local Planning Strategy Assessment

For the purpose of this assessment the text in italics below represents the leading statements found in the LPS. Each statement is followed by a response.

2.2.1 Overview

'The essential objective of the Local Planning Strategy is to provide a shared, comprehensive strategic vision for the long term planning and development of Christmas Island.'

The Phase 1 planning assessment remains relevant; however the Phase 2 strategic plan devised in 2003/04 is out of date, as it was based on the following assumptions that did not materialise:

- » 10,000 people population projection;
- » Significant increase in tourism; and
- » Implementation of the Space Centre.

It is clear that land management and administrative practices on the Island will require a new 20 to 30 year socio-economic vision to be devised. This should be in line with the priority objective of providing for the orderly growth of the residential sector.

The technical factors that made the Space Centre a suitable possibility on Christmas Island remain unchanged and the LPS should maintain such recognition.

The most formidable challenge for Christmas Island remains the detailed consideration of the physical and socio-economic aspects associated with the phasing out of phosphate mining and the long term conversion of mining leases to other uses. This is not evident in the LPS and would need to be taken into account in establishing the future land planning strategy.

2.2.2 Geotechnical Considerations

'Geotechnical assessments to establish rock fall risk and establish appropriate safety zones'

The risk of rock fall on all roads subject to such a threat must be identified and appropriate safety zones need to be established. In particular, the requirement to protect infrastructure services along Flying Fish Cove.



‘Geotechnical surveys and assessment of potential cave sites are required to manage the potential impacts of threats such as forest clearing, ground water abstraction, general development such as airport upgrade and urban development.’

The need to conduct geotechnical surveys on the Island remains essential for the orderly upgrade of the LPS and subsequently providing direction in the Town Planning Scheme. In addition to the geotechnical surveys and assessments of potential cave sites, it is clear that a geotechnical survey of the underlining basalt must also be carried out in order to better understand the ultimate fresh water potential of the Island. Ideally, such investigations would need to take place prior to the finalisation of land use planning, and in particular determining the location of potential contaminating land uses such as landfill.

2.2.3 Population

‘Ultimately population numbers will be constrained by the state of the local economy. The concept of a sustainable population has particular relevance to Christmas Island given its finite resources and unique characteristics. The desirable population level remains to be established.’

‘The population scenarios developed in the LPS are economically driven.’

The ability to determine ultimate population numbers remains a challenge in itself because:

- » The approval of new mining leases (8 in total) would provide measured medium term support to the mining industry and could assist in providing certainty for the future economic outlook for the Island;
- » A proportion of mining leases should remain economically productive post-mining to sustain the Island’s population;
- » Agriculture as a natural economic potential for the Island would require further consideration; and
- » The self reliance for fresh food supply needs to be encouraged and defined as it underpins the economic viability of other endeavours such as tourism.

A long term population projection of 10,000 people as stated in the LPS remains optimistic and 3,000 is a realistic projection. Ultimately population numbers for Christmas Island should consider the Island’s fresh water capability, which in itself will be reliant on the mapping of the basalt underlay as discussed above.

2.2.4 Economic Development

‘The Island’s future needs to be employment and economically driven.’

‘The Island needs to promote gradual, manageable and sustainable growth in order to establish strong long term economic and social foundations for the future.’

‘If the Island is to survive and progress into the future it must establish strong long term economic and social foundations.’

One manageable pathway to establish a durable economic foundation for Christmas Island is to initiate the conversion of selected mining leases to intensive equatorial agriculture. The release of new mining leases as applied by Phosphate Resources Limited (trading as Christmas Island Phosphates) and their post mining use could be focused on the diversification of the Island’s economic base through encouragement of rural uses such as agriculture. This diversification could lead to the future optimisation of the import-export ratio.



A key objective of the LPS should give consideration to the reduction of the dependency on imported food as a pre-requisite to the development of any other economic sector such as tourism.

2.2.5 Tourism

'Tourism and particularly eco-tourism is most likely to be the base for the long term economic future of Christmas Island'

Due to its remote location, the significant cost of airfares, restricted fresh food supply and its high cost, and the relative absence of beaches, Christmas Island can only generate specific top-end tourism opportunities rather than high volume and broad based patronage. It is felt that the tourism statement in the LPS is inadequate as tourism can only play a modest role in the economic future of the Island.

The current high cost of food and sometimes unreliable supply of fresh food will hinder any large scale tourism development on the Island. These issues will increase the operating costs of large tourism developments which will likely be passed on to customers, or have direct effects on any tourism development's economic viability.

2.2.6 Urban Form

'There is little opportunity for further urban expansion or any significant urban infill within the existing urban clusters.'

As a matter of principle, urban expansion should preferably occur in infrastructure rich areas in preference to green field and more remote sites. The urban expansion of the existing settled area can be achieved through detailed planning.

'The retention of the principles of individual residential communities separated by landform and vegetation.'

This spatial arrangement may not be appropriate for the following reasons:

- » Risk of community fragmentation;
- » Higher infrastructure costs; and
- » Increased vehicular movements (impacts on safety, sustainability and fauna protection).

The detailed consolidation of existing settlements should be considered first. Satellite settlements should only be contemplated as a result of a sizeable economic 'catalytic' event. Meanwhile, the need to identify an appropriate site for the establishment of a long term additional residential precinct remains.

2.2.7 Community Facilities

A number of community facilities require specific land considerations:

- » The long term expansion of CIDHS;
- » A possible need for a new separate primary school site to alleviate restrictions on the current school site;
- » The Island may need a technical school;



- » Possible requirements for an upgrade to the women's refuge centre; and
- » A long term cemetery site.

2.3 Christmas Island Destination Development Report

The *Christmas Island Destination Development Report* was produced in 2008, with the overall aims to:

- » Increase the attraction of the Island with a focus on low volume, high yield tourism as a basis for enhancing tourism's long term contribution to the economy of Christmas Island; and
- » Ensure that the products and experiences on offer align with the brand.

The Report identifies that the major issues facing the tourism industry on Christmas Island revolve around access to the Island, standard of infrastructure, community leadership and relationships, investment and the service environment. Numerous strengths and opportunities were also identified, including the natural environment, cultural diversity, activities and experiences on offer and a safe, friendly social environment.

A vision was developed for tourism on Christmas Island as part of the report and is as follows:

'A destination recognised as an eco-friendly, unspoiled and culturally rich island providing a unique and high standard tourism offer that includes a diverse range of natural and cultural experiences that foster local business opportunities, protection of natural and cultural assets and a vibrant and sustainable economy'

A number of destination development strategies were outlined under various categories, summarised below:

- » Access – improving air services, airport upgrade and attracting eco-cruise ships;
- » Accommodation – increasing the range of accommodation through the development of camp sites, and considering old building re-use (e.g. CI Club);
- » Attractions and Experiences – expanding the nature-based product range, cultural tourism product, interpretation plan and considering the alternative future uses of mines sites;
- » Infrastructure and Amenities – improving the streetscapes, visitor centre, road management, lookouts, signage, walking tracks, mountain bike trails and toilet facilities;
- » Training and Development – capacity building and tourism industry development; and
- » Conservation and the Environment – developing alternative Park management methods and environmental sustainability initiatives.

Whilst the fundamental observations and conclusions of the Report are adequate and relevant, the appropriate scale, and therefore economic relevance, of tourism on Christmas Island is unknown. Tourism's potential contribution to the economy of Christmas Island possibly will need support from other sectors.

2.4 Christmas Island Walking Track Strategy

The Christmas Island Tourism Association (CITA) released the *Walking Track Strategy* in November 2007 (see [Appendix B](#) for map), which is a scoping study for a network of walking tracks for Christmas



Island. The goal of the project was to determine the current and future needs and benefits of establishing a network of walking tracks and other associated infrastructure and facilities around the Island.

The Strategy explored the demand on-island for walking tracks and found that there are high levels of participation in walking, running and mountain biking activities. It predicted that the demand would grow with trends indicating increasing participation in healthy and active lifestyles. The Strategy believes that Christmas Island is in a position to promote exceptional opportunities for walking combined with other nature-based tourism opportunities as a holiday destination.

The Strategy proposed a track network that includes over 121 kms of track ranging from easy to hard which showcases the Island's 'outstanding' natural and cultural values. The network consists of two overnight loop tracks around the Island with a range of side trips and route options. There are also a series of new and existing short walks.

In general terms the large majority of the identified tracks in the Strategy are either in National Park areas, Unallocated Crown land or Public Open Space under the Town Planning Scheme. As such there is no indication that the existing or proposed tracks would be affected by the CLMP.

2.5 Climate Change Risk Assessment for the Australian Indian Ocean Territories

Maunsell completed the *Climate Change Risk Assessment for the Australian Indian Ocean Territories* in January 2009, the purpose of which was to research, identify, evaluate, prioritise, synthesise and report on the future impacts of climate change in the Territories. In relation to Christmas Island, the report concluded that it is less vulnerable to the potential impacts of climate change and sea level rise than the Cocos (Keeling) Islands. This is due to Christmas Island being almost completely surrounded by sea cliffs.

The report identified that among the most important impacts of climate change were possible threats and effects on Kampong, Flying Fish Cove and coastal infrastructure from storm surges and shoreline erosion.

Figure 1 provides a summary of the key risk to natural systems on Christmas Island. The majority of the risks are classed as low or medium, however by 2070, there is an extreme risk projected for coral reef bleaching and skewed turtle gender ratios and loss of breeding areas.



Classification	Risk	2030	2070
Limestone cliffs	Increase undercutting for cliffs without beaches or rock platform	Medium	High
	Increase undercutting for cliffs with beaches or rock platform	Low	Medium
Coral reefs	Proneness to bleaching events because of increased temperature and constrained growth because of more acid ocean	High	Extreme
Coral reefs associated fauna	Decrease in the abundance and diversity of coral associated fauna and flora (reef acting as a nursery and a feeding area)	Medium	High
Red crabs	More pronounced split migration (effects unknown)	n/a	n/a
Rainforest	Decline in moisture dependant plants	Medium	Medium
	Exposure to intense cyclones, proneness to fire events	Low	Low
Endangered and endemic species	Highly vulnerable species; any threats would put greater pressures on them (important non climatic component)	Medium	Medium
Introduced species	Greater pressures because better climatic tolerance range and opportunistic species	Medium	Medium
Seabirds	Loss of nesting habitat and potential decrease of food availability	Medium	Medium
Fish population	Mass fish kill events, change in the food availability, reproduction cycles, migration patterns	Low	Low
Turtles	Skewed gender ratio and loss of breeding area	High	Extreme

Source: Maunsell 2009

Figure 1: Christmas Island Natural System Risks

A similar table was produced to summarise the risk to human settlements on the Island (see Figure 2). Once again the majority of the projected risks are classed low or medium; however there is a high risk of impacts on the Kampong and Settlement areas as well as storm damage to port facilities.

Classification	Risk	2030	2070
Human Settlements	Impacts on Kampong & Settlement	High	High
Society & Culture	Minor impacts on economy and livelihood	Low	Medium
Economy & Tourism	Degradation of natural attraction and iconic species	Low	Medium
Water Resources	Degradation of water assets	Low	Medium
Power Resources	Loss of electricity supply	Low	Low
	Increased corrosion of power assets	Low	Low
	Storm and fire damage to fuel storage and power facility	Low	Medium
Ports	Storm damage to port facilities	High	High
	Corrosion of port facilities	Low	Low
Kampong	Storm damage to Kampong	Medium	High
Airport	Storm damage to airport	Low	Medium
Settlement	Storm damage to settlement	Medium	Medium
Buildings	Storm damage to buildings	Medium	High
	Heatwave impacts	Medium	Medium
	Corrosion of buildings and facilities	Low	Medium
Communications	Storm damage to communications equipment	Low	Low
	Corrosion of communications equipment	Low	Low
Mines	Storm damage to mine facilities	Medium	Medium
Human Health		Low	Medium

Source: Maunsell 2009

Figure 2: Christmas Island Human Risk Settlement Summary

The report concludes by providing adaptation options for the Island to assist in preparing for and mitigating against the effects of climate change. The following is a summary of the recommended intervention actions:

- » Ensure all port facilities are operational and maintained for climate change conditions;
- » Develop a range of specific climate change design and maintenance criteria for insertion in tender documents for infrastructure assets;



- » Secure power supply to water pumping stations by placing above ground power supply underground;
- » Develop an integrated Emergency Management Plan and increase communication and scenario planning including key community leaders;
- » Develop a strategic nature-based tourism development plan for Christmas Island, and develop tourism training opportunities;
- » Develop and deliver a capacity building program for Christmas Island;
- » Develop and deliver a community education program to build community resilience;
- » Develop a Climate Change overlay for planning development in Christmas Island including a longer term transition plan for Kampong and Settlement; and
- » Develop a Bushfire Management Plan for Christmas Island, and introduce basic bushfire training programs for Council and other emergency management personnel.

2.6 Christmas Island Water Management Plan

A *Water Management Plan* (WMP) for the Island was produced in 1999 with the objective of presenting a plan for the management of water on Christmas Island. Part of the process included an extensive groundwater investigation and monitoring program. Some of the key outcomes of this program included:

- » That classification of the Island's fresh groundwater into perched aquifers and basal aquifers should only be considered preliminary as much of the data is inferred. Actual distances from the coastline to clean ground water may vary from 500 m depending on local differences in permeability, especially if volcanic rock is present below sea level near the coastline (e.g. parts of the eastern and western coastlines).
- » As an approximate guide, no basal groundwater should be developed by pumping within 500 m of the coastline because there is a strong possibility that this groundwater would be brackish in extended dry periods, and even if it was not, the action of pumping is likely to induce seawater intrusion.
- » The groundwater resources of Christmas Island are rated as having a high to very high vulnerability to contamination. Strict controls over potential pollution sources, particularly waste disposal sites, are absolutely essential. In particular, planning procedures should take account of the vulnerability of groundwater when siting waste disposal areas, urban areas with associated sewerage and storm water systems, and other potential sources of pollution. It is recommended that a 'zero discharge' policy is the most appropriate for all potential pollutants over the whole Island.

Groundwater development options were also considered in this report. It recommends that:

- » The existing developed sources (Jedda and Waterfall) provide ample supply for current population levels and environmental needs. Water from these sources should be maximised and utilised in a sustainable manner before any investment to develop new sources is considered;
- » Improvements to the Waterfall Spring should be undertaken as a priority item, followed by improvements to the other two springs (Freshwater and Jones) that feed the Waterfall pumping system.



- » As an important component of the WMP, groundwater protection measures should include:
 - land use controls, including total or partial restriction of development in areas which may impact on vulnerable groundwater resources;
 - use of effluent discharge standards; and
 - the control of storage and transmission of chemical substances.
- » Given the shortage of land on the Island, the restrictions on sea dumping, and the costs of back loading materials to the mainland, it is important that waste for landfill be minimised and that every cubic metre of waste landfill space is used efficiently. This requires appropriate planning, design and funding. Issues of waste separation, incineration of hospital waste, and alternative arrangements for handling toxic and hazardous waste need to be carefully addressed.
- » Ongoing monitoring for pollution is as an essential ingredient to water supply security. If pollution was detected at a water source (e.g. Jedda, Waterfall), then the source would need to be closed at least until re-testing was undertaken. Where pollution continued, the Island would have a significant water supply problem. Alternative sources would need to be brought on line and remedial steps taken to decontaminate the groundwater. The possibility of such difficult and expensive actions underlines the real need to prevent contamination of water resources.

It is considered that the fundamental findings and recommendations of the report are adequate and relevant, especially issues surrounding pollution impacts, inaccuracy of groundwater information, system redundancy and the need for groundwater protection measures. However the effect on fauna of upgrading freshwater springs that provide surface water that rely on this surface water should be investigated further.

The accurate mapping of the basalt profile would assist in providing more definite answers surrounding these issues.



3. Christmas Island Crown Land Audit

The Crown land on Christmas Island has been divided into two categories for the purpose of this audit; 'Committed' land and 'Uncommitted' land. The Committed land refers to land uses that are not likely to change, or be able to change, in the near future due to a variety of reasons, such as mining, commercial lease commitments, land utilised by public utilities and National Park land. The Uncommitted land refers to the remaining Crown land on the Island which remains unconstrained in terms of future land use potential.

3.1 GIS Analysis

GIS analysis was undertaken using the June 2007 release of the Christmas Island Geographic Information System, prepared by Geoscience Australia. Some additional spatial analysis was undertaken utilising the GIS data provided to illustrate the gradient, access to water, proximity to services and communications, roads access, buffers, mining history, Ramsar sites, other heritage interests and lease terms.

3.2 Polygon Identification Number

The Polygon Identification Number (PIN) is used as an identifier for every cadastral lot in Western Australia. Every land parcel in the state has a unique PIN, ensuring there is an accurate land parcel identifier that can not be used multiple times for different land parcels. PINs are supplied from the Landgate database.

3.3 Audit Criteria

The following list defines the criteria used for the land audit, providing an explanation of what the criteria refers to, how it is determined and how it is applied to each Crown land parcel.

The results of the audit of Crown land on Christmas Island can be seen in [Appendix C](#) to this report.

3.3.1 Area

The area listed in the audit refers to each land parcel's area in square metres. Areas were determined using GIS calculations.

3.3.2 Lot Number

Lot numbers listed in the audit are derived from available GIS cadastral information.

3.3.3 Lodged Cadastre

Lodged cadastre refers to current subdivision proposals lodged with the Western Australian Planning Commission. In terms of the audit, a 'Y' indicates that that particular land parcel is subject to a lodged cadastre.



3.3.4 Current Land Use Zoning

The current land use zoning refers to each land parcel's zoning as per the Shire of Christmas Island Town Planning Scheme No. 1 (TPS). The TPS is a statutory planning document that indicates the land use zoning for the entire Shire and dictates which land uses are permitted within each land use zone in a 'zoning table'.

3.3.5 Land Use Description

The land use description is a description of the current land use activities on each land parcel on the Island. A combination of aerial photography, existing documentation and site visits contributed to the determination of the current land uses.

3.3.6 P1 Vegetation

'P1 Vegetation' refers to Priority 1 vegetation as outlined in the Christmas Island Local Planning Strategy. Priority 1 vegetation is classified as Primary Rainforest (tall closed forest, deep soil phase). Priority 1 vegetation is currently protected from clearance under the *Environmental Protection and Biodiversity Act 1999* and requires Ministerial consent for clearing. GIS vegetation data was utilised to determine the extent of the P1 vegetation.

3.3.7 P2 Vegetation

'P2 Vegetation' refers to Priority 2 vegetation as outlined in the Christmas Island Local Planning Strategy. Priority 2 vegetation is classified as Marginal Rainforest (closed forest, shallow soil phase). Priority 2 vegetation is currently protected from clearance under the *Environmental Protection and Biodiversity Act 1999* and requires Ministerial consent for clearing. GIS vegetation data was utilised to determine the extent of the P2 vegetation.

3.3.8 Revegetated Area

'Revegetated area' refers to both natural and planted revegetation, as per the GIS vegetation data. These areas were identified to highlight vegetated areas that have already been cleared or disturbed by mining or other activities and do not contain pristine vegetation.

3.3.9 Pinnacle Fields

The presence of pinnacle fields (areas of limestone 'pinnacles' in previously mined areas) was determined by a combination of GIS data, aerial photography and site visits. The areas are mostly devoid of natural vegetation and high quality regrowth.

3.3.10 Gradient >10%

A 10% slope was established as the threshold gradient of each land parcel based on road specifications, as any development relies on road access. Any gradient over 10% is generally not considered suitable for road construction. The slope was calculated using GIS processes incorporating existing contour information.



Each land parcel was assessed as either containing a 10% slope over the majority of the site, therefore inhibiting development ('Y'), containing a slope of less than 10% over the majority of the site ('N'), or containing relatively equal parts of land above and below a 10% slope ('M').

3.3.11 Abbotts Booby Nesting Sites

The Abbott's Booby is listed as 'Endangered' under the *Environmental Protection and Biodiversity Act 1999* and Christmas Island is considered the sole remaining breeding habitat for the species. Each land parcel was assessed to determine if it contained any nesting sites of the Abbotts Booby using existing GIS data.

3.3.12 Commonwealth Heritage List

The Commonwealth Heritage List comprises natural, Indigenous and historic heritage places on Commonwealth land. Entries on the Commonwealth Heritage List are protected under the *Environment Protection and Biodiversity Conservation Act 1999*. Existing GIS data and literature were consulted to establish the presence of heritage places on Crown land parcels.

3.3.13 Buildings/Structures

The presence of existing buildings or structures was determined by a combination of aerial photography analysis, photos and site visits.

3.3.14 Access to Water Supply

Using GIS water infrastructure data, each Crown land parcel was examined to establish if it had immediate access to a water supply (e.g. a water pipe in an adjacent road reserve or in the immediate surrounding area of an adjacent lot). Ease of access to a potable water supply is critical in determining the suitability of the land for alternative land uses.

3.3.15 Access to Sewerage

Using GIS sewerage infrastructure data, each Crown land parcel was examined to establish if it had immediate access to sewerage (e.g. a sewerage pipe in an adjacent road reserve or in the immediate surrounding area of an adjacent lot). Ease of access to reticulated sewerage is critical in determining the suitability of the land for alternative land uses.

3.3.16 Access to Power

Using GIS power infrastructure data, each Crown land parcel was examined to establish if it had immediate access to power (e.g. power infrastructure in an adjacent road reserve or in the immediate surrounding area of an adjacent lot). Ease of access to a power supply is critical in determining the suitability of the land for alternative land uses.

3.3.17 Access to Communications

Using GIS communications infrastructure data, each Crown land parcel was examined to establish if it had access to communications (e.g. communications infrastructure in an adjacent road reserve or in the



immediate surrounding area of an adjacent lot). Ease of access to communications infrastructure is essential for any new development.

3.3.18 Access to Roads

Road (both sealed and unsealed) access was determined by examination of GIS data, aerial photography and site visits. The GIS data was analysed to determine if there was a road reserve adjacent to Crown land parcels. Analysis of the aerial photography and site visits determined if roads or tracks were constructed and the nature of the roads for ease of access.

3.3.19 Buffers

The presence of buffers over Crown land was determined using both GIS analysis and information provided in the Local Planning Strategy. Buffers generally illustrate a certain area of land surrounding a certain land use or infrastructure asset in which incompatible land uses should not be allowed to avoid potential conflicts (e.g. visual, safety, noise, odours). Buffers have the potential to sterilise land areas from specific types of land uses.

The analysis revealed that there are three buffer requirements, two related to telecommunications towers and one related to the land fill site on Phosphate Hill. The telecommunications towers attract two buffers; a 500m buffer to residential properties and a 1,000m buffer to industrial land uses. The landfill site attracts a buffer of 500m to surrounding land uses.

Additionally, there is an intrusion of land at the northern end of the runway into the Obstacle Limitation Surface (OLS) for the airport. The OLS exists to ensure adequate obstacle clearance for aircraft approaching and leaving the airport. Intrusions into the OLS are not permitted unless approved by Civil Aviation Safety Authority (CASA), and therefore this area of land could also potentially be sterilised from future development.

Land affected by the telecommunications buffers alone is shown as 'T', land affected by just the landfill site buffer is depicted with an 'L' and land affected by the telecommunications, landfill and OLS intrusion is depicted as 'A'. No properties are affected by the OLS restriction alone or just the telecommunications and landfill buffers.

3.3.20 Mining History

Information regarding the mining history of the site relates to the rehabilitation, regrowth and soil conditions of the current mining leases. The information was derived from the Christmas Island Mined Land Rehabilitation Task Register and also site visits and local knowledge.

3.3.21 Ramsar Site

Ramsar sites refer to registered sites of the Ramsar Convention, an intergovernmental treaty, which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

Under the *Environmental Protection and Biodiversity Conservation Act 1999* it is an offence to undertake any activity that has, will have or is likely to have a significant impact on a Ramsar site. Christmas Island has two Ramsar sites, one that includes Hosnie's Spring on the east coast and another that includes the Dales on the west coast.



3.3.22 Other Heritage Interest

Other heritage interests refer to sites on Crown land that are not on the Commonwealth Heritage List, but are listed on the Shire of Christmas Island Heritage List. These sites have been recommended for listing on the Commonwealth Heritage List. Any development requirements associated with properties on the Shire Heritage List will effect any future development of those sites.

This criteria also relates to properties listed in the Christmas Island Conservation of Industrial Mining Heritage Conservation Strategy (CIMH), prepared in 1998. The Strategy recognises the significance of the Island's industrial heritage and to ensure that opportunities for future tourism development associated with cultural tourism and industrial heritage are preserved.

3.3.23 Lease Expiry Date

The lease expiry dates refer to two categories of Crown land, being the mining leases and commercial properties. All of Christmas Island Phosphate's (CIP) current mining leases (MCI 70/1) expire at the same time. There are a small amount of other mining leases held by other parties (MCI 70/2 and MCI 70/3).

The commercial leases have different durations, expiry dates and options which will affect the development potential of these properties.

3.4 Audit Summary

The audit revealed 379 Crown land parcels on the Island, broken down in Table 1.



Table 1: Christmas Island Crown Land Breakdown

Land Status	Category	No. of Land Parcels	Area (ha)
Committed	Mining Lease (including infrastructure)	67	1982.0
	Residential	58	38.6
	Commercial Properties	15	133.5
	Land Vested to Shire	35	68.4
	Land Vested to Parks	3	1.8
	Land Vested to Telstra	5	6.6
	Land Utilised by Public Utilities	29	213.6
	National Park	4	8758.0
	Sub-Total	216	11202.5
Uncommitted	South Point	8	681.7
	Dogs Head	149	1209.5
	North West Point	1	12.5
	Rest of Island	5	565.8
	Sub-Total	163	2469.5
	Total	379	13672.0



4. Land Capability Assessment

A map series illustrating the following land capability aspects listed below can be found at [Appendices D and E](#). More detailed information on specific land parcels can be found in the Audit results.

4.1 'Committed' Land

4.1.1 Topography

The analysis of the topography of the Island has been based on the slope of the land, due to significant development constraints on land with over a 10% slope. Land with a slope of less than 10% is capable of development requiring construction of buildings and roads. It is not practical or efficient to consider major development on land with a slope of over 10%, as there are issues of water run-off, erosion, and road and building construction.

Of the Committed land, the most capable land for development in terms of the slope of the land is on the central plateau. The Irvine Hill area, extending towards the Central Area Workshops is the main area of consistently sloped land of less than 10% (see Map 1 of [Appendix D](#)). This land is mainly covered by National Park or Mining Leases.

4.1.2 Inappropriate Zoning

The current land use zoning under the Shire of Christmas Island Town Planning Scheme No. 1 (TPS) will determine the capability of each parcel of Crown land in terms of future land use. Within the TPS is a Land Use Zoning Table which sets out the permitted land uses for each land use zone (see [Appendix F](#)). Where no symbol appears in the table, that land use is not permitted in that particular land use zone.

Currently there are many examples of land uses being situated in land use zones that are not suitable. This severely limits the capability of these land parcels in terms of land re-use or land use expansion until the zoning issues are rectified (see Map 2 of [Appendix D](#)).

4.1.3 Environmental Considerations

The audit of Crown land on Christmas Island revealed four key environmental considerations that have to be taken into account for any future development. These are Priority 1 (P1) vegetation, Priority 2 (P2) vegetation, Ramsar sites and other matters of natural environmental significance (NES).

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), actions that have, or are likely to have, a significant impact on a matter of NES require approval from the Australian Government Minister for the Environment, Heritage and the Arts (the Minister). The Minister will decide whether assessment and approval is required under the EPBC Act.

At time of preparation of this plan, matters of NES relevant to Christmas Island are wetlands of international importance; listed threatened species and ecological communities; migratory species protected under international agreements and Commonwealth marine areas. Other relevant matters that are protected under the EPBC Act are:

- » The environment, where actions proposed are on, or will affect Commonwealth land and the environment; and



» The environment, where Commonwealth agencies are proposing to take an action.

These statutory protection measures will limit the capability of any land parcel they are found on. Whilst development is not completely ruled out in these areas, it is far more constrained and therefore its capability reduced.

The majority of the P1 and P2 vegetation and all of the Abbotts Booby nesting sites in Committed Land occurs in National Park areas, however there are some small pockets of P1 and P2 vegetation in the settled area that are not in National Park areas (see Map 3 of [Appendix D](#)).

4.1.4 Cadastral Considerations

The Christmas Island cadastre has been subject to multiple additions and modifications over the course of the history of the Island. In some cases, land uses have been implemented without appropriate prior cadastral arrangements. In other cases the cadastre has remained whilst land uses on those parcels have disappeared.

Cadastral discrepancies represent a significant handicap and can erode land capability through the reduction in land use opportunities, legal rights and/or the adequate protection of infrastructure assets.

Future land uses that may be introduced as a result of the CLMP will require the preparation of approval for new cadastral boundaries.

4.1.5 Mining Lease Rehabilitation

Mining leases may be capable of other uses than rehabilitation and incorporation into the National Park. Mining leases on the east coast and in the settled area in the north east of the Island may be capable for other land uses, such as rural uses (e.g. agriculture, horticulture, and plant and food research).

Existing pinnacle fields may provide a constraint to either rehabilitation or further land uses, affecting the capability of various mining leases for conversion. Whilst pinnacle fields don't exclude conversion to other land uses, they can reduce the mining lease's capability depending on the type and size of pinnacles that are present.

Mining leases and pinnacle fields can be seen in Map 4 of [Appendix D](#). Almost all large mining leases have recorded pinnacle fields in them, except for ML 102, 104, 122, 123, 125 and 129.

4.1.6 Services

Services include access to power, water, sewerage, communications and roads and are considered essential in the assessment of the capability of land parcels. The capability of land without access to one or more of these services is severely reduced as they are essential to the viability of any development.

Almost all the Committed land parcels have road access, however the main concentration of water, power, sewer and communications infrastructure is located in the 'Dogs Head' area on the north east point of the Island. There is also some infrastructure along Murray Road to the Central Area Workshops and the Immigration Detention Centre (see Map 5 of [Appendix D](#)).

4.1.7 Buffer Considerations

The buffers considered in the land audit involved the communication towers at Irvine Hill, the landfill site and the OLS area associated with an extended runway at the airport. Certain land use restrictions are



associated with these buffers, reducing the capability of the land through reducing the development possibilities for that land. In relation to the OLS area, the capability of land within the area is linked to the runway extension. This provides less certainty for future land uses, therefore reducing its capability.

These buffer and OLS areas are located in the Phosphate and Irvine Hill areas of the Island and encompass mining lease land, National Park areas and the Drumsite area (see Map 6 of [Appendix D](#)).

4.1.8 Lease Expiry Dates

There are two forms of leases on the Island, these being mining and commercial. Most of the mining leases expire in 2019; however the commercial leases have different expiry dates and options associated with them. The length and options of the Commercial leases effects the capability of the land, as properties with long leases associated with them are less capable than those that have short leases for future development.

4.1.9 Heritage Considerations

Two heritage registers or lists have been considered in the Audit, the Commonwealth Heritage List and the Shire of Christmas Island Heritage List. The presence of a land parcel on either of these two lists will reduce the capability of the land as it represents a constraint to development. Whilst a listing won't completely rule out any development, it will inhibit how much of the land can be developed and how the land may be developed.

Most of the heritage listings for the Committed land occur in the existing urban areas of the Dogs Head area, and apply to areas of land with existing buildings or structures on them.

4.2 'Uncommitted' Land

4.2.1 Topography

The analysis of the topography of the Island has been based on the slope of the land, due to significant development constraints on land with over a 10% slope. Land with a slope of less than 10% is capable of development requiring construction of buildings and roads. It is not practical or efficient to consider major development on land with a slope of over 10%, as there are issues of water run-off, erosion, and road and building construction.

Similar to the Committed land, the most consistently sloped Uncommitted land under 10% is on the central plateau, predominately adjacent to the road towards South Point (see Map 1 of [Appendix E](#)).

4.2.2 Inappropriate Zoning

The current land use zoning under the Shire of Christmas Island Town Planning Scheme No. 1 (TPS) will determine the capability of each parcel of Crown land in terms of future land use. Within the TPS is a Land Use Zoning Table which sets out the permitted land uses for each land use zone (see [Appendix F](#)). Where no symbol appears in the table, that land use is not permitted in that particular land use zone.

There is a small amount of zoning conflicts associated with Uncommitted land, concentrated in the Dogs Head area of the Island (see Map 2 of [Appendix E](#)).



4.2.3 Environmental Considerations

The audit of Crown land revealed various key environmental considerations that have to be taken into account for any future development. These are Priority 1 (P1) vegetation, Priority 2 (P2) vegetation, Ramsar sites and other matters of natural environmental significance (NES).

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), actions that have, or are likely to have, a significant impact on a matter of NES require approval from the Australian Government Minister for the Environment, Heritage and the Arts (the Minister). The Minister will decide whether assessment and approval is required under the EPBC Act.

At time of preparation of this plan, matters of NES relevant to Christmas Island are wetlands of international importance; listed threatened species and ecological communities; migratory species protected under international agreements and Commonwealth marine areas. Other relevant matters that are protected under the EPBC Act are:

- » The environment, where actions proposed are on, or will affect Commonwealth land and the environment; and
- » The environment, where Commonwealth agencies are proposing to take an action.

These statutory protection measures will limit the capability of any land parcel they are found on. Whilst development is not completely ruled out in these areas, it is far more constrained and therefore its capability reduced.

There is a large number of Abbotts Booby nesting sites located to the south west of the airport in Uncommitted land, along with a minimal amount at North West Point and on the eastern coast of the Island. There are also large areas of Uncommitted land with P1 and P2 vegetation on the eastern coast (see Map 3 of [Appendix E](#)).

4.2.4 Cadastral Considerations

The Christmas Island cadastre has been subject to multiple additions and modifications over the course of the history of the Island. In some cases, land uses have been implemented without appropriate prior cadastral arrangements. In other cases the cadastre has remained whilst land uses on those parcels have disappeared.

Cadastral discrepancies represent a significant handicap and can erode land capability through the reduction in land use opportunities, legal rights and/or the adequate protection of infrastructure assets.

Future land uses that may be introduced as a result of the CLMP will require the preparation of approval for new cadastral boundaries.

4.2.5 Services

Services include access to power, water, sewerage, communications and roads and are considered essential in the assessment of the capability of land parcels. The capability of land without access to one or more of these services is severely reduced as they are essential to the viability of any development.

The main concentration of water, power, sewer and communications infrastructure is located in the 'Dogs Head' area on the north east point of the Island. There is also some infrastructure along Murray Road to the Central Area Workshops and the Immigration Detention Centre (see Map 4 of [Appendix E](#)).



4.2.6 Buffer Considerations

The buffers considered in the land audit involved the communication towers at Irvine Hill, the landfill site and the OLS area associated with an extended runway at the airport. Certain land use restrictions are associated with these buffers, reducing the capability of the land through reducing the development possibilities for that land. In relation to the OLS area, the capability of land within the area is linked to the runway extension. This provides less certainty for future land uses, therefore reducing its capability.

These buffer and OLS areas are located in the Phosphate and Irvine Hill areas of the Island and encompass both forested and existing developed areas (see Map 5 of [Appendix E](#)).

4.2.7 Heritage Considerations

Two heritage registers or lists have been considered in the Audit, the Commonwealth Heritage List and the Shire of Christmas Island Heritage List. The presence of a land parcel on either of these two lists will reduce the capability of the land as it represents a constraint to development. Whilst a listing won't completely rule out any development, it will inhibit how much of the land can be developed and how the land may be developed.

Most of the heritage listings for the Uncommitted land occur in the existing urban areas of the Dogs Head area, and apply to areas of land with existing buildings or structures on them.



5. Strategic Priorities for Christmas Island

5.1 Introduction

The development of land suitability is reliant on the establishment of what the land is capable of, as identified in Section 4, and also through the establishment of strategic priorities for the Island. Strategic priorities for Christmas Island have been identified through on-island observations, discussions with stakeholders and the incorporation of relevant strategic documents.

A workshop attended by GHD and AGD representatives from Canberra, Perth and Christmas Island was held in Perth, Western Australia on 26 February 2009. The outcomes of this workshop informed the formulation of the following strategic priorities.

Further consultation was undertaken with SOCI, Parks Australia and CIP on subsequent visits to Christmas Island between 27 April - 1 May 2009 and 22 July – 29 July 2009.

The views expressed in Sections 5.3, 5.4 and 5.5 are only those of the persons interviewed and to whom the comments and statements are attributed. The Attorney-General's Department gives no warranties as to any of the content or accuracy of these views. No reliance should be placed on any of the comments or statements made without obtaining your own advice.

5.2 Attorney-General's Department

5.2.1 Potable Water

- » The main priority is to protect and diversify the current potable water supply on the Island; however this should not come at the expense of environmental and cultural values. To achieve this objective appropriately, the accurate determination of the catchment for water sources on the Island (e.g. Jemma Cave) needs to be determined to ensure the appropriate levels of protection from contamination from land uses.
- » Water infrastructure also needs to be protected, both legally and physically, and the efficiency of water infrastructure may provide an avenue towards improving and protecting the water efficiency of the Island.
- » Future potable water sources, such as water bottling proposals, should be considered, based on the understanding the limitations and tidal functions of specific caves.

5.2.2 Waste Water

- » Waste water pipe infrastructure is above ground and located in rock fall risk areas in some coastal areas and is vulnerable to damage. This infrastructure, along with land in the vicinity of current assets should be surveyed to assess relocation and/or expansion potential within currently held land assets.
- » Consideration should be given to the preparation of a business case for the re-use of waste water on the Island for uses such as agriculture or ecological support.



5.2.3 Waste

- » The preparation of a Waste Avoidance Strategy and a Waste Management Strategy for Christmas Island is a priority to facilitate active community interaction with the waste process and the reduction of environmental impacts of landfill on the Island.
- » The investigation of options for the use of waste or waste by-products (e.g. methane) for energy production or other uses.
- » Investigation into waste transfer quarantine requirements for the mainland. To accommodate these requirements, changes in procedures and land uses on Island may be required, including hard stand areas, under cover areas, cleaning and fumigation facilities.

5.2.4 Energy

- » The assessment of the carbon footprint of the current energy supply is required as new emission reporting legislation comes into effect.
- » The investigation of the risk of diesel fuel pipes in such close proximity to the school to ensure both the safety of the school occupants and that appropriate standards are adhered to.
- » The identification of an alternative location for the domestic fuel tanks so they can be relocated out of the tourism/commercial precinct for both safety and aesthetic reasons. The alternative location will need to remain in close proximity to the coast.

5.2.5 Mining

- » Parks Australia rehabilitation work uses two metres of soil. The depth of soil required for rehabilitation purposes may be more or less than two metres depending on the outcomes sought. There is currently 4 million tonnes of soil for rehabilitation purposes on the Island. Approximately 400 ha would be covered if an average level of two metres is used; however there is a total of 2300 ha of degraded areas in need of rehabilitation. Given this, options for the re-use of mine sites relinquished to the Commonwealth needs to be examined and the diversification of current opportunities investigated.
- » At this stage all the central mining leases are intended to be made available to be included in the National Park in the first instance.

5.2.6 Tourism

- » The promotion and development of the connectivity between Christmas Island and the Cocos (Keeling) Islands is desirable.
- » The promotion and development of both Islands should be based around the concept of an 'experience seeker'.
- » The establishment of a commercial/government precinct for Phosphate Hill, subject to the assessment of the suitability and viability of such a concept.
- » The regeneration and updating of the Gaze Road Tourism and Commercial Precinct.

5.2.7 Transport

- » Improvement of container handling areas on the Island.



- » Continuity of regular, reliable and competitively priced flights to and from the mainland.
- » Extension of the runway is supported to accommodate long term socioeconomic growth where this has been shown by empirical evidence.

5.3 Shire of Christmas Island (SOCI)

5.3.1 Town Planning

- » SOCI lacks technical planning capabilities, human and financial resources, and in particular the ability to prepare comprehensive Council reports and assessments of proposals.
- » SOCI expects that the outcome of the CLMP will inform a review of the TPS and is committed to ensuring public support and ownership of the new TPS.

5.3.2 Roads

- » Some road reserve widths are inadequate at present and some roads do not have dedicated road reserves. SOCI would expect gazetted road reserves to be incorporated into the new TPS maps as well as the possible inclusion of dual-use trails where appropriate.
- » There is a lack of clarity between the notions of public roads, public access, public liabilities and maintenance of road assets between SOCI, Parks, CIP and AGD throughout the Island. SOCI expects that the CLMP will clarify this process in the appropriate areas.
- » SOCI expects to ultimately be responsible for the up-keep of assets/reserves such as municipal parks and gardens, and cemeteries.

5.3.3 Light Industrial Area

- » A subdivision proposal has been formulated to rationalise AGD and SOCI land assets in the Light Industrial Area (LIA) and to provide small lots for light industries currently operating within and impacting upon established residential areas (see [Appendix G](#)). This proposal was initiated prior to the commencement of the CLMP process and it is desirable for this process to review the merit of that proposal in the context of the broader area and key vehicular movements.
- » There are possibilities to expand the LIA north and south of the existing Council depot. This will require negotiation with CIP given that the land assets involved are part of existing mining leases.
- » SOCI may consider leasing land rather than create freehold titles to ensure long term land use flexibility.
- » Beyond the CLMP process, an Outline Development Plan (ODP) for the LIA will be required in order to formalise the ultimate subdivision design.
- » The ODP should consider future roads and in particular a by-pass road to the airport, transport and service requirements, land required for the expansion of the hospital and a buffer between the hospital and the LIA.

5.3.4 Future Residential

- » The establishment of new residential areas in close proximity to existing infrastructure, such as the recreation centre, is more desirable than new remote satellite communities.



5.3.5 Streetscape Improvements

- » SOCI is concerned with pedestrian safety along Murray Road in Poon Saan and would like to improve parking and pedestrian connectivity throughout the precinct.

5.4 Christmas Island Phosphates

5.4.1 Crown Land Management Plan

- » CIP welcomes AGD's initiative to establish a Crown Land Management Plan for Christmas Island and remains committed to the process.
- » CIP are hopeful that many synergies can be achieved between interested land owners across Christmas Island as CIP moves into the next phase of its mining life.

5.4.2 Environment

- » CIP's 5 year plan is to:
 - Relinquish the central and north-western mining leases to Parks; and
 - Relinquish Mining Leases 121 and 124 to Parks.
- » CIP are experiencing major delays obtaining clearing permits from the Western Australian Department of Environment and Conservation (DEC) (applied for in 2006 and still unresolved). The approval of these clearing permits is critical to the immediate continuation of mining operations.
- » Buffer zones being introduced by the DEC and to be implemented by CIP are prohibiting access to valuable stockpiles. Buffer zones are based on boundaries that have never been surveyed on the ground. The clarification of the nature and extent of these buffers is critical.
- » CIP's aim is to satisfy AGD in terms of surrendering mining leases and demolition obligations.

5.4.3 New Mining Leases

- » CIP's strategic objective is to obtain Federal Government approval for eight new mining leases. CIP's objective is to upgrade the existing mining lease agreement and to incorporate both the existing and new leases into one new agreement.
- » At this stage, if successful, CIP will provide \$50 million to the Commonwealth in addition to current rehabilitation levies and royalties. \$20 million would go towards rehabilitation and the remaining \$30 million to a trust fund to be held on-Island. Allocation of trust funds would be decided by the Shire, AGD, Parks and CIP together. CIP has provided suggestions for the allocation of these funds e.g. agricultural land (community gardens) east of the runway.

5.4.4 Mining Resources & Economic Development

- » An exit strategy is required to better prepare the future conversion of mining leases into other uses. A new endorsed land use plan by all parties is needed to support the CIP exit strategy.
- » Any future development on the Island should consider the extraction of phosphate prior to construction/implementation to avoid loss of valuable phosphate resources.
- » The CIP board has concerns over their future investments on the Island:



- Red and 'green' tape;
- Construction costs;
- Maintenance of assets (labour costs); and
- Lack of consensus within the community.

5.4.5 Cocos (Keeling) Island

- » CIP would consider supplying phosphate to Cocos (Keeling) Islands to facilitate agriculture endeavours.

5.4.6 Mine Management

- » The partial surrender of leases will be conducted on a site by site basis.
- » The WA Department of Mines and Petroleum is regulating the "Make Safe" clause associated with the surrender of the leases.
- » CIP has already explored opportunities to release areas for community involvement in agricultural activities north of the airport.

5.5 Parks Australia (Parks)

5.5.1 Draft Management Plan

- » Parks objective is to prepare a draft Management Plan for completion in late 2009/early 2010 and is preparing a Regional Recovery Plan which will rationalise existing recovery plans and aims to take an ecosystem approach for the protection and conservation of Christmas Island's biodiversity.
- » Parks would like to see a whole of island approach to environmental protection protocols.
- » Parks is working on a draft 10 year Rehabilitation Plan.

5.5.2 Rural Activities

- » Some Island residents collect introduced food plants from the National Park, and some of these food species are not considered as serious invasive weeds and are not actively controlled. Where it doesn't impact on the National Park, their collection is considered an appropriate use of the National Park.
- » The introduction of community gardens and agriculture may provide a long term solution for Parks with the possibility of removing fruit trees from within the National Park.
- » Parks does not have quarantine functions but it is anticipated that Australian Quarantine and Inspection Service (AQIS) would inform Parks on the impact and risks of plant species to be imported.

5.5.3 Research

- » If AGD supported the concept of establishing a tropical food research centre at the old Cocos (Keeling) Islands Quarantine Station it would be appropriate for the institute to have some involvement/participation in the Christmas Island Central Workshop Nursery (if relocated here).



- » Parks sees the Central Area Workshop as having potential uses as a Parks HQ and nursery as well as a research and education function.
- » Opportunities exist for international students and researchers to come on-Island. However, at present the only facility for this purpose is the Parks Pink House, which has some size and facility limitations.
- » A solution should be found to allow for the use of abandoned housing assets currently associated with the failed Casino Resort.

5.5.4 Parks Nursery/Rehabilitation

- » An opportunity exists to relocate the Parks nursery to the Central Area Workshops. The existing nursery site could then become available for higher uses (i.e. future development).
- » If Parks nursery was relocated to the Central Workshop area and assuming CIP's interest in agriculture, it may be desirable for the nursery to advise and/or supply appropriate plants to CIP.
- » Parks receive funds from AGD to carry out rehabilitation works.

5.5.5 Memorandum Of Understanding (MOU)

- » AGD collects the conservation levy from CIP, as per lease requirements, and AGD has an MOU with Parks to provide rehabilitation services.
- » The MOU to provide rehabilitation services is valid until 2010 and will need to be renegotiated.
- » If CIP was interested in retaining and converting old leases into agricultural areas it may introduce a competitive dimension with Parks in relation to the future allocation of rehabilitation material. A new MOU with AGD will need to take that aspect into account. Any conversion of mining leases to uses other than those under the current lease arrangements would be subject to an open tender process.

6. Land Suitability – Desirable Future Uses

The suitability of Crown land on Christmas Island will be dictated by not only the capability of the land but also the strategic directions for the Island as a whole. Key precinct areas are outlined below and represent the most desirable future land uses that are suitable for these areas.

A map of the Island indicating the most suitable future land uses in line with these strategic directions can be found at [Appendix H](#).

6.1 Light Industrial Area (LIA)

The Shire of Christmas Island (SOCI) currently has a subdivision proposal aimed at rationalising both AGD and SOCI land assets in the area and to provide small lots for light industries currently operating within and impacting upon established residential areas. Whilst this area remains the most suitable for the LIA, there are possibilities to expand the proposed LIA area from the current proposal. An indicative conceptual road layout for an expanded LIA can be found at [Appendix H](#).

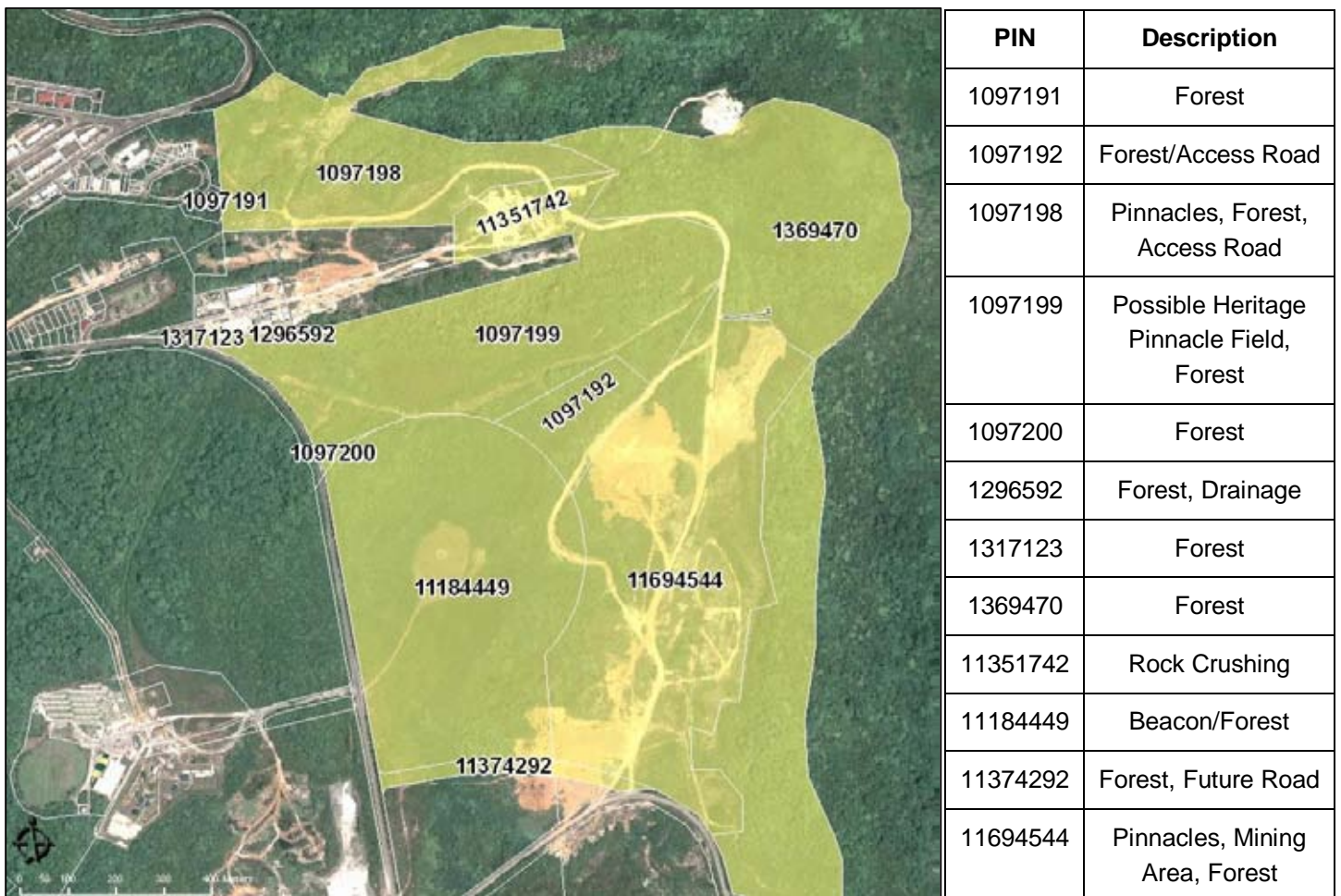


Figure 3: LIA Subject PINs



The main component of an expanded LIA is a road link from the top of Phosphate Hill to Murray Road that bypasses the Poon Saan area (see [Appendix H](#)). This would remove a large proportion of through traffic from the residential areas along Murray Road in Poon Saan and will provide a more direct route from the airport down to the Kampong and Settlement areas. It would also provide a safer and easier alternative for larger vehicles. Taking into account the topography of the area, heritage areas and pinnacle areas, what is considered the most suitable alignment for this link has been identified.

Given the proximity to surrounding uses and topographical constraints, a buffer area has been identified as a suitable use for Lots 253 (PIN 1097110), Lot 0 (1097191), Lot 0 (1295972), Lot 3032 (1142080), the southern and eastern surrounds of the hospital on Lot 284 (11171359), the eastern portion of Lot 0 (1097201) and the northern portion of Lot 0 (1097198). This heavily vegetated buffer will provide a separation between the hospital and existing residential areas and the LIA for both noise and light.

It has been identified that there are considerable phosphate mining heritage areas in the vicinity of Mining Lease 135 (PIN 1097199). Due to this, the most suitable use for the eastern portion of this lot is the preservation of these heritage areas from any development. Subject to detailed design, the western portion is suitable for inclusion as part of the LIA, with a road access onto Phosphate Hill Road.

The extreme northern portion of Lot 0 (PIN 1369470) is part of the new mining lease application by CIP. If mined in the future, this area would then become suitable for light industrial activity as part of the LIA. The immediate area around the Chinese cemetery should be preserved as part of the heritage area. This would also contribute to a vegetation corridor through the LIA to Phosphate Hill Road.

The northern 'finger' of Mining Lease 136 (PIN 1097198) should be given to Parks for incorporation into the National Park as the most suitable land use.

6.2 Phosphate Hill Precinct

The Phosphate Hill precinct consists mainly of three large Crown land parcels, Lot 523 (PIN 1295513), Lot 556 (1350191) and Lot 0 (1358679). This area is suited to the expansion of urban/residential land uses towards the recreation centre and oval. The provision of an environmental corridor along the western and northern edge of Lot 0 (1358679) is suggested to link with the proposed environmental corridor in the LIA. This would also provide a buffer to existing uses on Murray Road and maintain the concept employed on the Island of residential settlements separated by vegetation corridors.



Lot No.	Description
556	Forest
511	Recreation Centre
512	Water Tank
513	Oval
514	Club House
515	Cleared Land
516	Road, Cleared Land
517	Cleared Land
518	Forest
519	Forest
522	Antenna Site
523	Forest, Landfill
0	Forest

Figure 4: Phosphate Hill Precinct Subject Lots

'Black's Workshop' adjacent to Phosphate Hill Road in the north eastern corner of Lot 0 (1358679) should be relocated to the LIA area, as this use is unsuitable in its current location. At the very least it requires a separate cadastral parcel; however this is not considered the most suitable use of the land.

The eastern portion of Lot 0 (1358679), northern portion of Lot 523 and Lot 556 are suitable for future urban development (subject to the future removal of the current rubbish disposal site and detention centre). This area has the required infrastructure in place or nearby, is close to existing facilities (i.e. the school, recreation centre and oval) and is also close to the existing settlement. It will also ensure that the provision of additional services and facilities will be more cost effective than a more remote location. Environmental assessments would need to be carried out prior to any development taking place due to the extensive vegetation coverage.

This development could also facilitate the creation of a 'Sports and Recreation Precinct', expanding the existing oval and recreation facilities as population growth occurs. This may happen in the short term prior to the relocation of the landfill site and detention centre. It would, however, need to be planned in the context of the entire proposed development of the area within a broader Outline Development Plan.

To facilitate greater interaction with the current recreation facilities in the short term, the provision of a pedestrian link from the school to the facilities is encouraged. This would promote greater pedestrian connectivity, especially with the school, between residential areas and the recreation facilities.

Whilst detailed planning would be required, two key roads have been identified for the precinct (see [Appendix H](#)). One is an east-west road that will link the existing school to the oval and recreation centre



through to Phosphate Hill Road. The second is a north-south road that will link the oval and recreation centre to the Poon Saan area.

There is a new mining lease application over this area and if mined, conditions could be placed on CIP to provide certain finished ground levels and to leave appropriate soil behind to ensure the land's suitability for urban development.

Assuming the radio towers on Lot 522 (PIN 1295969) are to remain due to their strategic elevated position, there will be buffers in place that will preclude certain forms of development in close proximity. There is a 500m buffer around the towers to residential land uses and this reduces the suitability of the surrounding land. This buffer affects the eastern portion of Lot 0 (1358679) that has been proposed for an environmental corridor (outlined above), and the western portion of Lot 523. The entire southern portion of Lot 523 is suitable for either urban or rural uses, however rural uses may be considered more suitable due to the radio tower buffer. These rural uses could include agriculture and/or horticulture and possibly tropical plant research associated with the Parks nursery.

Lots 511, 513, 514, 515, 516, 517, 518 and 519 associated with the old detention centre, recreation centre and oval at Phosphate Hill are subject to a lodged cadastre. The cadastral rationalisation should be resolved as soon as possible to ensure the orderly progression of land uses in the area.

6.3 Airport Surrounds

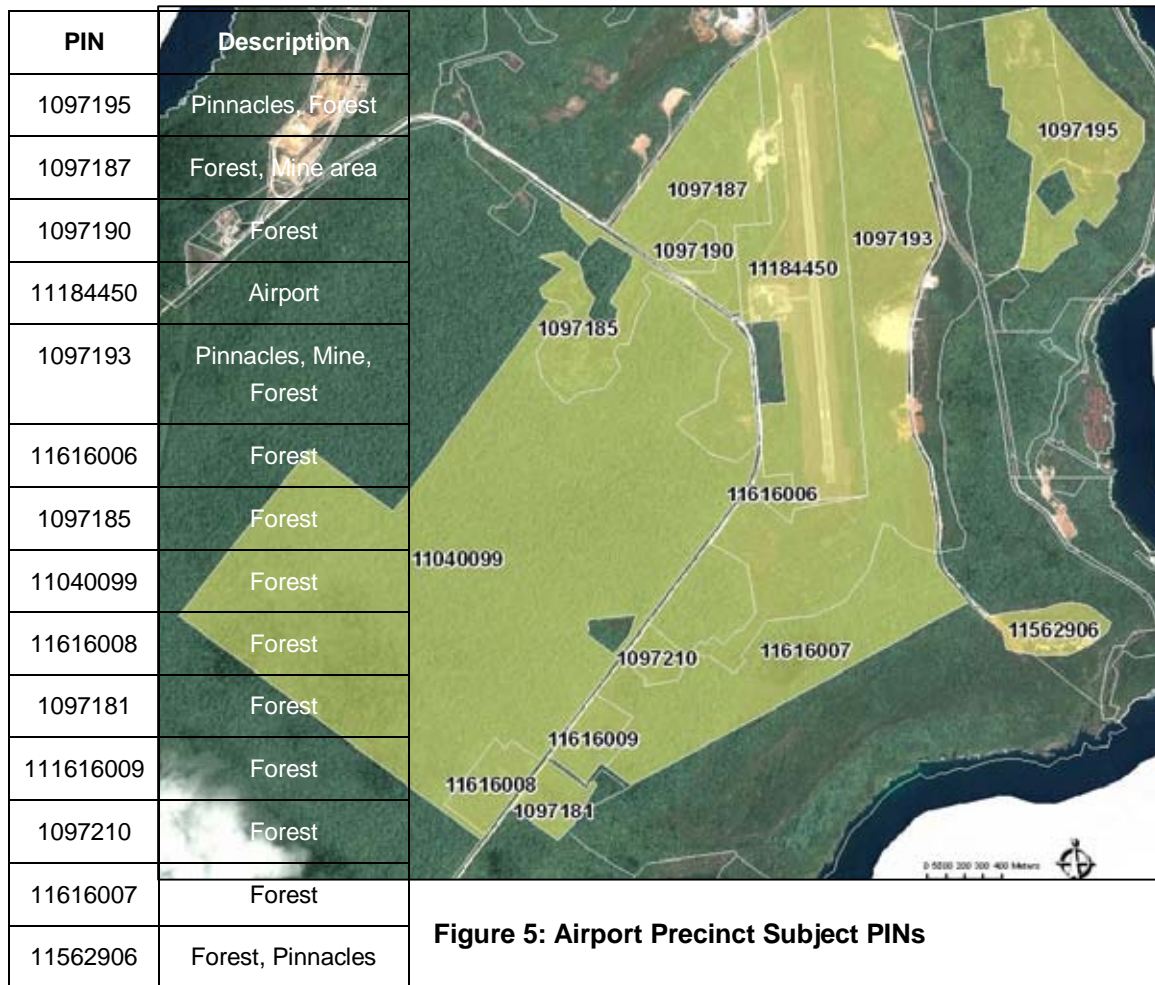
6.3.1 Airport

Any future expansion of the runway will also require an expansion of passenger, baggage and freight handling facilities to accommodate larger planes and increased traffic. Lot 0 (PIN 1097187) on the western boundary of the current airport site (Lot 598) is best suited to accommodate this expansion if required. The lot is relatively flat and outside of the Phosphate Hill radio tower buffer areas.

The western edge of this lot, incorporating Mining Lease 133B 1 is suitable for any airport facilities expansion. The remainder of Lot 0 is suitable for rural land uses. Urban uses may also be suitable, however are less desirable due to the proximity to the airport. The small Crown lot within Lot 0 (1097187) is an area of Priority 1 vegetation and as such is best suited to conservation.

The land east of the airport is mostly suitable for rural land uses, such as agriculture or horticulture. The proximity to the airport and physical mining history is considered to preclude urban or conservation land uses as being suitable. The area in question includes the majority of Lot 0 (PIN 11694544), Lot 3014 (11374291), and the majority of Lot 0 (1097193). These lots are encompassed in Mining Lease 133A.

The most suitable use for Mining Lease 132 (PIN 1097195) is considered not to be urban uses but rural land uses. The structure of underground caves is not known in this location, hence suitability for urban uses in this area is not certain. Anecdotal evidence also suggests that this area is subject to higher temperatures and sustained salt spray.



To the south of the airport, this land is suitable to be converted into rural activities. In areas of dense, high quality vegetation, consideration should be given to activities that maintain the overhead jungle canopy. There are numerous small, irregular shaped mining leases that have limited suitability for other uses (Mining Leases 133B 3, 121, 127, 125, 129 and the southern portion of 133A). It is proposed to incorporate the southern portion of Lot 0 (PIN 11040099) into the National Park as there is Priority 1 and 2 vegetation contained together with bird nesting sites. Increased human disturbances in these areas are not suitable and the incorporation into the National Park will ensure their continued protection and enhance the environmental corridor through to the east coast of the Island.

6.3.2 Eastern Beaches

Lily Beach and Ethel Beach are amongst the most popular beaches on the Island and well connected to the main town site area. Subject to detailed analysis, discrete areas of Crown land in proximity to these beaches would be suitable for low-impact camping and chalet development.

6.4 East Coast and South Point

There are numerous mining leases adjacent to the road to South Point from the airport. This road should be recognised within the Town Planning Scheme framework. If the mining leases are converted to rural type land uses, then legal public access will be required as part of sound land management.



Post mining, these are considered most suitable to be transferred to rural land uses to facilitate the creation of a self-sufficient food supply for the Island. If the rural land outlined for areas closer to the airport is successful and provides a sufficient supply, these lower rural areas may be utilised for export type agricultural activities and possibly plant and food research activities. These areas include Mining Leases 103, 104, 105, 122 and 123.

The southern area of Mining Lease 106 could be transferred to the National Park over time as part of an environmental offset process. This transfer would create an environmental corridor between two separated sections of the National Park. The northern portion of Mining Lease 106 could be utilised for rural activities. The very northern section of Lot 0 (PIN 11616019) would also be involved in this transfer.

Given its connections to Greta and Dolly beaches to the south and North South Baseline Road, Mining Lease 124 has the potential to provide for nature based tourism as part of a future environmental corridor.

Rural land uses are considered the most suitable land use for Mining Leases 101 and 102 at this point in time. This is due to their remote location, lack of infrastructure provision and post mining physical characteristics. The Local Planning Strategy (LPS) identifies the South Point area as a future urban settlement to support a 'catalytic' event. The event identified in the LPS has not eventuated and without a 'catalytic' event occurring, urban land uses are not considered suitable for South Point.

6.5 Central Area

The Central Area Workshops (CAW), located on Lot 586 (PIN 11184472) at the intersection of Murray Road and North West Point Road are currently sub-leased to private contractors. The existing buildings appear structurally sound and may be suitable for re-use. Past and current uses also may have contributed to possible ground contamination.

The current workshop and depot uses are not desirable for the land and would be better suited to re-locating to the proposed LIA to take advantage of purpose built facilities and co-location with other industries. This would also result in less transport requirements.

Given the isolated nature of the CAW and being surrounded by National Park, the most suitable use would be for the Parks nursery, relocated from its current location adjacent to the Parks office. A re-negotiated Memorandum of Understanding, due in 2010, with the Attorney-General's Department may allow Parks to invest in a larger nursery space.

This location provides more space, existing buildings, and closer proximity to the surrounding National Park and mining leases most likely to be returned to Parks for rehabilitation. An opportunity also exists to use this area for research and education purposes for visiting students or researchers, with the nearby Pink House utilised for accommodation.

Lot 587 (PIN 11184473) adjacent to Lot 586 is best suited to be incorporated into the National Park, due to its small size. It is not considered suitable for other purposes due to its size and isolation. It may be suitable for an extension to a relocated nursery; however it is separated from Lot 586 by a road.

6.6 Gaze Road Tourism and Commercial Precinct

The Gaze Road Tourism and Commercial Precinct would benefit from general rehabilitation and landscape upgrades to improve its attractiveness and functionality for residents, tourists and pedestrians

(there is currently a proposal by Arts and Culture Christmas Island to create a small public area with furniture and public art adjacent to the police station). Most of the land in this precinct is already committed to uses that are not likely to change significantly in the future. Should these land uses be subject to redevelopment in the future, consideration should be given to the inclusion of mixed use buildings providing commercial office space above shop front retail at ground level. Such uses would be subject to any future demand for office space on the Island.

There are, however, several lots that could be more highly utilised in the development of the tourism industry within the precinct.

The above ground fuel tanks on Lot 487 (PIN 1218776) are not considered suitable for the area as they effect the visual amenity of the precinct and also could pose a safety threat to surrounding occupied properties in the event of an emergency. These tanks should be relocated to an area near to the existing fuel storage area on Lot 476 (PIN 1218096).

The old recreation centre on Lot 641 (PIN 11329734) is a significant piece of infrastructure that should be re-used. The space is suitable for community facilities such as a youth gathering place, or 'hangout', performance hall or function hall. The structure may require updating and refurbishment to provide a more attractive space for these types of activities.



Figure 6: Gaze Road Tourism & Commercial Precinct Subject Lots

The foreshore areas on Lots 3048 (PIN 11466735) and 3061 (11462623) would benefit from landscaping upgrades and provide a suitable location for a walking/cycling trail.



Whilst Lot 560 (PIN 1357538), known as the Cocos Padang, has some heritage value, it is a large area of cleared land on Gaze Road that is better suited to tourism uses to compliment the precinct. The current heritage building could be refurbished and utilised for small shop areas to take advantage of the proximity to other tourism accommodation and the existing retail areas. Tourism accommodation could be located on either side of the building at the base of the slope, as the site is close to tourist amenities and also slightly elevated. This would enhance and expand the current tourism and commercial precinct and provide a greater range attractions and facilities to visitors.

Lot 602 (PIN 11183778) currently is utilised for vehicular access to the Sunset Lodge accommodation, a pub and a few other properties. Whilst this needs to remain a vehicular access, it is currently zoned as Public Open Space. As this lot is best suited as a road, a public road reserve needs to be created for it.

6.7 Settlement

Most of the remaining areas of the Settlement precinct are committed to residential land uses. Apart from possible streetscape and coastal strip upgrades, land uses are not envisaged to change considerably in the future.

Lot 3029 (11408152) on Gaze Road seems to be underutilised at present given its location overlooking the ocean and in close proximity to the tourist area. Lot 3029 currently is used for the storage of gas bottles. This use is best suited to the LIA and should be relocated to that area. The most suitable land uses for this lot then would be either tourist accommodation, residential or community uses (given the lack of active open space in this area of Settlement). A combination of these uses could also be considered suitable.

6.8 Golf Course Precinct

The current location of the golf course (Lots 489, 492 and 210) remains the most suitable area for this use, due to its visual amenity and the uncertainty surrounding the underground caves structure of the area. Urban development remains unsuitable in this location until this is investigated.

6.9 Christmas Island Resort

The Christmas Island Resort (Lot 3052, PIN 11463549) remains a significant piece of infrastructure on the Island that is also well serviced. Whilst the resort nature of the land use may not be utilised in the near future, the infrastructure is best suited for short stay accommodation needs. This could include temporary accommodation needs or housing researchers or international students. Ultimately the site is best suited for re-use either for what it was originally intended, or some variant, such as a rest and relaxation retreat. The re-use may need to occur on a smaller scale than the original use.

6.10 Kampong Precinct

This is a residential area and therefore most of the Crown land is already committed as residential dwellings and are not likely to change. This area is also subject to climate change impacts and rock fall risk. The main climate change impacts that should be considered (identified in Section 2.5) will occur from storm surges and shoreline erosion. Any new developments (including coastal infrastructure) need to take these risks into account, in relation to finished floor heights, road construction and proximity to the cliff face.



There is also currently a sea wall in Flying Fish Cove which is a vertical, non-porous wall that is unable to protect from large storm surge events. It is not well anchored to any bedrock in many parts and is therefore susceptible to undercutting underneath the wall and washout from behind. A report is currently underway by DP into the sea wall, and improvements are required to mitigate against possible climate change effects.

There are a small number of vacant Crown lots in the Kampong area, however they are severely constrained by the topography in the area that they are unsuitable for any major development. These lots include Lot 634 (PIN 11253100), Lot 574 (11336662), Lot 3003 (11336663) and Lot 3007 (11336665). Their continued utilisation as Public Open Space is the most suitable use.

The Christmas Island Club (CI Club) on Lot 188 (PIN 1097083) is currently not used and in a dilapidated condition. The structure has a heritage value for the Island. On-site observations have concluded that there are serious concerns of the structural integrity of the existing building. A recent structural integrity report completed on the CI Club revealed that there are slope instabilities, major termite damage, cracking around the building, that the retaining wall is no longer providing support and the lower edge of the building has been undermined (GHD, 2009). The report concludes that a two stage repair including the stabilisation of the slope followed by the repair and rejuvenation of the building would be feasible. The refurbishment and re-use of the structure is the most desirable outcome; however delays in the repair work could increase the chance of further damage and increase the repair costs.

The CI Club, if refurbished, is suitable for providing a focal point for the creation of a 'Flying Fish Cove Historical Precinct.' There are a number of countries who have had a role in the occupation and management of Christmas Island (these include England, Singapore, India, New Zealand and Japan) and their involvement and recognition of past involvement could be highlighted in the precinct. The CI-Club and the surrounding environment including the former Manger's residence, shrines and cemetery (which contained the unknown sailor from HMAS Sydney) is a major part of the Island's history and was a recreation area.

In addition, there is a large shed adjacent to the roundabout at the bottom of Murray Road that is soon to be vacated on Crown land. This is a large, open space that could be used as a museum for large machines, such as locomotives (currently in Drumsite) and mining machinery. These assets would be better preserved in a covered environment and would be ideally located next to the phosphate loading facilities to promote the Island's mining history.



Figure 7: Kampong Subject Lots

The CI Club and surrounds could be developed as a practical and aesthetic space with the promotion of links directly through to Flying Fish Cove, Tai Jin House (Lot 428) and the walking trail through to Territory Day Park (Lot 496). Additional walking trails could be established to link with the National Park and Margaret Beach. The precinct could provide 1-2 days of historical exploring all based around the CI Club and Flying Fish Cove as the major asset and entry point for visitors.

6.11 Poon Saan/Silver City

This is a residential area and therefore most of the Crown land is already committed as residential dwellings and are not likely to change. There are a number of individual lots however that could be better utilised.

The southern portion of Lot 3018 (PIN 11355978) already has some immigration housing on it (known locally as 'Thredbo'). These buildings do not have their own cadastral boundaries and are currently situated within the wider Lot 3018 boundary. From a land management and legal perspective this is a highly undesirable situation. This southern portion of the lot is suitable for residential land uses, as it is surrounded by other residential dwellings and part of the area has already been built on for the same purpose. If and when subdivision is to occur here, it will provide an opportunity to create separate cadastral lots for the 'Thredbo' developments.

The northern portion of Lot 3018 (PIN 11355978) is considered suitable for tourist accommodation due to views of the ocean, the western part of the Island and the terrace below. There may also be an opportunity for a pedestrian link to a redeveloped Cocos Padang site to encourage the movement of

visitors and residents from Silver City down to the main tourism and commercial precinct. The provision of residential uses on the upper sections is also suitable as an extension of the Silver City development.

Lot 3062 (PIN 11492989) is currently zoned 'Residential' but functions as a vacant block that acts as a drainage basin. This lot should retain this function; however it should be rezoned in the TPS to a more suitable land use zone or reservation.

Lots 268 (PIN 1097060) and 269 (1097061) are currently disused accommodation facilities linked with the Resort. These two lots present useable residential infrastructure that should be refurbished and utilised for either temporary accommodation, or leased as residential dwellings. If they are leased by the Commonwealth, then some control is maintained over the occupancy of those dwellings. It is understood that negotiation is required with the Resort owner to gain access to these buildings.

SOCI is concerned with pedestrian safety along Murray Road in Poon Saan and is seeking to remove unsightly vehicular shelters immediately north of the Murray Road/Phosphate Hill Road intersection. The area in question involves Lot 405 (PIN 11473124) and Lots 304 and 547 (not Crown lots). A preliminary streetscape analysis has been undertaken to determine the suitability of adjusting the road alignment of Murray Road (see [Appendix I](#)). The purpose is to achieve greater pedestrian safety along Murray Road, relocate residential car parking to a more suitable location and improve pedestrian connectivity towards Drumsite.



Lot No.	Description
3018	Forest/Housing
3062	Drainage Basin
268	Disused Accommodation
269	Disused Accommodation
405	Forest
567	Bus Depot

Figure 8: Poon Saan/Silver City Precinct Subject Lots



Lot 405 is considered suitable for residential car parking to the rear of the dwellings, removing this function from Lot 547. Lot 547 would then be suitable for use as a public open space to take advantage of the views westwards and also a boundary re-alignment would allow provision of some parallel on-street parking.

Lot 567 (PIN 1356054) is considered suitable to cater for the expansion of the hospital in the future. The current use as a bus depot would be better suited to the proposed LIA and should be relocated to that area.

6.12 Drumsite

This is primarily a residential area and therefore most of the Crown land is already committed as residential dwellings or open space and are not likely to change.

If the Parks nursery was to move to the Central Area Workshops, then this would make Lots 199 (PIN 1097089) and 3005 (11324898) available for other uses. Lot 3 (1096840), currently used as the Parks offices, may also be available if they were to relocate with the nursery. The Territory Day Park is located on Lot 496 adjacent to the current nursery. If Lots 199 and 3005 became available, the park facilities and functions could be expanded to include these lots and create a larger focal area.

If Lot 3 was also available, then all three lots would be suitable for a new 'Administration and Government Precinct' where the Shire and AGD could co-locate their offices along with other institutions on the Island. The land has high visual amenity and is also close to other community facilities, such as the radio and the school and could incorporate an expanded Territory Day Park. It is also in closer proximity to the existing residential areas than Phosphate Hill and will also be in close proximity to any new urban development in the Phosphate Hill area, with possible direct links to the recreation precinct, LIA and airport.

6.13 Future Residential Areas

The following areas are considered the most suitable for short - medium term residential requirements (subject to detailed design):

- » Lot 3019 (PIN 11355979);
- » The northern portion of Lot 0 (PIN 1097201); and
- » The southern portion of Lot 3018 (PIN 11355978) alongside the 'Thredbo' development.



Figure 9: Future Residential Areas Subject PINs

These areas are within the existing infrastructure rich settlement area on the Island and close to existing amenities and facilities. These areas will be subject to detailed design that considers topographical constraints and the appropriateness of vegetation buffers to major roads or other land uses.

6.14 Rest of Island

The rest of the Island is predominately National Park with numerous mining leases scattered throughout, some which have been rehabilitated and some that haven't. The most suitable use for these mining leases is to be amalgamated into the National Park. This whole area of the Island is already National Park, and apart from the Central Area Workshops and the Pink House, is not suited to any further use due to the concentration of infrastructure and activity in the north eastern section of the Island. It is not considered appropriate to spread infrastructure and human activity on an island where the cost of providing services and infrastructure is already relatively high.

It would be suitable, however, to reserve some additional land surrounding the current Immigration Detention Centre at North West Point to provide a specific area for any required future expansion or ancillary activities that may require additional land. This will ensure that these activities do not occur in other, unsuitable locations should the need arise, whilst also allowing for the concentration of similar activities in one area. This should also include a public road access to the Immigration Detention Centre given its strategic importance and the volume of traffic that travels to and from the site on a daily basis.

Individual parcels of land on the Island that are currently used by the community for community uses (e.g. temples and clubs) are generally suitable land uses. However, most currently operate without formal lease arrangements or otherwise with the Commonwealth. Tenure arrangements should be



determined to formalise the tenure of these community groups to ensure their functions can continue. This is explored further in Section 7.4.

These land parcels include the following:

Lot Number	PIN	Current Use
449	1148199	Temple
259	1096879	Baha'i Centre
3022	11344301	Temple/Shrine
626	11282108	Temple
3030	11428920	Temples
3031	11428921	Senior Citizens Centre
546	1326223	Shrine
313	1097141	Temple
0	1295972	Shrine
0	1097198	Sacred Site
108	1096987	Woman's Refuge Centre
3008	11333762	Temple
324	1097068	Temple
325	1097069	Temple
443	1148196	Chinese Literary Association
270	1097062	Poon Saan Club
574	11336662	Catholic Church
582	11310249	Malay Club
416	1142658	Islamic School
290	1096890	Mosque
493	1262714	Temple



6.15 Potential Environmental Offset Areas

Whilst environmental offsets are not necessarily required under the *EPBC Act*, it is envisaged that many future developments on the Island will be approved subject to conditions associated with this Act. In this respect it is considered suitable to set aside unallocated Crown land parcels and selected mining leases (southern portion of ML 106 and ML 124) as potential environmental offset areas to help facilitate development approvals. The land considered suitable for this purpose, shown in [Appendix H](#), has been selected for its ability to facilitate the creation of long term environmental corridors linking isolated National Park areas on the east coast with the main body of the National Park.



7. Crown Land Management Plan

The effective and proactive management of Crown land on Christmas Island will involve the co-operation and co-ordination of the four major land owners/managers, these being the Commonwealth (through AGD), SOCI, Christmas Island Phosphates (CIP) and Parks Australia (Parks). Between these four organisations, they are responsible for the management of almost all of the land on Christmas Island and need to agree on the overall strategic direction for the Island to ensure effective land management.

7.1 Local Planning Context

7.1.1 Town Planning Scheme

Statutorily the most effective and recognised land management plan is, and will continue to be, the Town Planning Scheme (TPS). Under applied Western Australian planning frameworks and legislation, all current and future land use must comply with the TPS, making it the single most effective driver of what happens to land and land management on Christmas Island.

The TPS offers the most effective way of directing the future land uses on the Island to align with the strategic directions outlined in the CLMP. The current Shire of Christmas Island TPS was gazetted in 2002, and current applied WA planning legislation requires a review every 5 years. The CLMP could provide information for the review of the current TPS.

Recommendation 1:

That the Shire finalise the review of the Local Planning Strategy and liaise with AGD to ensure that the findings of the CLMP are incorporated into the Strategy.

Recommendation 2:

AGD encourages the Shire to initiate the review of the Town Planning Scheme as soon as the Local Planning Strategy is endorsed by the Western Australian Planning Commission under regulation 12B of the Town Planning Regulations 1967 (WA)(CI) and the Federal Minister for Home Affairs.

A key objective of the new TPS should be to reduce the Island's dependency on imported food, imported building material and imported energy (fuel) in order to support the orderly development of secondary economic sectors such as recreation and tourism. This can be achieved through allocating areas for rural development including agriculture, horticulture, aquaculture and tropical plant research. There are large areas of Crown land that could be utilised for this purpose. The sustainable harvesting and use of local timber as building material should also be promoted and researched, and encouraged to locate in the LIA.

Recommendation 3:

AGD should ensure that the Local Planning Strategy acknowledges the need to reduce the Island's dependency on imported food and building materials by encouraging rural development, including agriculture, horticulture and aquaculture.



Recommendation 4:

AGD should ensure that the Local Planning Strategy acknowledges the need to reduce the Island's dependency on imported fuel by encouraging the development of low carbon emission energy sources including bio-fuel, wind, hydro and solar power.

7.1.2 Community Gardens

Specific provisions should be made in the new TPS for the allowance and encouragement of community gardens. Community gardens are very effective mechanism to engage community members and to facilitate community relationships. They are also an effective way of producing food at the local level for the community and more importantly increases the community's awareness and connection with the land and natural processes. This is especially relevant on Christmas Island where fresh food is not always guaranteed and land for cultivation is almost non existent.

Some individual households already grow their own food and this activity should be encouraged on a community wide scale. There are numerous public reserves throughout the residential areas in which small community gardens could be accommodated in a manner similar to the highly successful British 'allotment' system. Community gardens could also assist in the introduction and acceptance of larger scale agriculture on the Island.

Recommendation 5:

AGD and the Shire, in conjunction with relevant community groups, should identify suitable locations within residential areas and develop appropriate management protocols for the introduction of community gardens.

7.1.3 Mining Leases

Mining leases should not be designated by a specific zone in the TPS. The designated zone makes it extremely difficult to facilitate other uses on that land without following a full rezoning process. These leases should be designated as rural (or other relevant land uses), with each mining lease boundary specified within the zone. This will allow much easier conversion to other land uses without the need to follow lengthy statutory processes in the future. It also will increase the range of land use diversity permitted on the land. Any future rezoning consideration would require consultation with the community and CIP.

Recommendation 6:

AGD encourages the Shire to consider defining mining leases within a rural zone rather than as a specific mining lease zone during the TPS review process.

The Local Planning Strategy should include provisions to ensure that significant phosphate deposits are not sterilised by premature development. These provisions could enforce a system of identification of phosphate resources before any development is approved or commenced. This would ensure that valuable resources are taken advantage of before they are built upon.

Recommendation 7:

AGD consider, where appropriate, applications for the extraction of phosphate deposits in specific areas which may be used for future intensive development, such as residential or light industrial uses.



7.2 Sustainable Economic Development

Uncertainty associated with the timing of the cessation of mining on the Island remains the most significant impediment to the Island's economic prospects. To sustain the current population level, planning for the development and promotion of a mixed economy is required. This should include activity in sectors such as tourism, agriculture and construction materials where import-replacement and export industries can be developed concurrently.

In order to support the Island's economic development and attract investment, accepted economic principles recognise the need to assemble the following strategic economic infrastructure:

- » A competent workforce - the high quality of the Christmas Island District High School system is expected to generate a favourable environment towards the enhancement of a competent workforce. Any future economic strategy for the Island would need to be linked with practical components of the education curriculum;
- » Efficient institutions - the effectiveness of institutions to grant approvals is arguably the highest risk for any entrepreneur choosing to invest on the Island. The CLMP and AGD alone cannot fully mitigate such a risk; however a strategy to reduce approval risks and the promotion of cost effective regulatory processes will enhance the creation of a competitive business environment;
- » Well developed service infrastructure - most of the infrastructure services are concentrated within the north-east section of the Island. The establishment of an efficient Light Industrial Area in this part of the Island is seen as an important land release prerequisite to stimulate other economic initiatives; and
- » Finance and Logistics systems - in order to reduce business input costs and attract investment high frequency and cost effective airline connectivity is required and this could be coupled with a land release program.

7.2.1 Agriculture & Aquaculture

Reduction of the Island's dependency on imported food and energy should be important criteria when considering land use changes. On-island research and subsequent production in agriculture, aquaculture and a commercial nursery could contribute to reduce the Island's economic import-export imbalance.

Engagement with research bodies (CSIRO, universities and the scientific community) could assist to explore sustainable marine and land agro-businesses. This could take place in part at the Central Area Workshops alongside the proposed relocated Parks nursery. It is desirable for the nursery to also advise and/or supply appropriate plants for agricultural purposes. Research in aquaculture would require land in a closer proximity to the ocean outside the National Park.

If AGD was supportive of the concept of establishing a food research centre at the old Quarantine Station on West Island at Cocos (Keeling) Islands as one re-use option, it would be appropriate for the Institute to have some involvement/participation in the proposed Parks Central Workshop nursery.

Recommendation 8:

AGD should consider facilitating the establishment of a research centre focussing on the sustainable production of equatorial land and marine food to assist in the introduction of agro-businesses in the Island's economy.



The current Service Delivery Agreement with the Western Australian Department of Agriculture & Food (DAF) is currently being reviewed. Past focus has been placed on weed eradication and the review may include investigation into horticulture opportunities on the Island.

Recommendation 9:

AGD and Parks Australia, in conjunction with DAF, AQIS and the WA Department of Fisheries, to devise a commonly shared list of permissible animal and plant species suitable to Christmas Island and consider a review of the current plant assessment process.

Recommendation 10:

AGD to consider new lease agreements, through an open tender process, to allow the progressive establishment of agricultural practices on current mining lease areas, subject to water availability.

7.2.2 Tourism

Without the traditional attributes associated with popular tourism, Christmas Island is unlikely to evolve as a mainstream tourism destination. Tourism therefore is likely to remain a modest driver of the local economy. Christmas Island is best suited to small niche tourism activities taking advantage of the quality of the flora, fauna and marine life as opposed to high volume and broad based patronage activities.

The CLMP has recognised the Gaze Road Tourism and Commercial Precinct as capable and suitable for the strengthening of tourism development opportunities, with the Cocos Padang as its focus point. The large area of Crown land immediately north of Silver City is also recognised as suitable for tourism accommodation in a parkland setting with potential for direct pedestrian connection to the Cocos Padang area. Discussions with SOCI revealed that land in the vicinity of Lily and Ethel Beaches as well as Margaret Beach (within the National Park) could be suitable for other tourist accommodation. Parks would be best positioned to proactively identify suitable areas within the National Park for discrete eco-tourism facilities.

With the limited availability of accommodation on the Island, combined with the Island's operational constraints to carrying large numbers of tourists, cruise ships provide a real opportunity for the Island to overcome these hurdles and accommodate large numbers of tourists.

Recommendation 11:

The Shire and AGD to initiate the creation of an Urban Design Master Plan (UDMP) for the Gaze Road Tourism and Commercial Precinct, in conjunction with the Christmas Island Tourism Association and local businesses. This UDMP should incorporate the removal of the Gaze Road fuel tanks, the long term location of the tourist bureau/visitor interpretive centre, heritage and environmental considerations and streetscape improvements within the entire Precinct.

Recommendation 12:

Parks Australia, in conjunction with AGD, to identify areas within the National Park for energy and water self-sufficient nature based tourism accommodation to take advantage of the unique natural attributes of the National Park.



7.2.3 Materials

Christmas Island is heavily reliant on the importation of construction materials which results in high freight costs and significant greenhouse gas emissions. This process is unsustainable and affects the economic viability of development projects.

There are sufficient natural resources on the Island to generate local construction materials. This may include (but not limited to) limestone blocks, laminated timber beams and timber shingles. These value adding activities would reinforce the local economy. The establishment of these light industries could be easily accommodated within the proposed extended LIA.

Recommendation 13:

Any clearing permit granted on the Island should consider the re-use of suitable felled timber material.

Recommendation 14:

The recent approval for a trade training centre at the CIDHS should incorporate training for locally produced construction materials.

7.3 Mining Leases/Rehabilitation

7.3.1 Transition from Mining to Agriculture

The CLMP has concluded that one manageable pathway to establish a durable economic foundation for Christmas Island is to initiate the conversion of selected mining leases to intensive equatorial agriculture. The intention is to ultimately replace the foreseeable loss of mining employment and export revenue. Any change in the use of land leased to CIP would need to be subject to a revised lease agreement with the Commonwealth.

The approval of the eight new CIP mining leases could provide a viable opportunity to foster the immediate and progressive establishment of primary agriculture production ultimately covering the next 20 years. Part of CIP's submission for the new mining leases included a monetary contribution to the Island to establish areas for agricultural activities on the eastern side of the airport. If these leases are approved, this contribution could be used as an effective process to establish agricultural land uses on the Island as a viable source of locally produced food.

Recommendation 15:

AGD, in conjunction with interested parties, devise an appropriate strategy that will encourage and allow the progressive transition from mining to agriculture in appropriate locations and that this strategy is reflected in the Local Planning Strategy.

7.3.2 Mine Abandonment Plan

To ensure the effective management of the transition of mining leases to post-mining uses (either rehabilitation of agricultural production), the Mine Abandonment Plan needs to be finalised. Without confirmation on 'Make Safe' clauses, clearing permits and infrastructure demolition, it restricts the future land management and planning process and causes uncertainty over the re-use of these Crown land assets.



Recommendation 16:

AGD and CIP, in conjunction with Parks Australia where appropriate, finalise the Mine Abandonment Plan in order to expedite the orderly review of the Local Planning Strategy.

7.3.3 Synergies with Cocos (Keeling) Islands

The development of a pathway to supply phosphate to the Cocos (Keeling) Islands should be developed in order to facilitate possible new local agriculture endeavours.

This transfer of phosphate material is seen as a logical connection between the two Territories. It will also enhance the partnership between the two Territories which is considered essential for the strategic management of the future of both Territories. Any transfer of material from one Territory to the other would be subject to quarantine requirements that would need to be overcome.

The conversion of mining leases to agricultural uses and the export of phosphate material to the Cocos (Keeling) Islands will require a high level of cooperation between CIP, AGD and both local governments. Agreements should be negotiated and set in place at an early stage to facilitate these future activities and to ensure that CIP are in a position to leave mining leases in a suitable condition for agricultural pursuits. This will also allow investigation into appropriate pinnacle removal techniques for existing mining leases.

Recommendation 17:

AGD, in conjunction with AQIS, should explore phosphate material transfer opportunities from Christmas Island to Cocos (Keeling) Islands and related approvals to capture foreseeable socio-economic synergies.

7.4 Community Groups

There are instances where Crown land is utilised by community and cultural groups without leases or licences. This highlights potential liability and maintenance challenges for both AGD and the users and hinders effective land management practices.

Recommendation 18:

AGD and the Shire should devise an appropriate protocol to engage with community groups and/or individuals utilising Crown land to ensure that public liabilities and land maintenance are addressed through formal lease or licence agreements.

7.5 Outline Development Plans

The formulation of Outline Development Plans (ODP) should be devised as Urban Design Master Plans. The ODPs would allow for the orderly management of strategically located Crown assets in the main settlement on the Island. In the first instance, ODPs should be created for the LIA and possible future urban development on Phosphate Hill.

7.5.1 Light Industrial Area

An ODP should be devised to formalise the ultimate subdivision design of the LIA. The ODP may be created under a partnership agreement between the four parties having legal interest in the land, these being AGD, SOCI, CIP and other lease holders.



The ODP should identify land opportunities for:

- » A Business Enterprise Centre (or incubator);
- » The long term orderly expansion of the hospital;
- » A secondary vehicular connection to the airport;
- » Residential and recreation opportunities near existing residential areas;
- » SOCI leases for small industries;
- » Long term depot requirements for AGD;
- » The long term requirements of the SOCI depot;
- » CIP leases for larger industries; and
- » The relocation of industrial type businesses currently operating from the Central Workshop Area and other areas scattered throughout the residential areas.

Recommendation 19:

AGD, the Shire, and interested parties should reach an agreement to formulate an ODP that would lead to a restructure of the existing land holdings and the creation a new subdivision to allow the orderly expansion of the existing LIA and facilitation of direct vehicular movements between the LIA, the airport and the port.

7.5.2 Phosphate Hill

An ODP should also be created to guide the management of future urban uses at Phosphate Hill. The ODP may be created under a partnership agreement between AGD, SOCI, the Department of Immigration and Citizenship (DIAC) and CIP if the new mining lease is approved and the area mined first.

The ODP should identify opportunities for:

- » Vehicular and pedestrian connections from the school to the recreation centre and oval, through to Phosphate Hill Road;
- » The creation of a 'Sports and Recreation Precinct' utilising the current facilities;
- » The establishment of a vegetation corridor/buffer between Drumsite and new development;
- » The facilitation of the removal of the rubbish tip and the old detention centre;
- » Investigation into waste water re-use for ovals and garden areas;
- » The establishment and release of new residential areas; and
- » The establishment of rural areas and identification of possible rural land uses.

Recommendation 20:

AGD, the Shire and DIAC should reach an agreement to formulate an ODP that would lead in time to the creation of a new residential subdivision integrated with the existing recreation facilities on Phosphate Hill through appropriate connections with the CIDHS and Poon Saan.



Smaller ODP's may also be desirable for each of the short-term urban development sites identified in Section 6.2. This will ensure the appropriate management and orderly planning of these land parcels.

7.6 Water Management

7.6.1 Potable Water

Any attempt to identify the Island's long term population and development potential is reliant on the Island's ultimate fresh water capacity. Additional water sources such as desalination can influence this potential. In the absence of any capital works commitments, the natural catchment of fresh water on the Island remains the base for long term population projection.

There is a perception that Christmas Island has an abundant water supply due to the high annual rainfall recorded. Surface water on the Island leaches through the limestone and down to the underground basalt layer, and then flows out to the ocean. The exact locations the water flows to the ocean, or pools on the basalt layer are currently unknown as there is no exact knowledge of the profile of the basalt layer.

For an effective water management plan to be implemented, and to efficiently manage the water resources on the Island, the basalt profile needs to be established. Whilst there is some existing GIS information of the basalt aquifer and catchment areas, it is not sufficient to assess with the required degree of accuracy the basalt profile or water catchment areas. The detailed survey of the basalt profile would allow the identification of the whole Island's underground water catchment which will in turn allow the appropriate management of current water sources and also the identification of possible new water sources.

Currently the majority of potable water on Christmas Island is sourced from Jedda Cave. The identification of new water sources would provide a redundancy capacity in the potable water supply, but also will allow other current sources to be decommissioned that are competing with wildlife needs (e.g. blue crabs). The improved management of areas of surface water flow that are required for the needs of fauna on the Island can only be achieved if new water sources are identified that can replace these.

Recommendation 21:

AGD undertakes, as a matter of priority, the assessment of the Island's basalt geology and profile in order to identify the extent and capacity of the Island's groundwater source catchment.

7.6.2 Waste Water

Section 5.2 identified as a strategic priority of AGD the investigation of waste water re-use options for Christmas Island. The re-use of waste water has the potential to positively impact on the fresh water supply by reducing demand. Waste water re-use could target horticulture and agriculture activities and contribute to the need to diversify the Island's economic base.

Recommendation 22:

AGD and the Water Corporation, with advice from the Western Australian Department of Health, investigate collaboratively waste water infrastructure and waste water re-use opportunities on the Island.



7.7 Waste Management

Similar to the approach to water management, the approach to waste management on the Island will also be heavily dependant on the basalt profile mapping. The relocation of the rubbish tip is considered a priority for the Island; however this land use presents a ground contamination risk. Without comprehensive knowledge of the basalt profile and water catchments for the Island, it is difficult to predict the effect of possible contamination on underground water catchments and therefore new locations cannot be accurately considered.

The basalt profile mapping and water catchment identification will also allow the establishment of contamination risks associated with current land use practices. This will allow the effective management of these risks through mitigation or land use relocation.

The Island should introduce a Waste Minimisation Strategy and Management Plan to reduce the amount of waste going to landfill and to maximise recycling possibilities. Transferring waste off the Island should be a focus for waste management, however there will be quarantine barriers to be overcome to allow this. Investigation into the processing of higher value recyclable waste in Indonesia should be investigated as an alternative. This may also provide an additional source of income for the Island.

Recommendation 23:

The Shire, in conjunction with AGD, to introduce a Waste Minimisation Strategy and Management Plan and investigate low carbon energy production, on-island waste recycling and off-island disposal.

7.8 Infrastructure Protection

Another aspect of effective land management is adequate protection for major infrastructure assets on the Island. Currently there are instances of infrastructure assets without easements to provide legal rights of access. A systematic plan should be developed and implemented to ensure service infrastructure protection.

Examples of unprotected service infrastructure include:

- » Water, sewerage and power infrastructure that services the Phosphate Hill area (e.g. recreation centre, detention centre). The lower half of the infrastructure on Lot 0 (PIN 1358679) is not protected within either a road reserve or easement.
- » The water tank on Phosphate Hill (Lot 512, PIN 1299583) currently has no legal access;
- » The physical protection of above ground pipelines in Flying Fish Cove;
- » Various sewerage pumps on the foreshore in the Settlement area; and
- » A sewerage pumping station on Lot 287 (PIN 1096891) in the Kampong area.

In circumstances where public utilities are not protected by cadastre or easements, where existing land uses would be best defined by discrete adjustment of lot boundaries and where road reserves would need to be created, a Land Rationalisation Plan (LRP) could be devised. Any LRP would need to satisfy the standards required under the statutory subdivision process.

Recommendation 24:

AGD initiates, in conjunction with the WA Department of Regional Development and Lands, relevant cadastral surveys and rationalisations in order to create the appropriate protection of public utilities,



define existing land uses and formalise road reserves where required, in line with the current Service Delivery Agreement.

7.9 Cadastral Rationalisation

7.9.1 Land Rationalisation

A systematic cadastral rationalisation over the whole Island needs to occur. There are many instances of cadastral boundaries that either do not match legal land use areas, or there are structures and land uses located in large cadastral parcels that should have their own dedicated cadastral lot. Effective land management requires that all properties have suitable cadastral boundaries to ensure effective legal property rights and control, and land use designation.

Some of these cadastral inconsistencies include:

- » 'Blacks Workshop' on Lot 0 (PIN 1358679) that has no individual land tenure;
- » Residential dwellings and a tank on the same large Lot 0 as Blacks Workshop (1358679) in Drumsite;
- » The lack of a legal access to the water tank behind the oval on Phosphate Hill;
- » The telecommunications tower on Murray Road on the way to Settlement that has a lot designated for it (Lot 384 - PIN 1271981), however is actually located in the National Park, Lot 111 (PIN 1097098); and
- » Residential dwellings, known as 'Thredbo', that currently are not situated within individual cadastral boundaries within the larger Lot 3018 (PIN 11355978).

There are also various roads used by the public that are not protected by public road reserves, or are legal lots (together with Public Access Ways). The absence of road reserves (or inadequate road reserve widths in some cases) for public roads jeopardises the efficient protection of services, can provide confusion over responsibilities for up-keep between organisations and can prevent the effective provision of basic services such as footpaths and bin collections. There is an expectation that any review of the TPS would include provisions for adequate public road reserves.

The TPS should recognise and align with the current cadastral information for the Island. From a land management perspective, this is essential in providing certainty over land use zonings and land use rights for individual lots, and will also allow the recognition of public road reserves where required. This process will eliminate the current situation of single lots have multiple land use zonings.

Recommendation 25:

AGD initiates, in conjunction with the WA Department of Regional Development and Lands, relevant cadastral surveys and rationalisations to address existing cadastral inconsistencies and anomalies, in line with the current Service Delivery Agreement.

7.9.2 Mining Lease Boundaries

The mining lease boundaries under CIP's control have never been formally surveyed on the ground, and this creates uncertainty in relation with buffer and clearing requirements as well as issues surrounding maintenance and liabilities.



Recommendation 26:

Initiation of the survey of mining lease boundaries, with a priority for areas close to potential future development.

7.10 Disposal of Commonwealth Land

Any disposal of Commonwealth land must be facilitated in line with the current *Commonwealth Property Disposals Policy*. The policy essentially indicates that Commonwealth property, having no alternative efficient use, is to be sold on the open market at full market value. Local Governments have the opportunity to put forward requests for a direct or 'priority' sale of Commonwealth land, provided it can be demonstrated that such a sale offers the best outcome for delivery of the Government's objectives.

7.10.1 Developer Obligations

AGD is regularly approached by private developers willing to undertake development on the Island. Often developers find it difficult to understand and appreciate development conditions and restrictions as well as Commonwealth land disposal protocols. Prospective developers will always be required to discuss the merit of their proposals with AGD given that the majority of development on the Island involves land currently controlled by AGD. This results in confusion over land acquisition and/or leasing arrangements and related approval procedures. This situation places most of the uncertainties and risks upon the developer, which in most cases prevents proposals to proceed.

To maintain fairness and transparency, it would be more desirable for AGD to initiate forward planning procedures through the preparation and approval of urban design master plans and ODPs. Once approvals are granted, AGD could instigate marketing of specific sites or precincts to potential investors. This would allow investors to concentrate on the operational and financial viability of the proposal(s) with minimum risks and time delays.

A 'Strategic Assessment' of the CLMP under Section 146 of the EPBC Act is planned and would provide early consideration of national environmental matters in the planning process, greater certainty to the local community and developers over future development, reduced administrative burden for proponents taking actions consistent with the CLMP and flexible timeframes commencing early in the planning process.

Recommendation 27:

AGD initiates forward planning of targeted land uses in appropriate locations and obtain approvals as a prerequisite to the activation of marketing activities and negotiation with prospective investors and developers.

7.10.2 Subdivision of Crown Land

AGD should maintain control of the subdivision process of new developments (e.g. the expansion of the LIA and new residential areas) to ensure specific objectives are met at the development stage. This may include provisions for aged care dwellings, landscape requirements and lot sizes. This will ensure a higher level of certainty and readiness for development. Given SOCI's lack of planning resources, this approach would also ease the pressure on SOCI and their role in the subdivision process.



Recommendation 28:

AGD should maintain ownership of the subdivision design process to ensure that appropriate social and urban design objectives are defined prior to the formalisation of land development contractual agreements.

Recommendation 29:

AGD explore the introduction of administrative processes that facilitate and expedite minor cadastral boundary adjustments.

7.10.3 Unsolicited Proposals

There is a noticeable demand by developers and entrepreneurs to develop Crown land on the Island. This demand is usually unsolicited and AGD can only release land in accordance with current Commonwealth policies. This has generated significant frustration and in many cases the inability to capture development opportunities.

An additional aspect to land release involving the creation of freehold titles is the potential acquisition of freehold land by off-island speculators and lack of follow-up development.

Recommendation 30:

AGD explore the advantages and disadvantages of considering large scale unsolicited proposals similar to existing international models for unsolicited proposals.

Recommendation 31:

AGD consider long term lease arrangements with obligations for lessees to build in a timely manner, in preference to freehold land release.

7.10.4 Transfer of Management

It has been indicated that there is currently a lack of clarity between the notions of public roads, public access, public liabilities and maintenance between SOCI and AGD on the Island. In order to provide this clarity, in instances where local parks and recreation assets are located on Crown land, this land should be under the control of the local government for maintenance and upkeep. This is typical of mainland Western Australian Local Government operations. Other local community facilities, such as religious venues and public toilets, should also follow this model of Local Government Control.

Recommendation 32:

AGD and the Shire agree on the management and maintenance responsibilities for public facilities irrespective of funding sources.

7.11 Implementation

The management of land on Christmas Island has proven to be challenging for most land holders. The legal, technical, statutory, socio-economic and environmental aspects associated with land management are often occurring concurrently rendering decision processes cumbersome, complex and often delayed. In some instances historic land management decisions have provided formidable challenges for subsequent decisions makers and unresolved situations have accumulated over many years.



The CLMP has revealed that management of land on the Island is characterised, in part, by the following:

- » Cadastral discrepancies;
- » Land uses outside of permissible zones under the TPS;
- » Infrastructure in inappropriate locations;
- » Infrastructure without protective easements;
- » Unsurveyed mining lease boundaries;
- » Buildings without dedicated cadastral boundaries; and
- » Unsanctioned use of Crown land by the community.

This raises questions in terms of public liability, apportionment of maintenance responsibilities, general safety and the design and enforcement of land management procedures.

To be effective the CLMP will require two fundamental ingredients; a multi-landholder working team on-island and a reliable and on-going budget to deal with unresolved land management legacies as well as future planning needs.

Recommendation 33:

To create an on-island Working Group with representatives from AGD, SOCI, CIP, Parks and the Economic Development Consultative Group to progress the implementation of the CLMP and the Town Planning Scheme review process.

Recommendation 34:

AGD to consider appropriate funding arrangements for the Working Group in order to have the appropriate financial means of supporting the Working Group and implementing the CLMP.



8. Land Development Priorities

The following outlines the suggested priorities of the land management recommendations that have been outlined in this report. The successful implementation of the land management plan will be reliant on the success of the individual actions that will allow the Island to move in a consistent and agreed upon strategic direction.

The following actions are considered the key priorities focussed on tangible outcomes on the Island:

1. AGD undertakes, as a matter of priority, the assessment of the Island's basalt geology and profile in order to identify the extent and capacity of the Island's groundwater source catchment.
2. AGD, the Shire, and interested parties should reach an agreement to formulate an ODP that would lead to a restructure of the existing land holdings and the creation a new subdivision to allow the orderly expansion of the existing LIA and facilitation of direct vehicular movements between the LIA, the airport and the port.
3. The Shire and AGD to initiate the creation of an Urban Design Master Plan (UDMP) for the Gaze Road Tourism and Commercial Precinct, in conjunction with the Christmas Island Tourism Association and local businesses. This UDMP should incorporate the removal of the Gaze Road fuel tanks, the long term location of the tourist bureau/visitor interpretive centre, heritage and environmental considerations and streetscape improvements within the entire Precinct.
4. AGD to consider the modification of lease agreements, through an open tender process, to allow the progressive establishment of agricultural practices on mining leases, subject to water availability.
5. AGD encourages the Shire to initiate the review of the Town Planning Scheme as soon as the Local Planning Strategy is endorsed by the Western Australian Planning Commission under regulation 12B of the Town Planning Regulations 1967 (WA) and the Federal Minister for Home Affairs.

Two further key enabling priorities are:

1. To create an on-island Working Group with representatives from AGD, SOCI, CIP, Parks and the Economic Development Consultative Group to progress the implementation of the CLMP and the Town Planning Scheme review process.
2. AGD initiates forward planning of targeted land uses in appropriate locations and obtain approvals as a prerequisite to the activation of marketing activities and negotiation with prospective investors and developers.

The recommendations below are listed in order of priority and those followed by a '♦' symbol are likely to require the establishment of a project plan and the provision of a corresponding budget for their orderly implementation.

8.1 Immediate (0 - 12 Months)

Recommendation 33:

To create an on-island Working Group with representatives from AGD, SOCI, CIP, Parks and the Economic Development Consultative Group to progress the implementation of the CLMP and the Town Planning Scheme review process.



Recommendation 34:

AGD to consider appropriate funding arrangements for the Working Group in order to have the appropriate financial means of supporting the Working Group and implementing the CLMP.

Recommendation 21 ♦:

AGD undertakes, as a matter of priority, the assessment of the Island's basalt geology and profile in order to identify the extent and capacity of the Island's groundwater source catchment.

Recommendation 28:

AGD should maintain ownership of the subdivision design process to ensure that appropriate social and urban design objectives are defined prior to the formalisation of land development contractual agreements.

Recommendation 19 ♦:

AGD, the Shire, and interested parties should reach an agreement to formulate an ODP that would lead to a restructure of the existing land holdings and the creation a new subdivision to allow the orderly expansion of the existing LIA and facilitation of direct vehicular movements between the LIA, the airport and the port.

Recommendation 11 ♦:

The Shire and AGD to initiate the creation of an Urban Design Master Plan (UDMP) for the Gaze Road Tourism and Commercial Precinct, in conjunction with the Christmas Island Tourism Association and local businesses. This UDMP should incorporate the removal of the Gaze Road fuel tanks, the long term location of the tourist bureau/visitor interpretive centre, heritage and environmental considerations and streetscape improvements within the entire Precinct.

Recommendation 1 ♦:

That the Shire finalise the review of the Local Planning Strategy and liaise with AGD to ensure that the findings of the CLMP are incorporated into the Strategy.

Recommendation 3:

AGD should ensure that the Local Planning Strategy acknowledges the need to reduce the Island's dependency on imported food and building materials by encouraging rural development, including agriculture, horticulture and aquaculture.

Recommendation 4:

AGD should ensure that the Local Planning Strategy acknowledges the need to reduce the Island's dependency on imported fuel by encouraging the development of low carbon emission energy sources including bio-fuel, wind, hydro and solar power.

Recommendation 16:

AGD and CIP, in conjunction with Parks Australia where appropriate, finalise the Mine Abandonment Plan in order to expedite the orderly review of the Local Planning Strategy.

Recommendation 26 ♦:

Initiation of the survey of mining lease boundaries, with a priority for areas close to potential future development.



Recommendation 31:

AGD consider long term lease arrangements with obligations for lessees to build in a timely manner, in preference to freehold land release.

8.2 Short Term (12 Months – 36 Months)

Recommendation 27 ♦:

AGD initiates forward planning of targeted land uses in appropriate locations and obtain approvals as a prerequisite to the activation of marketing activities and negotiation with prospective investors and developers.

Recommendation 15 ♦:

AGD, in conjunction with interested parties, devise an appropriate strategy that will encourage and allow the progressive transition from mining to agriculture in appropriate locations and that this strategy is reflected in the Local Planning Strategy.

Recommendation 17:

AGD, in conjunction with AQIS, should explore phosphate material transfer opportunities from Christmas Island to Cocos (Keeling) Islands and related approvals to capture foreseeable socio-economic synergies.

Recommendation 7:

AGD consider, where appropriate, applications for the extraction of phosphate deposits in specific areas which may be used for future intensive development, such as residential or light industrial uses.

Recommendation 13:

Any clearing permit granted on the Island should consider the re-use of suitable felled timber material.

Recommendation 5 ♦:

AGD and the Shire, in conjunction with relevant community groups, should identify suitable locations within residential areas and develop appropriate management protocols for the introduction of community gardens.

Recommendation 32:

AGD and the Shire agree on the management and maintenance responsibilities for public facilities irrespective of funding sources.

Recommendation 24 ♦:

AGD initiates, in conjunction with the WA Department of Regional Development and Lands, relevant cadastral surveys and rationalisations in order to create the appropriate protection of public utilities, define existing land uses and formalise road reserves where required, in line with the current Service Delivery Agreement.

Recommendation 30:

AGD explore the advantages and disadvantages of considering large scale unsolicited proposals similar to existing international models for unsolicited proposals.



Recommendation 2 ♦:

AGD encourages the Shire to initiate the review of the Town Planning Scheme as soon as the Local Planning Strategy is endorsed by the Western Australian Planning Commission under regulation 12B of the Town Planning Regulations 1967 (WA) and the Federal Minister for Home Affairs.

Recommendation 6:

AGD encourages the Shire to consider defining mining leases within a rural zone rather than as a specific mining lease zone during the TPS review process.

8.3 Medium Term (3-7 years)

Recommendation 14:

The recent approval for a trade training centre at the CIDHS should incorporate training for locally produced construction materials.

Recommendation 18:

AGD and the Shire should devise an appropriate protocol to engage with community groups and/or individuals utilising Crown land to ensure that public liabilities and land maintenance are addressed through formal lease or licence agreements.

Recommendation 8:

AGD should consider facilitating the establishment of a research centre focussing on the sustainable production of equatorial land and marine food to assist in the introduction of agro-businesses in the Island's economy.

Recommendation 9 ♦:

AGD and Parks Australia, in conjunction with DAF, AQIS and the WA Department of Fisheries, to devise a commonly shared list of permissible animal and plant species suitable to Christmas Island and consider a review of the current plant assessment process.

Recommendation 12:

Parks Australia, in conjunction with AGD, to identify areas within the National Park for energy and water self-sufficient nature based tourism accommodation to take advantage of the unique natural attributes of the National Park.

Recommendation 23 ♦:

The Shire, in conjunction with AGD, to introduce a Waste Minimisation Strategy and Management Plan and investigate low carbon energy production, on-island waste recycling and off-island disposal.

Recommendation 22:

AGD and the Water Corporation, with advice from the Western Australian Department of Health, investigate collaboratively waste water infrastructure and waste water re-use opportunities on the Island.



Recommendation 20 ♦:

AGD, the Shire and DIAC should reach an agreement to formulate an ODP that would lead in time to the creation of a new residential subdivision integrated with the existing recreation facilities on Phosphate Hill through appropriate connections with the CIDHS and Poon Saan.

Recommendation 29:

AGD explore the introduction of administrative processes that facilitate and expedite minor cadastral boundary adjustments.

8.4 Long Term (7+ Years)

Recommendation 10:

AGD to consider new lease agreements, through an open tender process, to allow the progressive establishment of agricultural practices on current mining lease areas, subject to water availability.

Recommendation 25 ♦:

AGD initiates, in conjunction with the WA Department of Regional Development and Lands, relevant cadastral surveys and rationalisations to address existing cadastral inconsistencies and anomalies, in line with the current Service Delivery Agreement.



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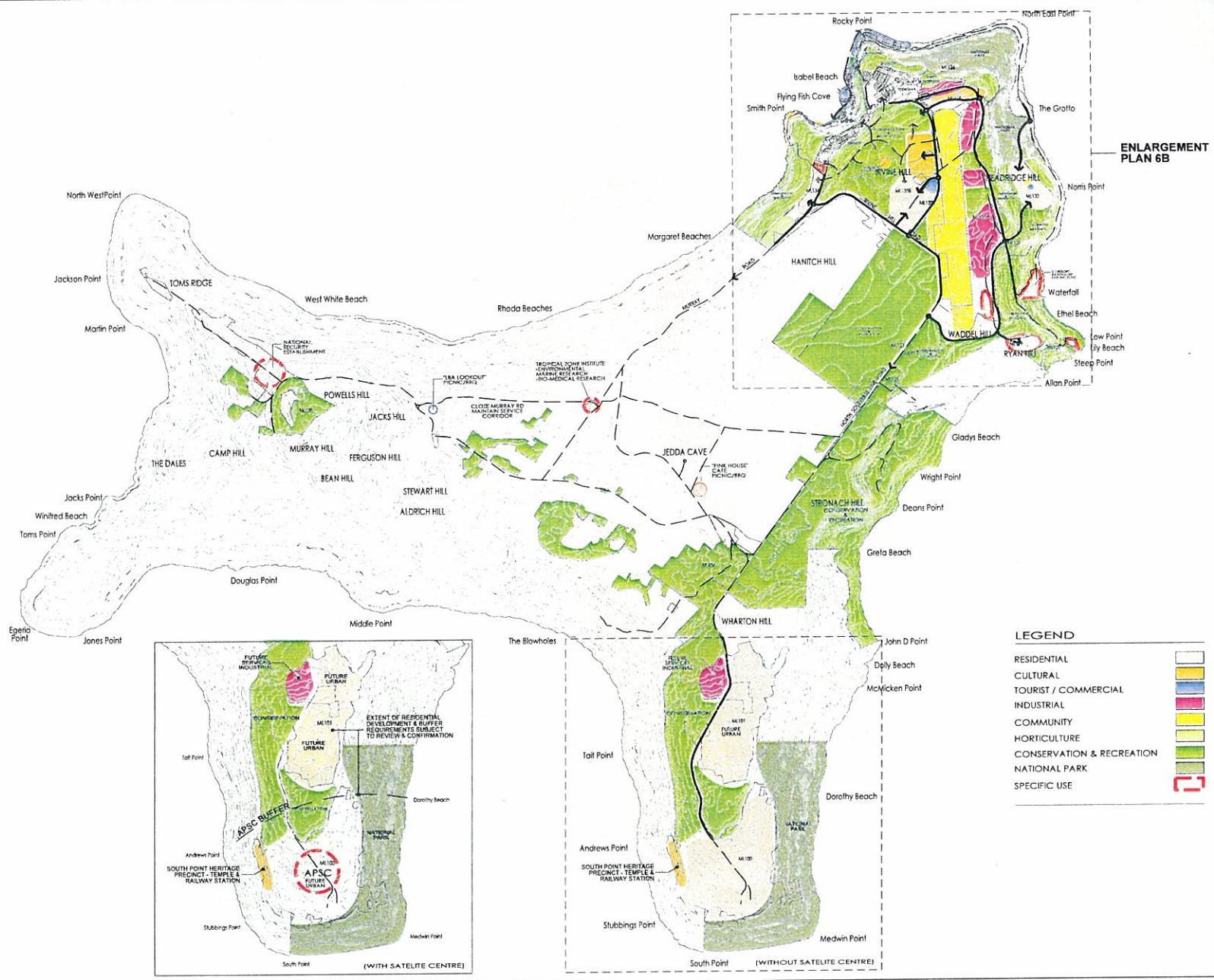
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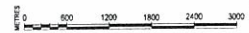


Appendix A
Christmas Island Local Planning Strategy
Map



CHRISTMAS ISLAND STRATEGIC LAND USE PLAN- WHOLE ISLAND

PLAN 6A



NOTES

1. This plan is a strategic land use plan and does not constitute a development consent or any other form of approval.

2. The Department of Planning and Infrastructure is responsible for the implementation of this plan.

3. The Department of Planning and Infrastructure reserves the right to amend this plan from time to time.

4. This plan is subject to the provisions of the Planning and Infrastructure Act 2007.

KEY

RESIDENTIAL
CULTURAL
TOURIST / COMMERCIAL
INDUSTRIAL
COMMUNITY
HORTICULTURE
CONSERVATION & RECREATION
NATIONAL PARK
SPECIFIC USE

koltaszmith

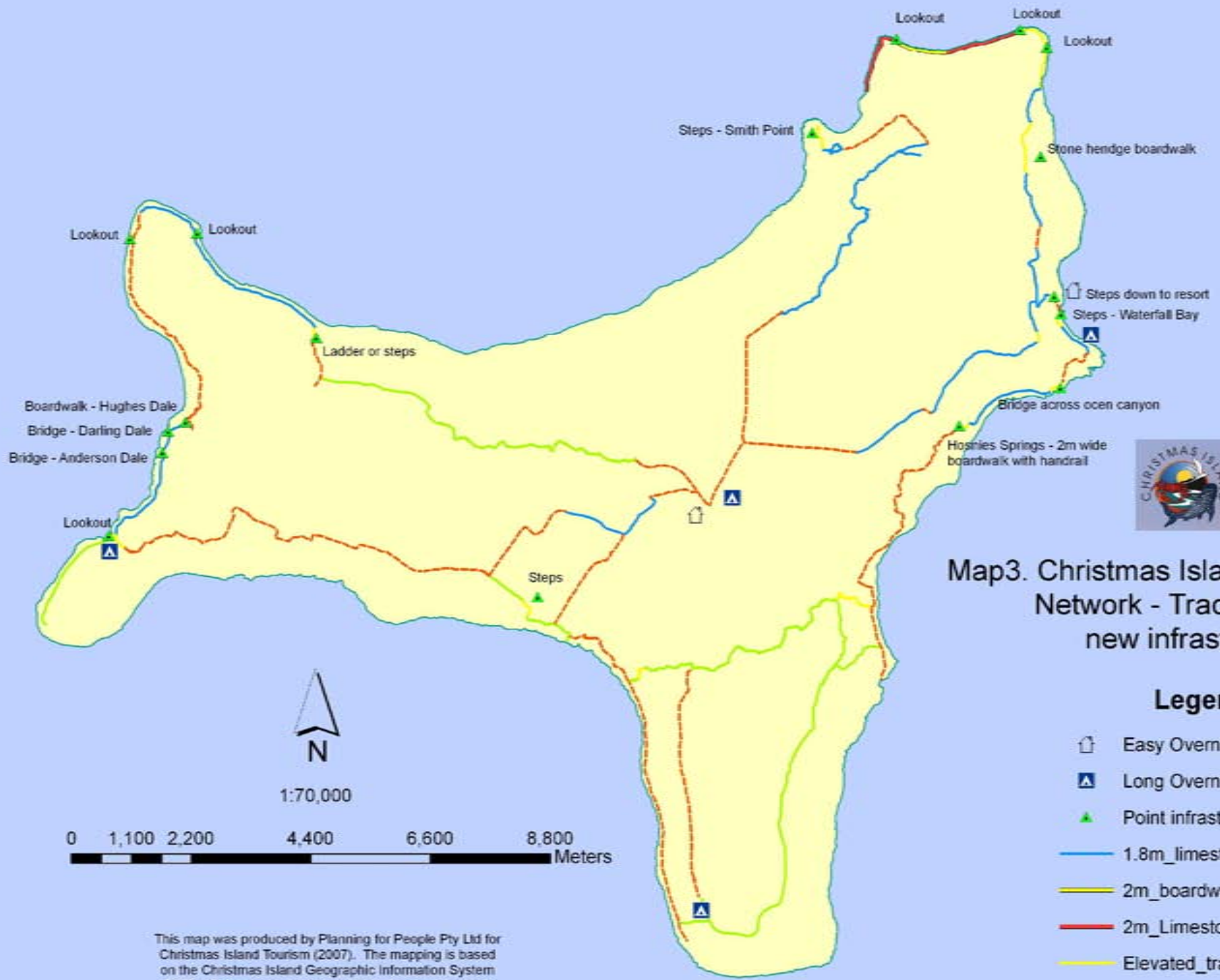
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Appendix B

Christmas Island Walking Track Strategy Map



Map3. Christmas Island Walking Track Network - Track type and new infrastructure

Legend

- Easy Overnight
- Long Overnight
- Point infrastructure
- 1.8m_limestone
- 2m_boardwalk
- 2m_Limestone
- Elevated_track/stone work
- Existing_track
- Marked_track

This map was produced by Planning for People Pty Ltd for Christmas Island Tourism (2007). The mapping is based on the Christmas Island Geographic Information System (2006), Geoscience Australia. The walking track routes are based on GPS co-ordinates



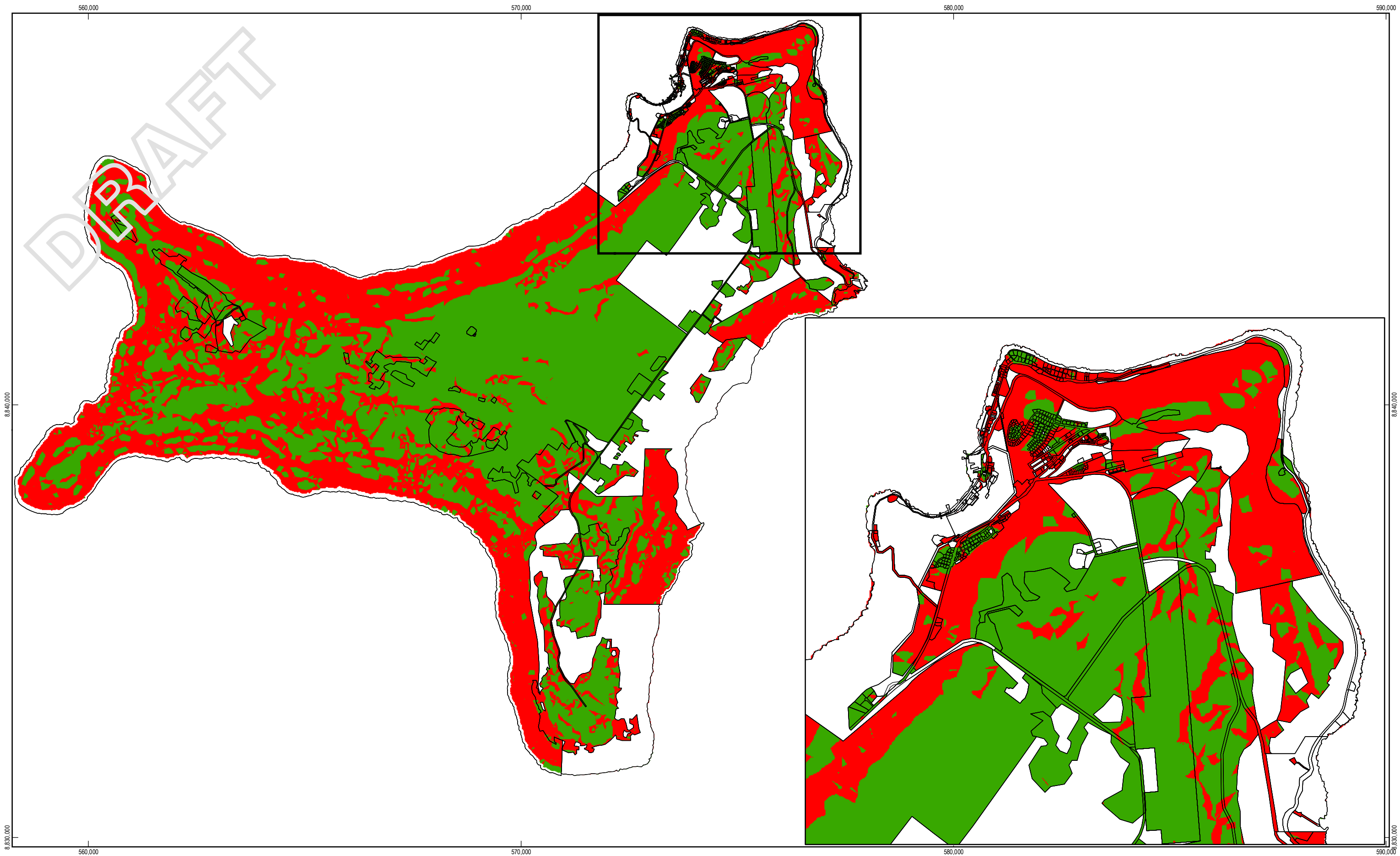
Appendix C
Crown Land Audit

Uncommitted Land	11291765	1837	3002	N	POS	Mining Port Facilities	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y			Shire Heritage List	
	11319166	263	600	N	POS	Flying Fish Cove Boat Ramp	N	N	Y	N	N	N	Malay Kampong Group	Y	Y	Y	Y	Y			Shire Heritage List	
	11319788	867	3000	N	POS	Open Space	N	N	Y	N	N	N		N	Y	Y	Y	Y				
	11329735	406	642	N	POS	Car Park/Old Recreation Centre access	N	N	Y	N	N	N		Y	Y	Y	Y	Y				
	11333762	859	3008	N	Special Use	Temple	N	N	Y	N	N	N	Settlement Christmas Island	Y	Y	Y	Y	Y				Shire Heritage List
	11333763	624	3009	N	Special Use	Cafe access	N	N	Y	N	N	N	Settlement Christmas Island	Y	Y	Y	Y	Y				Shire Heritage List
	11336661	2127	673	N	UCL	Forest/Open Space	N	N	Y	N	Y	N		Y	Y	Y	Y	Y				
	11336662	2949	574	N	UCL/Public Purposes - Community Purposes	Forest	N	N	Y	N	Y	N		Y	Y	Y	Y	Y				
	11336663	1703	3003	N	UCL	Forest	N	N	Y	N	Y	N		N	Y	N	Y	Y				
	11336664	197	3004	N	UCL	Forest/Access road	N	N	Y	N	Y	N		N	Y	Y	Y	Y				
	11336665	420	3007	N	UCL	Forest	N	N	N	N	Y	N		N	Y	Y	N	Y				
	11351742	36955	3027	Y	Industrial	Rock Crushing Plant	N	N	Y	N	M	N		Y	Y	N	Y	Y				
	11353786	738	3025	N	Commercial	Forest	N	N	Y	N	N	N		N	Y	Y	N	Y				
	11355539	687	644	N	POS	Open Space	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y				Shire Heritage List
	11355979	90153	3019	N	UCL	Forest	N	Y	Y	N	M	N		Y	Y	Y	N	Y				
	11374290	77303	3013	N	Public Purposes - Airport	Forest/Mine Site	N	N	Y	Y	M	N		N	Y	N	Y	N	Y	L		
	11374292	16384	3012	N	Public Purposes - Airport	Forest/Mine Site	N	N	Y	N	M	N		N	Y	N	Y	N	Y	L		
	11377992	283	637	N	Public Purposes - Commonwealth	Mining Port Facilities	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y				
	11377993	14970	638	N	Public Purposes - Commonwealth/Mining Lease	Wharf Area/Dust Storage Bins	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y				Shire Heritage List
	11377994	1716	639	N	Public Purposes - Commonwealth	Road access to dock area	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y				Shire Heritage List
	11377995	2456	640	N	POS	Open space	N	N	Y	N	N	N	Industrial & Administrative Group	Y	Y	Y	Y	Y				Shire Heritage List
	11378011	55924	648	N	Horticulture/POS	Forest/Mine Site	Y	Y	Y	Y	M	N		N	Y	Y	Y	N	Y			
	11425886	22077	0	N	UCL	Forest	Y	N	Y	N	Y	N		N	N	N	N	Y				
	11428811	3348	3034	N	UCL/Road Reserve	Forest/Access road	N	Y	Y	N	Y	N		N	Y	Y	N	Y				
	11428889	1110	3043	N	Public Purposes - Cemetery	Unknown Sailer	N	N	N	N	Y	N		N	N	N	N	Y				
	11429080	5499	3032	N	UCL	Forest/Cleared land	N	Y	Y	N	M	N		N	Y	Y	N	N				
	11458377	11481	3044	N	POS	Forest/Coastal cliffs	N	N	Y	N	Y	N		N	Y	Y	N	Y				
	11458378	87	3045	N	POS	Forest/Coastal cliffs	N	N	Y	N	Y	N		N	N	N	N	Y				
	11458999	100	3046	N	UCL	Forest	N	N	Y	N	Y	N		N	Y	Y	N	Y				
	11459000	409644	3047	Y	UCL	Forest	N	Y	Y	N	Y	N		N	Y	Y	N	Y	T			
	11462623	5639	3061	N	POS	Open space	N	Y	Y	N	N	N		Y	Y	Y	N	Y				
	11462679	17116	3066	N	UCL	Forest	N	Y	Y	N	Y	N		N	N	N	N	Y				
	11463545	229239	3061	N	Tourist	Forest	N	Y	Y	N	Y	N		Y	Y	N	N	Y				
	11463547	43383	3054	N	Tourist	Forest/Link Water Road	N	Y	Y	Y	Y	N		Y	N	N	N	Y				
	11463549	186121	3052	N	Tourist	Resort/Forest	N	Y	Y	Y	M	N		Y	Y	N	Y	N	Y			CIMH - Water Pumping Stations
	11466735	319717	3048	N	POS	Forest/Open Space/Coastal cliffs	N	Y	Y	N	M	N		Y	Y	Y	N	Y				
	11479409	4151	0	N	POS	Beach/Coastal cliffs	N	Y	Y	N	Y	N		N	Y	Y	N	Y				
	11479410	1726	0	N	POS	Beach	N	Y	Y	N	N	N		N	Y	Y	N	Y				
	11479411	6760	0	N	POS	Beach	N	Y	Y	N	N	N		N	Y	Y	N	Y				
	11485182	68892	592	N	Public Purposes - Airport	Forest	N	Y	Y	Y	N	N		N	Y	N	N	Y				
	11609808	849046	0	N	UCL	Forest	Y	Y	Y	N	Y	N		N	N	N	N	Y				
	11616006	52288	0	N	UCL/Mining Lease	Forest	N	Y	Y	Y	N	N		N	N	N	N	Y				
	11616007	1063971	0	N	UCL	Forest	Y	Y	Y	Y	M	Y		N	N	N	N	Y	T			
North West Point	1097155	124830	0	Y	Mining Lease	Forest/Lookout	N	N	Y	N	M	Y	N	N	N	N	Y					
Rest of Island	11616011	79763	0	N	UCL	Forest	Y	N	Y	N	M	N	N	N	N	N	Y					
	11616010	119338	0	N	UCL	Forest	Y	N	N	N	N	Y	N	N	N	N	Y					
	1097203	543213	0	N	UCL	Forest	Y	Y	Y	N	M	Y	N	Y	N	N	Y					
	11184473	1331	587	N	Mining Lease	Forest	N	N	Y	N	N	N	N	Y	N	Y	N	Y				
	1097167	14830	0	N	Mining Lease	Forest, access road	N	N	Y	N	N	N	N	N	N	N	Y					

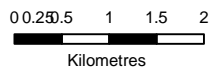


Appendix D

Land Capability Map Series – Committed Land



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 50



LEGEND

Slope - GHD - 20090224

- 0 - 10%
- >10%



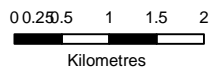
Attorney General's Department
Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 12 March 2009

**Committed Land
Slope**

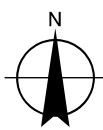
Figure 1



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

Current Land Use Zoning - GA - 20031014

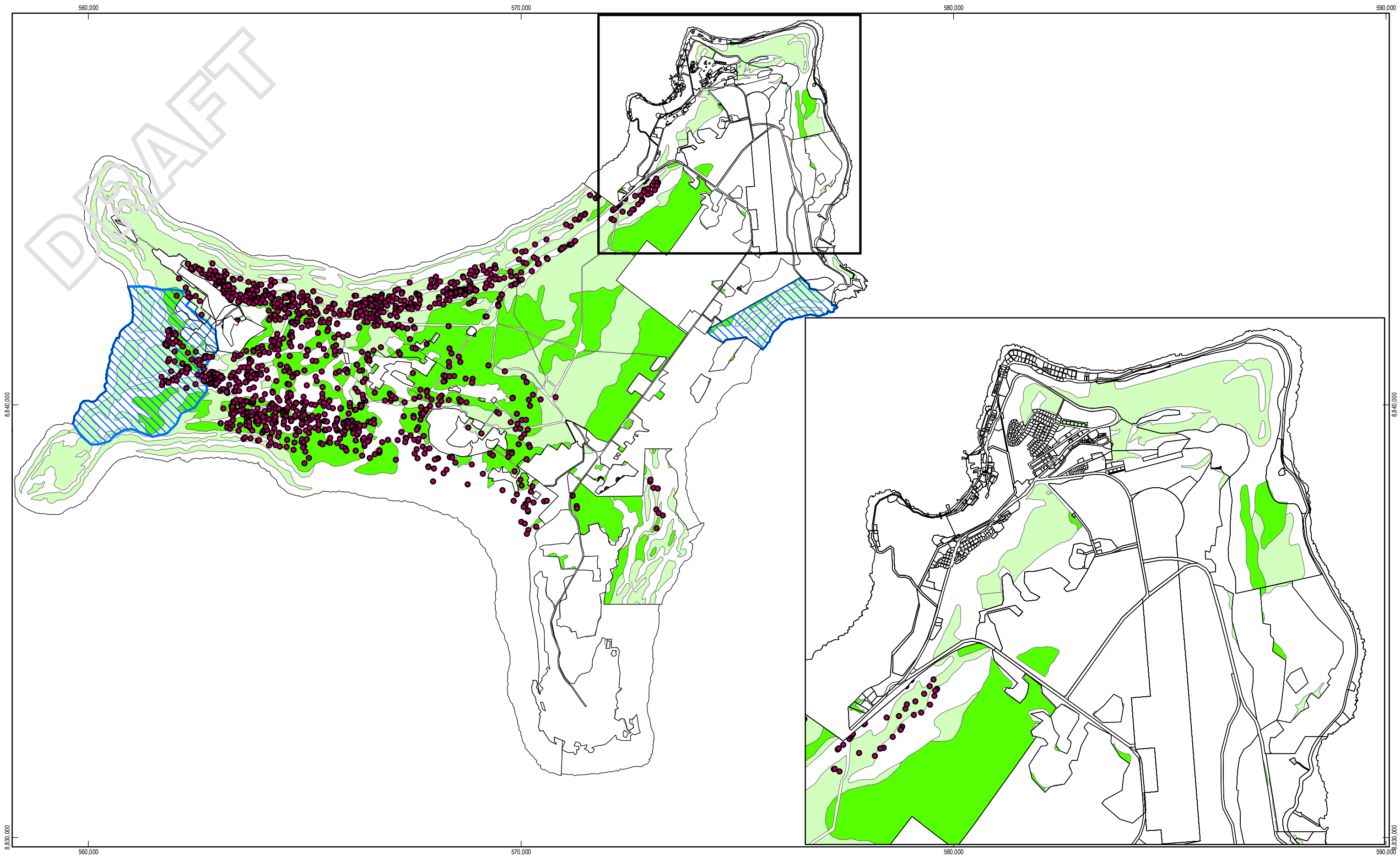
Commercial	Public Open Space	Residential
Industrial	UCL	Special Use
Mining Lease	Public Purposes	Tourist



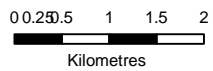
Attorney General's Department
Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 17 June 2009

Committed Land
Inappropriate Zoning

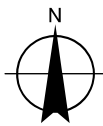
Figure 2



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

- Abbotts Booby Nest Sites - GA - 2008
- ▭ Cadastre - GA - 200708
- ▨ Digitised Ramsar Sites - GHD - 20090601

Vegetation - GA - 2008

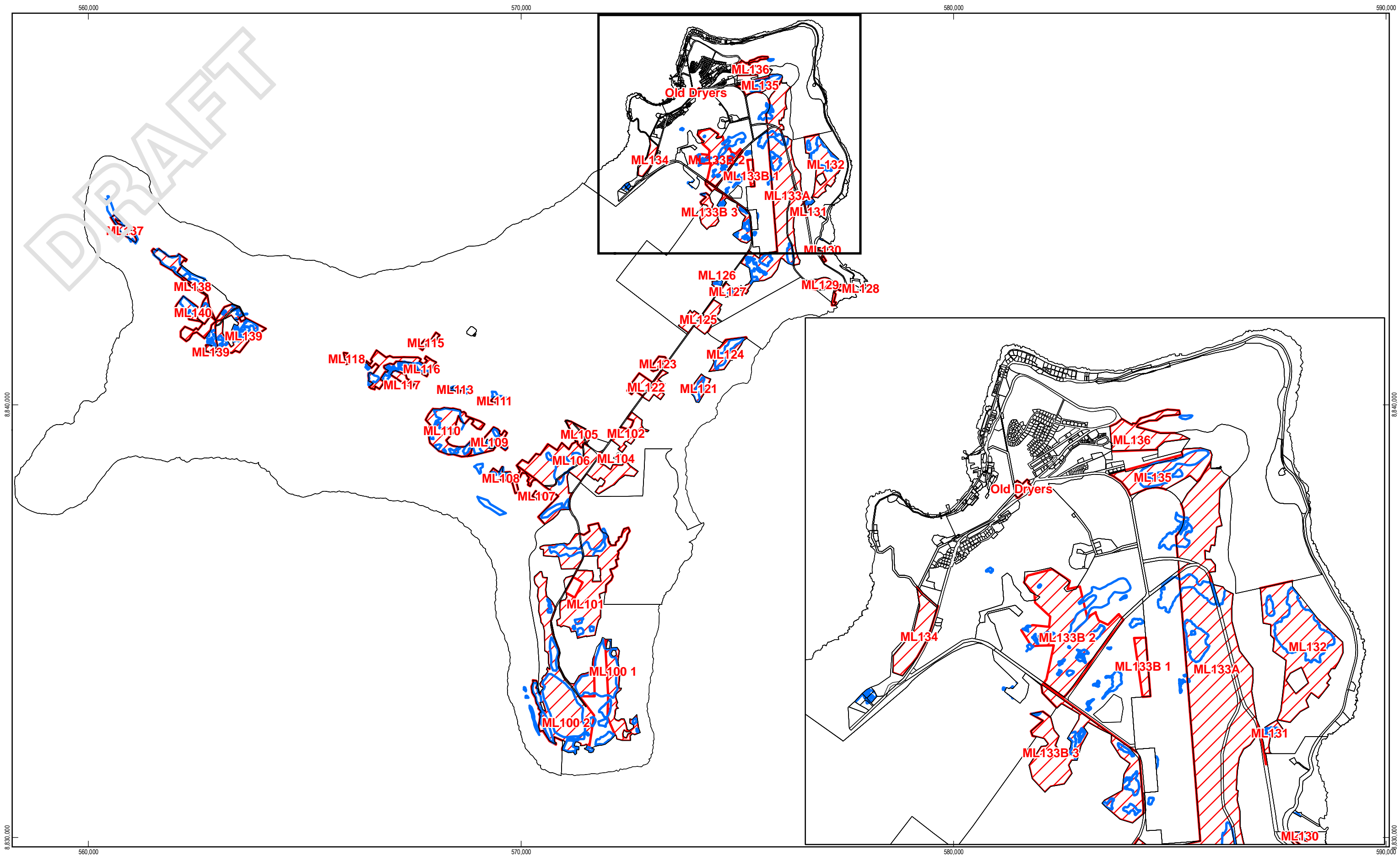
- Priority 1
- Priority 2



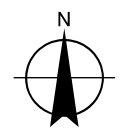
Attorney General's Department
Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 17 June 2009

**Committed Land
Environmental Considerations**

Figure 3



1:80,000 (at A3)
 0 0.25 0.5 1 1.5 2
 Kilometres



LEGEND

Cadastre - GA - 200708

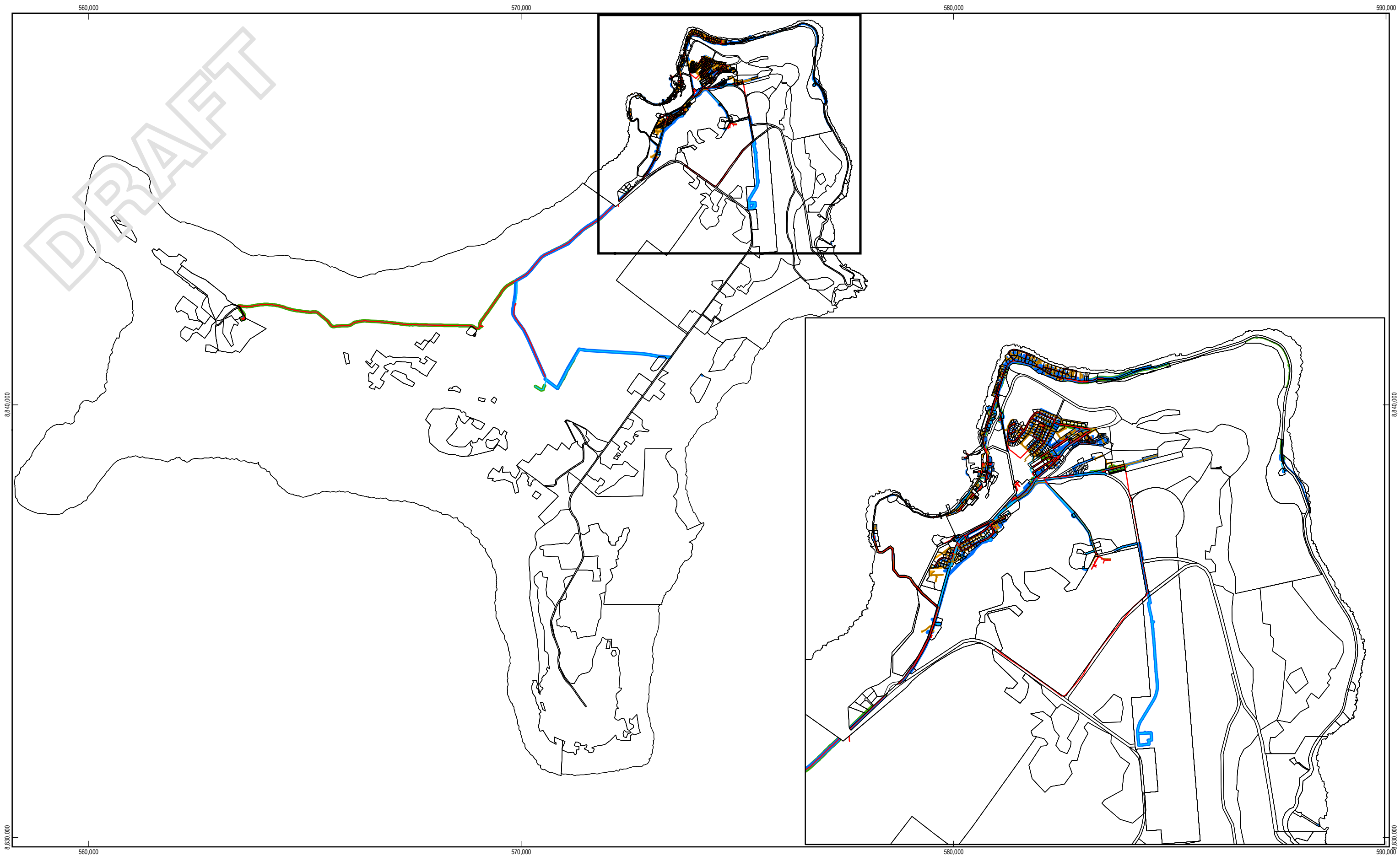
Current Mining Lease - GA - 20080430

Pinnacle Fields - GA - 20031014

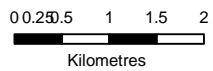


Attorney General's Department Job Number 61/23256
 Crown Land Management Plan for the IOA Revision A
 Date 17 June 2009

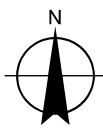
**Committed Land
 Mining Leases & Pinnacle Fields** **Figure 4**



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

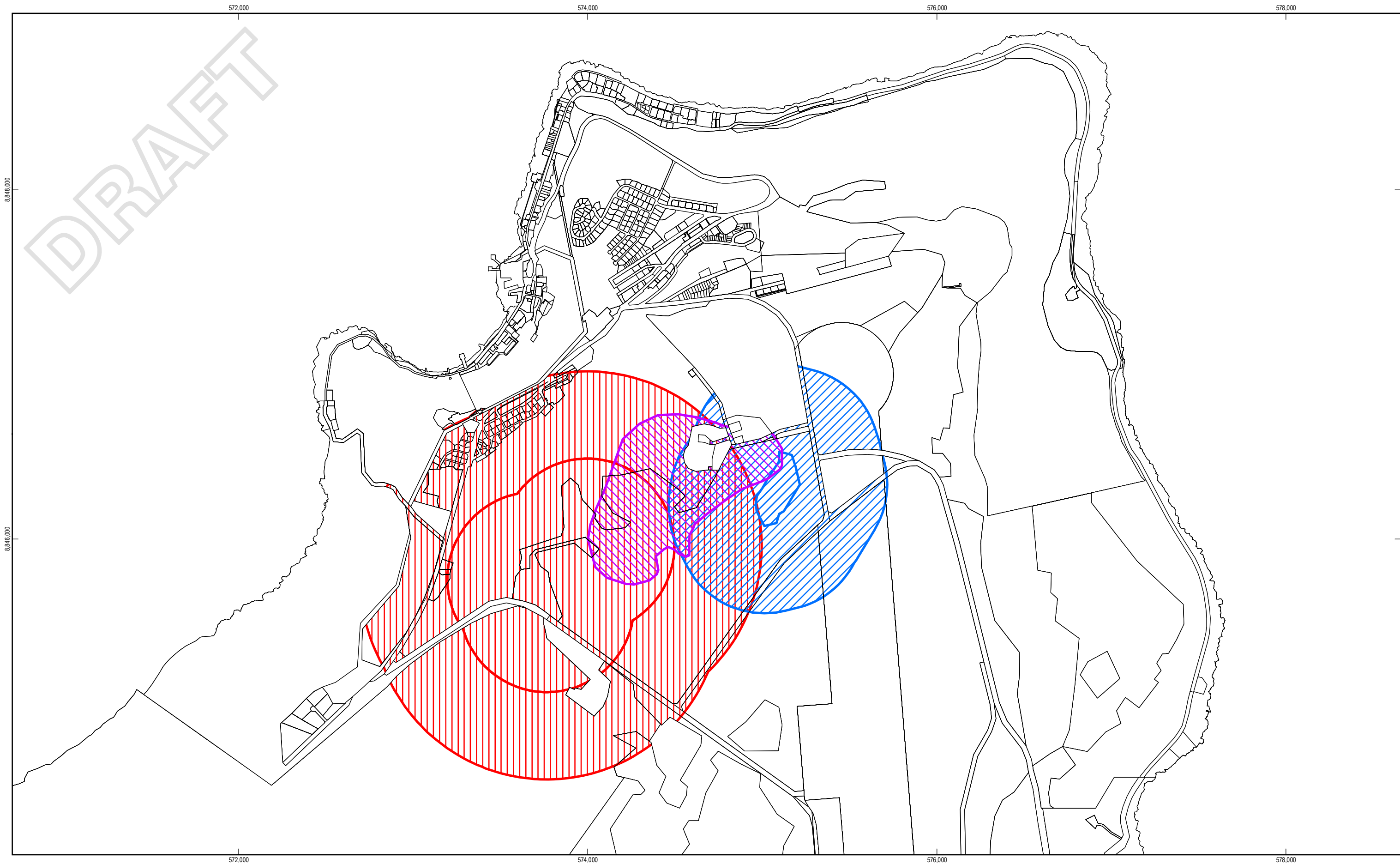
- Power - GA - 2008
- Sewer - GA - 2008
- Water Supply - GA - 2008
- Telecommunications - GA - 2008
- Cadastre - 200708



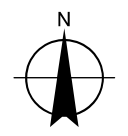
Attorney General's Department
Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 17 June 2009

Committed Land Services

Figure 5




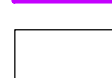
1:20,000 (at A3)
 0 100 200 400 600 800
 Meters
 Map Projection: Transverse Mercator
 Horizontal Datum: World Geodetic System 1984
 Grid: Universal Transverse Mercator, Zone 47S



LEGEND

Buffers - GHD - 20090130

-  Landfill
-  Communication Towers

-  Obstacle Limitation Surface - GHD - 20090203
-  Cadastre - GA - 200708



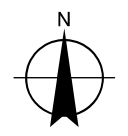
Attorney General's Department	Job Number	61/23256
Crown Land Management Plan for the IO	Revision	A
	Date	17 June 2009

**Committed Land
 Buffer Constraints**



Figure 6




1:80,000 (at A3)
 0 0.2 0.5 1 1.5 2
 Kilometres



LEGEND

-  Cadastre - GA - 200708
-  Commonwealth Heritage Register - GA - 2008

-  Commonwealth Heritage Register - GA - 2008



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Crown Land Management Plan for the IO	Revision	A
	Date	17 June 2009

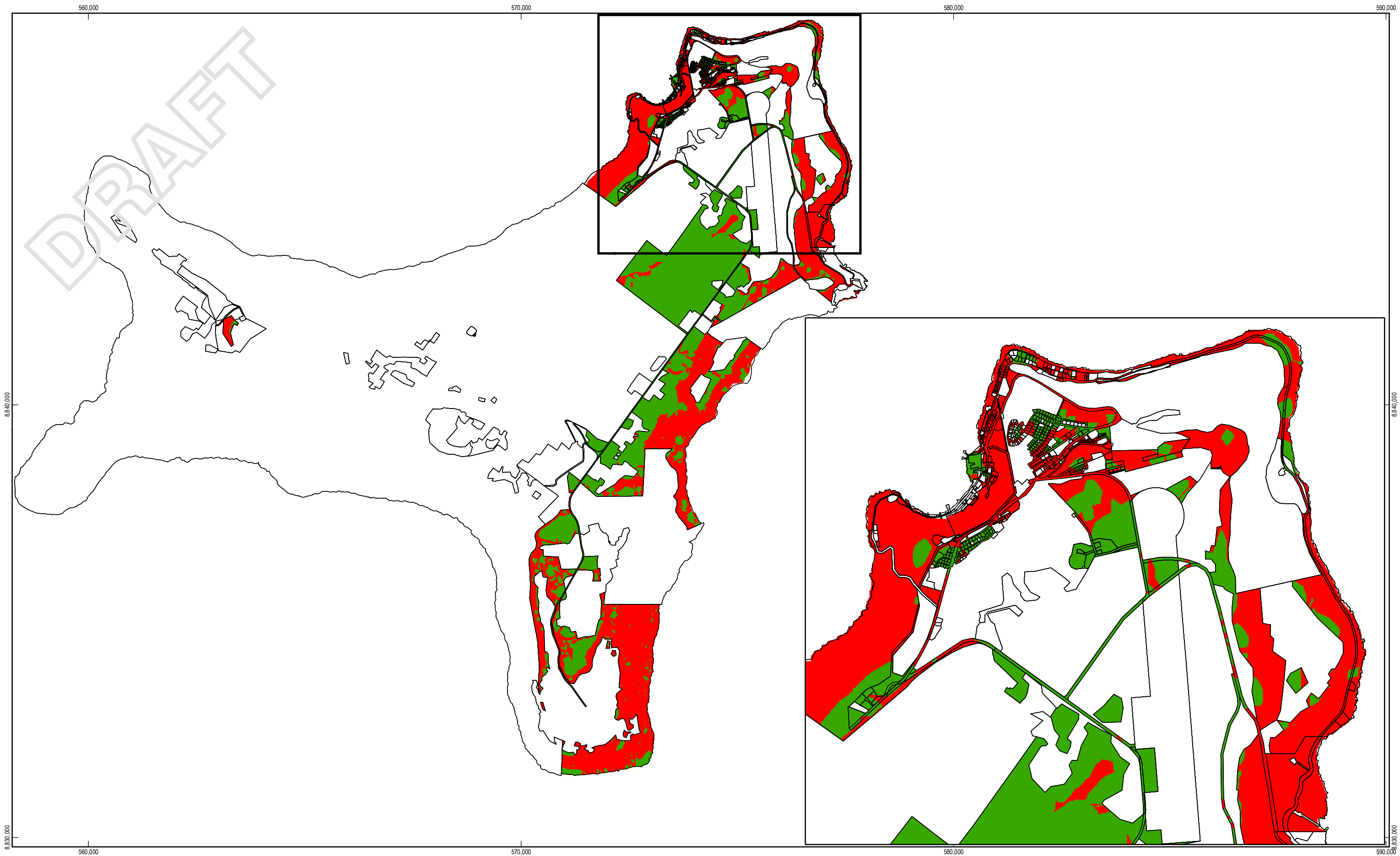
**Committed Land
Heritage Considerations**

Figure 7

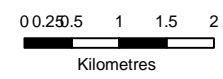
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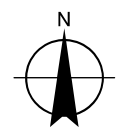
Appendix E
Land Capability Map Series – Uncommitted
Land



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

Slope - GHD - 20090224

- 0 - 10%
- >10%



Attorney General's Department
Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 17 June 2009

**Un-Committed Land
Slope**

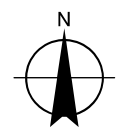
Figure 1

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DRAFT



1:10,000 (at A3)
 0 50 100 200 300 400
 Meters
 Map Projection: Transverse Mercator
 Horizontal Datum: World Geodetic System 1984
 Grid: Universal Transverse Mercator, Zone 47S



LEGEND
Current Land Use Zoning - GA - 20031014

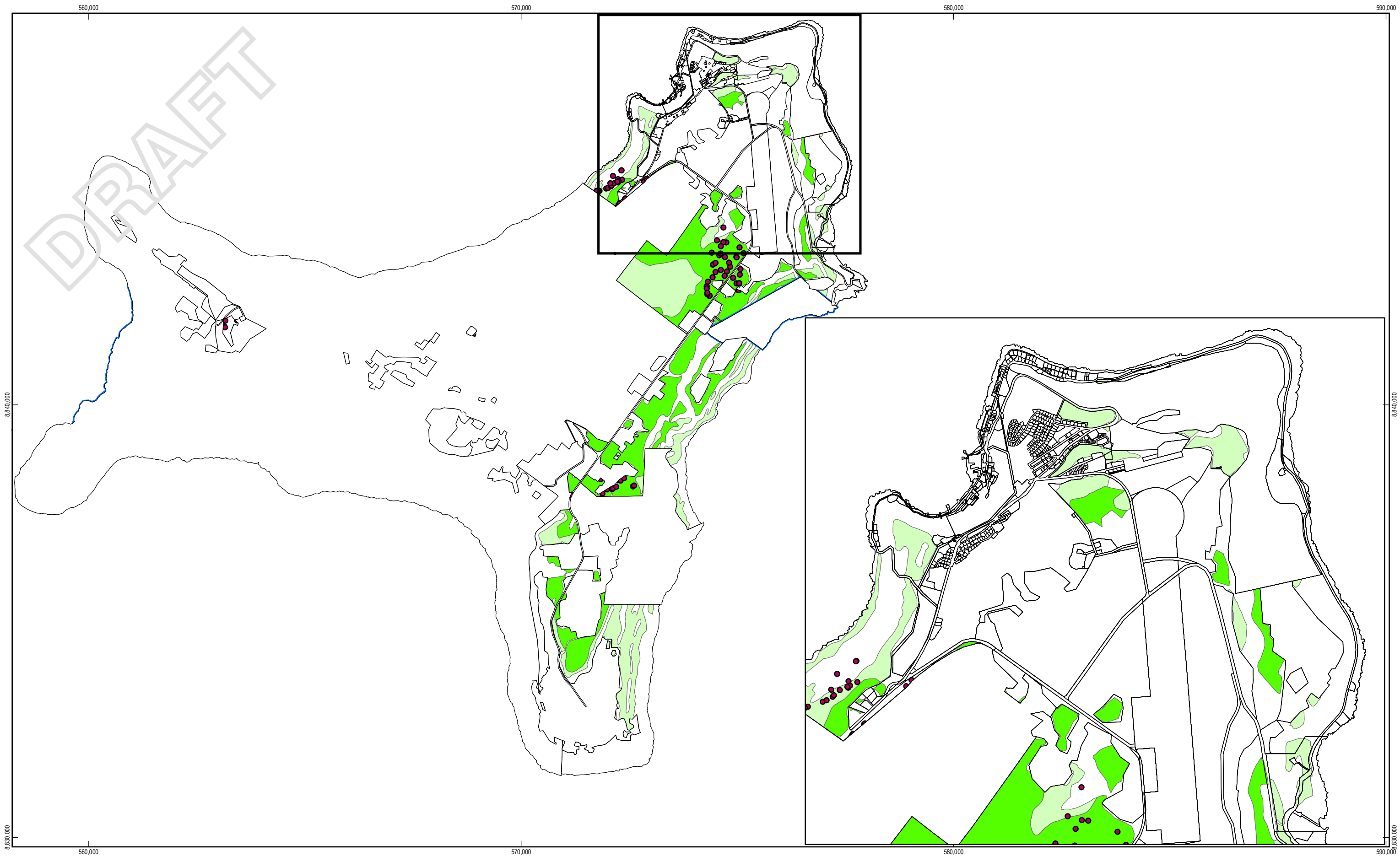
Commercial	Public Open Space	Residential
Industrial	UCL	Special Use
Mining Lease	Public Purposes	Tourist



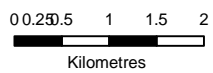
Attorney General's Department
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 Job Number 61/23256
 Revision A
 Date 17 June 2009

**Un-Committed Land
 Inappropriate Zoning**

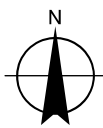
Figure 2



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

- Abbotts Booby Nest Sites - GA - 2008
- ▭ Cadastre - GA - 200708
- ▨ Digitised Ramsar Sites - GHD - 20090601

Vegetation - GA - 2008

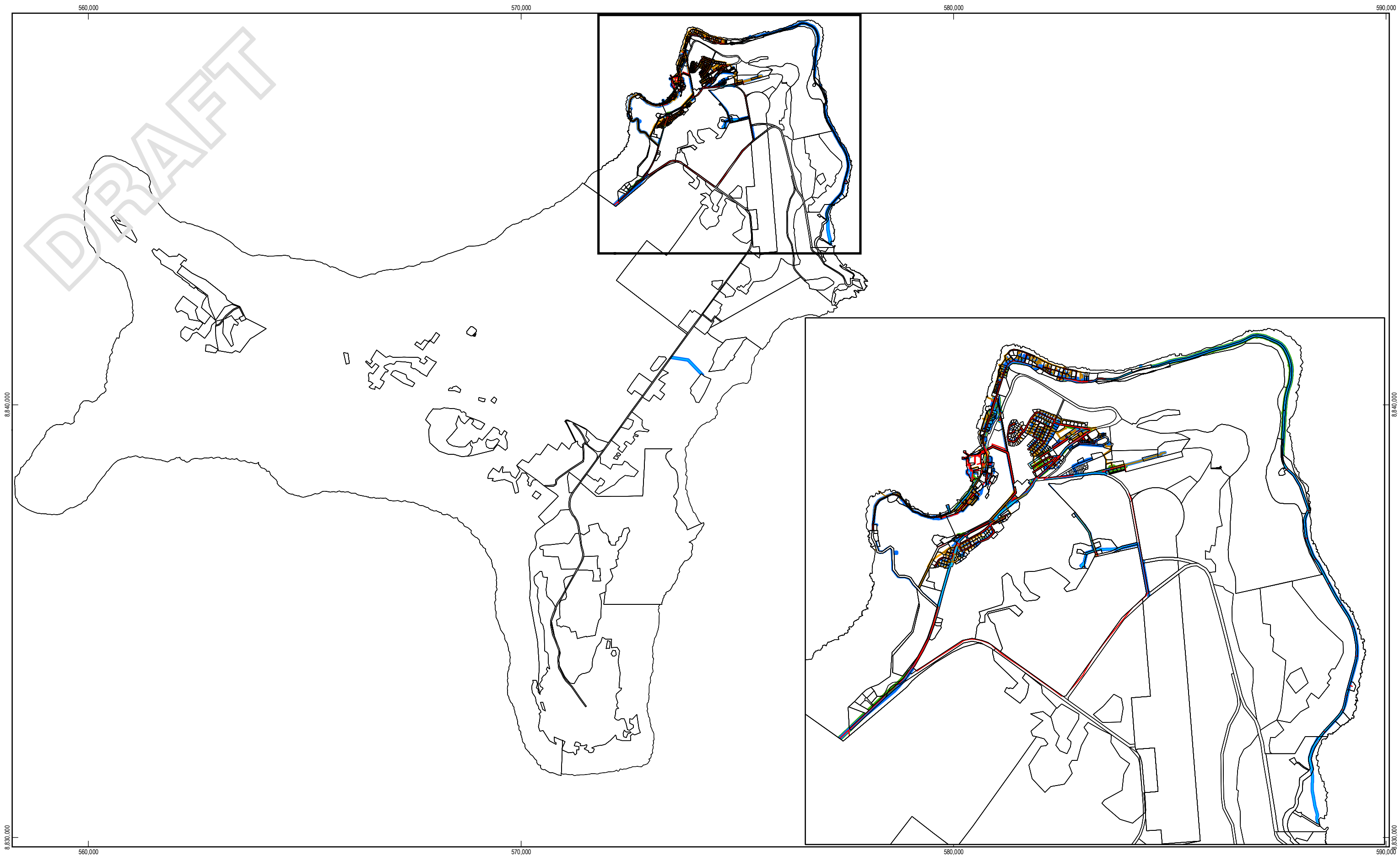
- Priority 1
- Priority 2



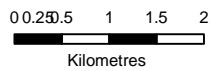
Attorney General's Department	Job Number	61/23256
Crown Land Management Plan for the IO	Revision	A
	Date	17 June 2009

**Un-Committed Land
Environmental Considerations**

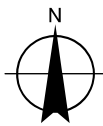
Figure 3



1:80,000 (at A3)



Map Projection: Transverse Mercator
Horizontal Datum: World Geodetic System 1984
Grid: Universal Transverse Mercator, Zone 47S



LEGEND

— Power - GA - 2008

— Sewer - GA - 2008

— Water Supply - GA - 2008

— Telecommunications - GA - 2008

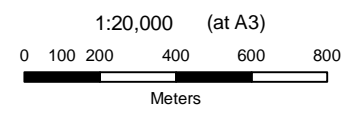
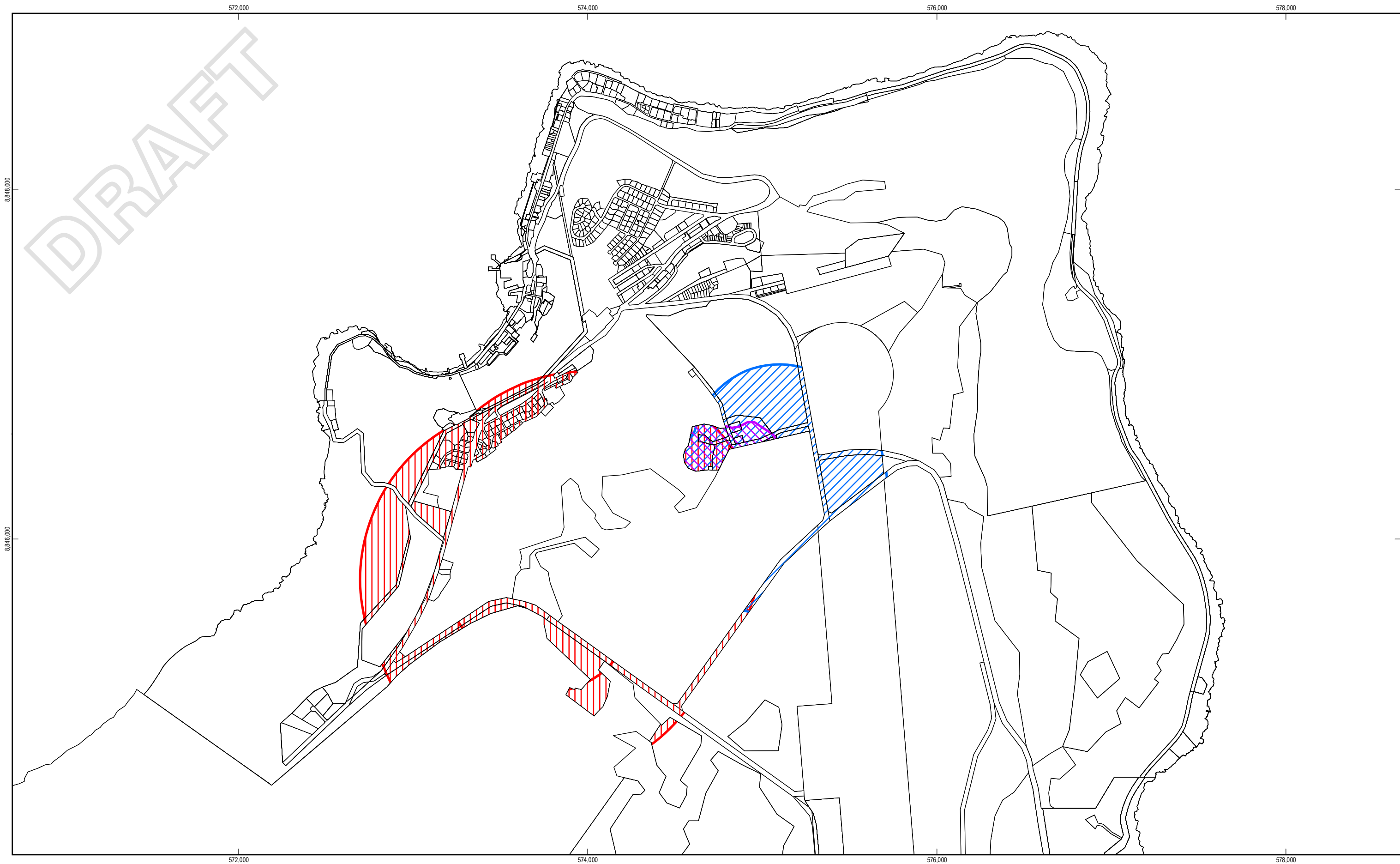
□ Cadastre - 2007/08



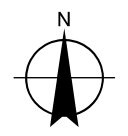
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Crown Land Management Plan for the IO
Job Number 61/23256
Revision A
Date 17 June 2009

**Un-Committed Land
Services**

Figure 4




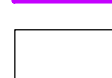
Map Projection: Transverse Mercator
 Horizontal Datum: World Geodetic System 1984
 Grid: Universal Transverse Mercator, Zone 47S



LEGEND

Buffers - GHD - 20090130

-  Landfill
-  Communication Towers

-  Obstacle Limitation Surface - GHD - 20090203
-  Cadastre - GA - 200708



Attorney General's Department
 Crown Land Management Plan for the IO
 Job Number 61/23256
 Revision A
 Date 17 June 2009

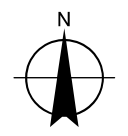
**Un-Committed Land
 Buffer Constraints**

Figure 5



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1:80,000 (at A3)
 0 0.2 0.5 1 1.5 2
 Kilometres



LEGEND

-  Cadastre - GA - 200708
-  Commonwealth Heritage Register - GA - 2008

-  Commonwealth Heritage Register - GA - 2008



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	Date	17 June 2009

**Un-Committed Land
Heritage Considerations**

Figure 6

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Appendix F

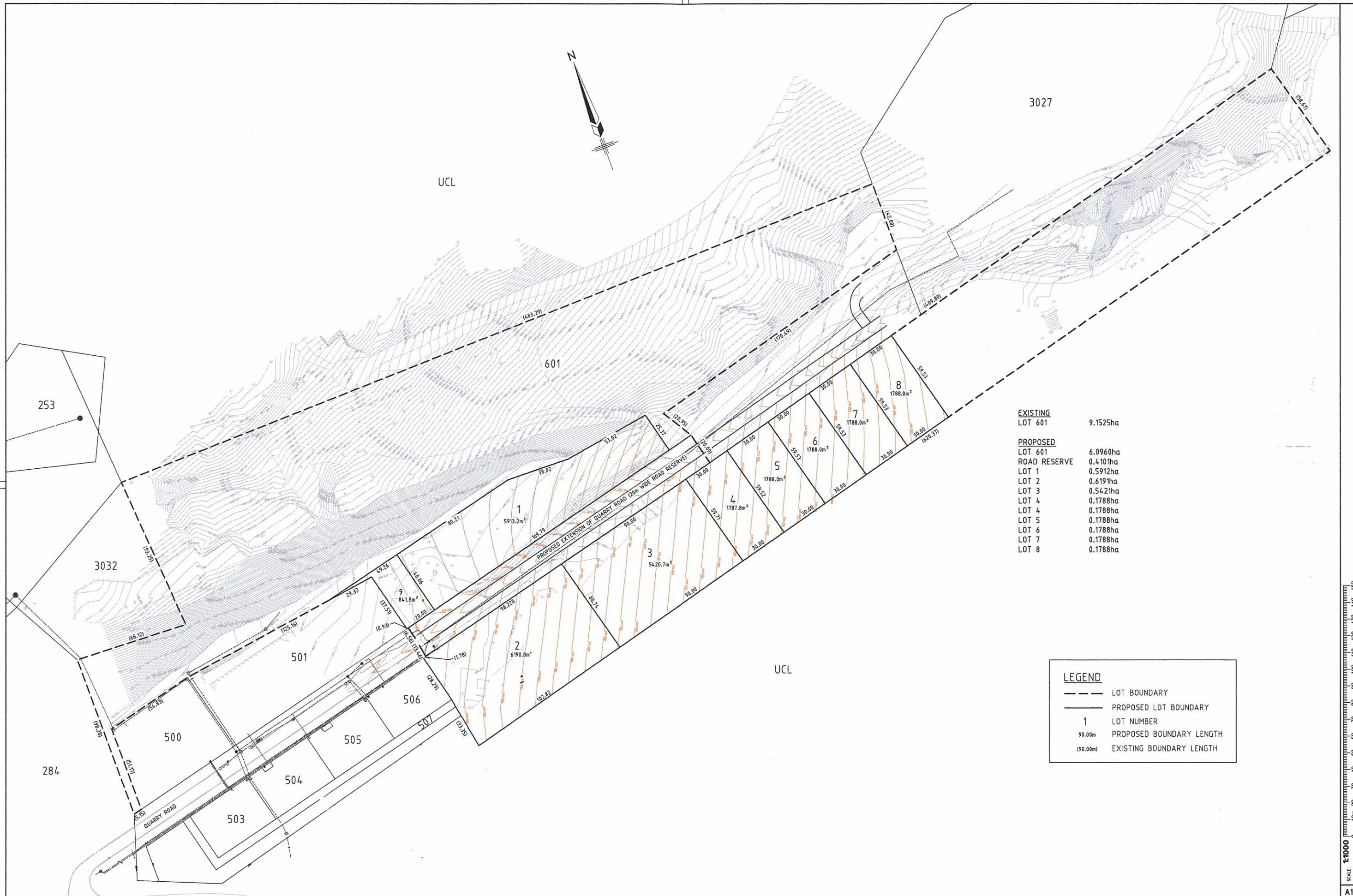
Shire of Christmas Island TPS1 Land Use Zoning Table

TABLE 1 - ZONING TABLE

USE CLASSES	Zones						Residential Development	Special Use
	Residential	Commercial	Industrial	Tourist	Horticulture			
1 Ancillary Accommodation	AA			AA			Refer To Clause 4.5	Refer to Appendix 3
2 Aged & Dependent Persons Dwelling	AA							
3 Caretaker's Dwelling	P	AA		AA	AA			
4 Car Park	AA	AA	AA	AA				
5 Car Sales		P	AA					
6 Cemeteries								
7 Civic Building		AA						
8 Consulting Room	SA	P						
9 Dry Cleaning Premises		P		AA				
10 Educational Establishment								
11 Fast Food Outlet		P						
12 Fish Shop		P						
13 Fuel Depot			P					
14 Health Centre		P						
15 Home Occupation	AA							
16 Hospital								
17 Hotel/Tavern		P		P				
18 Industry Cottage	AA	P	P					
19 Industry Extractive			AA					
20 Industry General			AA					
21 Industry Hazardous			SA					
22 Industry Light			P					
23 Industry Noxious			AA					
24 Industry Service		AA	P					
25 Motor Repair Station		AA	P					
26 Office		P	AA					
27 Petrol Filling Station		AA	P					
28 Professional Office		P						
29 Public Amusement		P		AA				
30 Public Assembly		P		AA				
31 Public Recreation		P	AA	AA				
32 Public Utility	AA	AA	P					
33 Public Worship	AA							
34 Radio/TV. Installation		AA	AA					
35 Reception Centre		P						
36 Residential Building	AA	AA		AA				
37 Residential Single House Attached House Grouped Dwelling	P AA AA			AA				
38 Restaurant		P		P	AA			
39 Rural Pursuit					AA			
40 Service Station		AA	P					
41 Shop		P		AA	AA			
42 Showroom		P	P					
43 Sportsground								
44 Trade Display		P	AA					
45 Transport Depot		AA	P					



Appendix G
Existing LIA Subdivision Proposal



EXISTING	
LOT 601	9.1525ha
PROPOSED	
LOT 601	6.0960ha
ROAD RESERVE	0.4101ha
LOT 1	0.5912ha
LOT 2	0.6191ha
LOT 3	0.5421ha
LOT 4	0.1788ha
LOT 4	0.1788ha
LOT 5	0.1788ha
LOT 6	0.1788ha
LOT 7	0.1788ha
LOT 8	0.1788ha

LEGEND	
	LOT BOUNDARY
	PROPOSED LOT BOUNDARY
	LOT NUMBER
	PROPOSED BOUNDARY LENGTH
	EXISTING BOUNDARY LENGTH

SCALE 1:1000
A1

WML CONSULTANTS
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REVISIONS			
N°	DESCRIPTION	APPROVED	DATE DRAWN

NOTE: * INDICATES SIGNATURES ON ORIGINAL ISSUE OF DRAWING OR LAST REVISION OF DRAWING

NAMES PRINTED IN FULL	DATE	CLIENT
DESIGNED AC	AUG 08	SHIRE OF CHRISTMAS ISLAND
DRAWN JA	AUG 08	PROJECT
VERIFIED		LIGHT INDUSTRIAL AREA
APPROVED		

CLIENT SHIRE OF CHRISTMAS ISLAND
PROJECT LIGHT INDUSTRIAL AREA

DRAWING TITLE
**QUARRY ROAD
PROPOSED SUBDIVISION LOT 601
QUARRY ROAD CHRISTMAS ISLAND**

THIS DRAWING SHALL BE TREATED AS PRELIMINARY AND IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED.
DRAWING NUMBER **3526-C-101** REVISION



Appendix H
Land Suitability Map

560,000

570,000

580,000

8,840,000

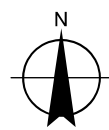
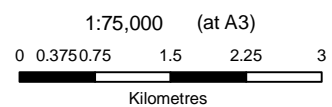
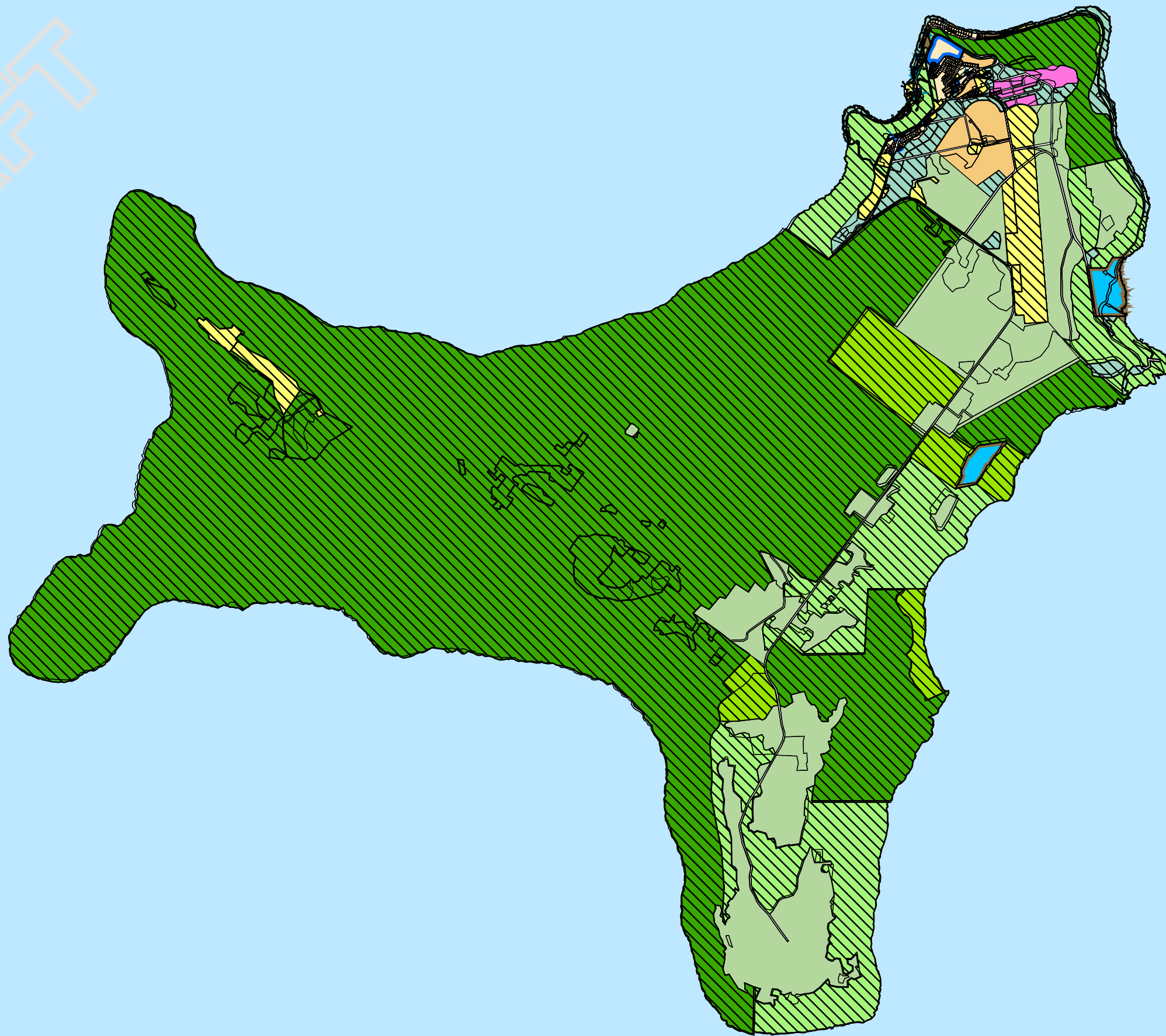
8,840,000

560,000

570,000

580,000

DRAFT



LEGEND

Suitable Land Uses - GHD - 20090619

- | | | | |
|-------------------|----------------------|--------------|---------------------|
| National Parks | Vacant Crown Land | Industrial | Rural |
| Public Open Space | Environmental Offset | Residential | Urban |
| Public Purposes | Commercial | Horticulture | Tourist/Residential |
| | | Tourist | |



Attorney General's Department
 Crown Land Management Plan for
 the IOT

Job Number	6123256
Revision	A
Date	18 June 2009

**Christmas Island
 Land Suitability Map**

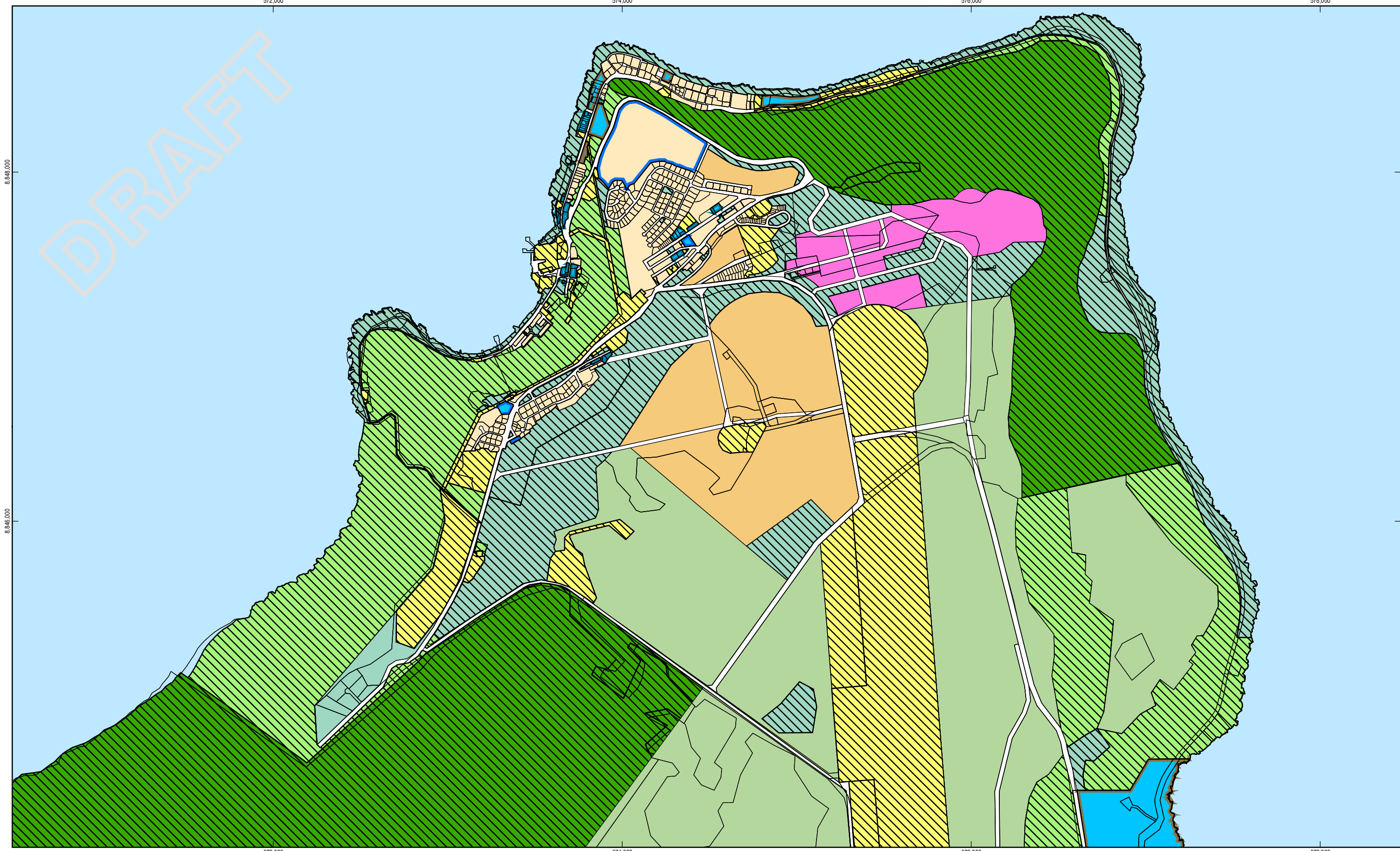
Figure 1

G:\6123256\GIS\mxd\6123256-P44.mxd
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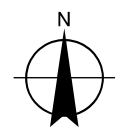
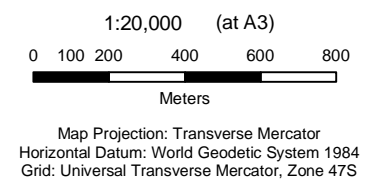
572,000 574,000 576,000 578,000

8,846,000

8,846,000



572,000 574,000 576,000 578,000



LEGEND
Suitable Land Uses - GHD - 20090619

National Parks	Vacant Crown Land	Industrial	Rural
Environmental Offset	Public Open Space	Residential	Urban
Public Purposes	Commercial	Horticulture	Tourist/Residential
		Tourist	



Attorney General's Department
Crown Land Management Plan for
the IOT

Job Number | 6123256
Revision | A
Date | 18 June 2009

**Christmas Island
Land Suitability Map**

Figure 2

G:\61123256\GIS\mxds\6123256-P45.mxd
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Appendix I

Murray Road Streetscape Improvement Concept



LIMIT OF PROPOSED ROAD REALIGNMENT

PROPOSED NEW SHORT TERM KERB SIDE VISITORS CARPARK (9 BAYS)

PROPOSED NEW LANDSCAPED FOOTPATH

LOT 547

POSSIBLE MUNICIPAL POCKET PARK

LOT 304

POSSIBLE DROP OFF POINT

LIMIT OF PROPOSED ROAD REALIGNMENT

PROPOSED NEW LONG TERM RESIDENTIAL CARPARK (20 BAYS)

LOT 405

POSSIBLE EXTENT OF EARTHWORKS

MURRAY RD

PROPOSED NEW FOOT-PATH AND KERB

PHOSPHATE HILL RD

POSSIBLE STAIRS TO LINK WITH PATH ON OLD RAIL TRACK TOWARDS DRUMSITE

MURRAY ROAD STREETSCAPE IMPROVEMENT CONCEPT







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Document Status

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