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St Helena Airport and Supporting Infrastructure

Environmental Statement: Volume 1

Non-Technical Summary

PREFACE

The St Helena Government (SHG) is seeking development permission to construct an airport together with supporting infrastructure. Although not a legal requirement in St Helena, SHG has requested that the application for development permission be accompanied by an Environmental Statement (ES) which summarises the findings of an Environmental Impact Assessment (EIA).

This document is the **Non-Technical Summary** of the ES. In total the ES comprises six volumes:

- **Volume 1: Non-Technical Summary** – this document provides a short, easy to read summary of the scheme and the key impacts.
- **Volume 2: Environmental Statement: Technical Summary** – due to the scale and complexity of the assessment an extended summary document has been produced. This volume focuses on the significant effects that could occur during the construction and operation of the proposed scheme. The information is supported by the detailed technical information presented in Volume 4.
- **Volume 3: Environmental Statement: Figures and Photographs** – this volume contains the maps, photographs and figures and other illustrations referred to in Volume 2 and 4.
- **Volume 4: Environmental Statement: Technical Appendices** – this contains the detailed assessments for the environmental topics covered in the ES. It includes technical reports and survey documents.
- **Volume 5: Environmental Management Plan** – this volume sets out the mitigation measures that must be implemented during the construction and operation of the airport and supporting infrastructure.
- **Volume 6: Socioeconomic Impact Assessment** – this volume provides an overview of the social and economic impacts of the project during construction and following the opening of the airport.

FURTHER INFORMATION

The full Environmental Statement, together with other information about the proposals, can be found at the following locations:

- The Access Office
- Prince Andrew School
- National Trust Office
- Legal & Lands Office
- Jamestown Public Library
- St Helena Development Agency (SHDA) Office

The full Environmental Statement can also be read on-line at:

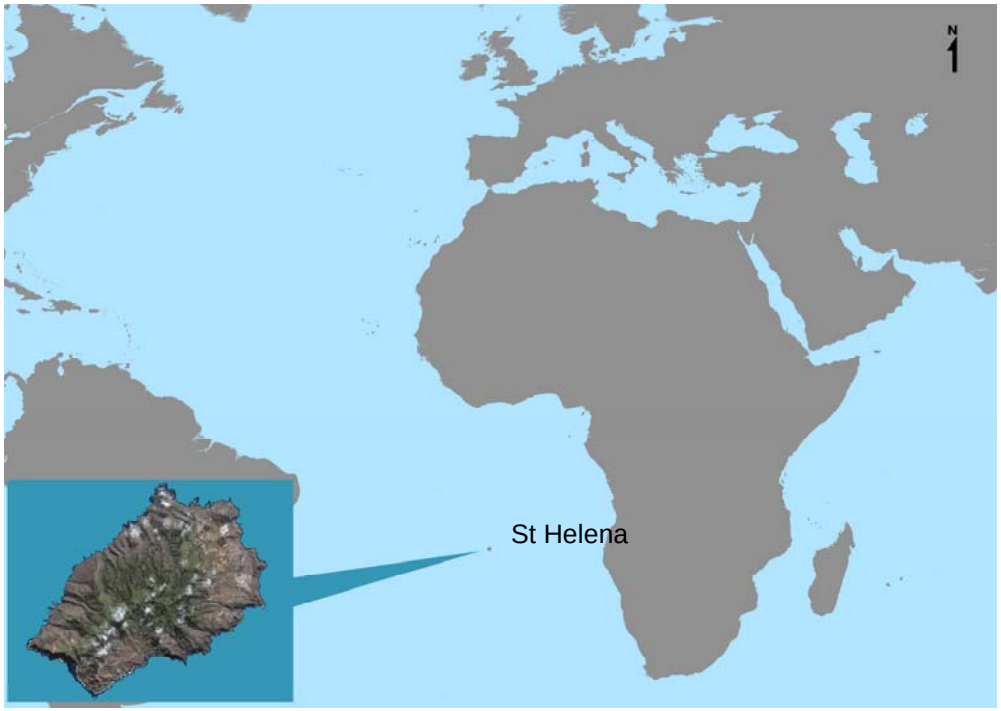
www.sainthelenaaccess.com

1. BACKGROUND TO THE PROJECT

The St Helena Government (SHG) proposes to construct an airport on St Helena. Access to the island is currently provided by the Royal Mail Ship (RMS) St Helena, which calls at the island approximately 25 times per year at irregular intervals. The RMS is due to be retired from service shortly after 2010.

St Helena rises from the South Atlantic Ocean some 1,200 miles from the coast of Africa (Figure 1). It is one of the most isolated places in the world. Although one of the primary factors in shaping a unique and close knit community, the isolation of the island presents the residents with a number of significant social and economic problems. Young skilled workers have been leaving to seek employment elsewhere. The population is declining and ageing and this has had consequent effects on the local economy and the social well-being of the community.

Figure 1 Location Plan



2. ALTERNATIVES & CONSULTATION

A number of options for providing better access to St Helena have been considered. In making their decision, DFID and SHG looked at different scenarios including a replacement ship and various airport proposals catering for aircraft of different sizes. Based on the results of studies it was decided that constructing the proposed airport was the best solution for reversing current trends and the linked social impacts of decline by making the island more accessible for tourism and stimulating the economy through inward investment and creating opportunities for those living on island.

Public consultation has been undertaken by SHG and DFID throughout the decision making process and in a wide range of locations to ensure that Saints living both on the island and away from home could be involved. Activities have included meetings/forums, exhibitions, TV programmes, radio interviews and regular press releases to keep the public informed of progress. In 2002, SHG held a referendum and 71.6% of those who voted on St Helena, as well as on the RMS St Helena, Ascension and the Falklands, were in favour of building an airport.

3. DESCRIPTION OF THE SCHEME

3.1 The Airport and its Supporting Infrastructure

The proposed airport will be located on Prosperous Bay Plain in the east of the island (See Figure 2). The runway will be 1,950 metres (m) long and will be encompassed by an area of cleared and graded land some 300m by 2,250m. It will be designed to operate Boeing 737-800 or similar aircraft (see Figure 3).

Earthworks will be required to create a level area of land long enough for the runway and runway end safety area (RESA). Approximately eight million cubic metres of material will be removed from Prosperous Bay Plain. This will reduce the height of the ridge of land on the eastern edge of the plain, where the proposed runway will be, by between zero and approximately thirty metres. The material will be used to create a large embankment structure in Dry Gut some 700m long by 100m high (see Figure 4).


Figure 2 Proposed Airport and Supporting Infrastructure
Rupert's Valley
Jamestown
Deadwood
Longwood
Bradleys
Fisher's Valley
Prosperous Bay Plain
Woody Ridge
Dry Gut
Gill Point
Sharks Valley
1 New wharf at Rupert's Bay
2 Bulk Fuel Installation
3 Temporary Quarry Options
4 Haul and Permanent Access Road
5 Temporary Construction Compounds
6 Airport and Terminal
7 Water Supply for the Airport

The following temporary and permanent infrastructure is proposed (see Figure 2):

1. A wharf to accommodate ships for loading and unloading cargo both during construction and in the long term.
2. The existing Bulk Fuel Installation will be enlarged, consolidated and moved away from residential areas.
3. A temporary quarry in Rupert's Valley to provide material for the construction of the wharf. Two possible locations have been selected.
4. A new / upgraded road, 14km in length, will be used to transport material during construction and, in the future, provide access to the airport.
5. Temporary compounds for use during construction including a site near the airport for the Contractor's work force.
6. The airport and its associated facilities including a terminal (see Figure 3 below). A temporary private airstrip may be required until the permanent runway is constructed.
7. A temporary and permanent water supply system from Sharks Valley.

In addition, airport safety and navigation equipment including remote obstacle lighting (ROL) navigation aids will be needed. A seawater pump and pipeline from Gill Point may be required during construction.

It is expected that construction of the scheme will commence in 2008 and is estimated to continue for four years and six months. It is likely that the construction of a number of the project components will be underway at the same time.

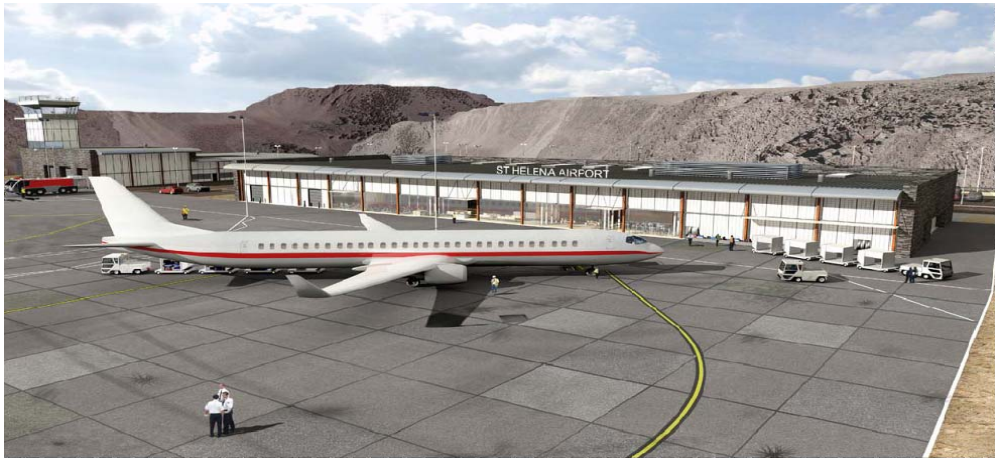


Figure 3 Artist's Impression of Airport Terminal with B737-800 Aircraft

3.2 The Airport

The airport is expected to open in 2013. Table 1 shows the forecasted passenger and aircraft movements for the new airport based on the use of a Boeing 737-800 aircraft (as shown on Figure 3) with 162 seats.

Table 1 Forecast of Number of Passengers Per Year Travelling on Scheduled Flights

Year of Operation	Saints	Visitors	Annual Total	Aircraft per Week
1	5530	1493	7023	1
5	6088	6375	12463	2
10	8123	12822	20945	3
15	10981	25789	36770	5

In addition to this there may be a small number of charter flights per week as the island tourist business matures. In the longer term, flights are likely to come from airports in Cape Town and Johannesburg, South Africa; Walvis Bay and Windhoek, Namibia: Wideawake Airfield, Ascension Island; London Stansted and London Gatwick.

Figure 4 Artist's Impression of Runway and RESA across Dry Gut

4. SUMMARY OF ENVIRONMENTAL EFFECTS

The text below provides a summary of the findings of the assessment of each of the topics covered in the ES. The assessment describes negative and positive effects on a rising scale, typically negligible, minor, moderate or major. Some of the mitigation measures (measures to avoid, reduce or offset negative impacts) are referred to in this NTS. These measures will be ensured through the implementation of the Environmental Management Plan.

Key to Impacts

Major	These are highly significant impacts because of their large scale and/or the importance of the area affected.
Moderate	These are significant impacts because of their scale and/or the importance of the area affected.
Minor	While noticeable these impacts are not significant.
Negligible	These are very small impacts that are not significant.
Neutral	Where positive and negative effects cancel each other.

In some instances other terms have been used such as **large adverse**.

4.1 Planning Context

The SHG Airport Development Ordinance came into force in September 2006. This Ordinance makes provisions to facilitate the design, construction and operation of an airport in St Helena. It allows for land to be designated as an Airport Development Area in which all construction works and airport operations must take place. The boundary of the Airport Development Area is shown on Figure 5 together with designated areas. For much of the scheme the Airport Development Area is set no wider than the area absolutely needed to construct the works, thus reducing the impacts of the scheme. However, in places the Airport Development Area encompasses a wider corridor, or area, where there is uncertainty as to how an element of the scheme will be constructed or to allow the Contractor to choose the most efficient working method.

The St Helena Land Development Control Plan (LDCP) sets out SHG's land use planning polices and designations (see Figure 6). It aims to guide development and provide policies and criteria for what is or is not acceptable. The Airport Development Ordinance overrides the policies set out in the LDCP within the Airport Development Area. Irrespective of this, the LDCP, together with other environmental legislation in place in St Helena, have provided guidance during the design of the scheme and the development of mitigation measures.

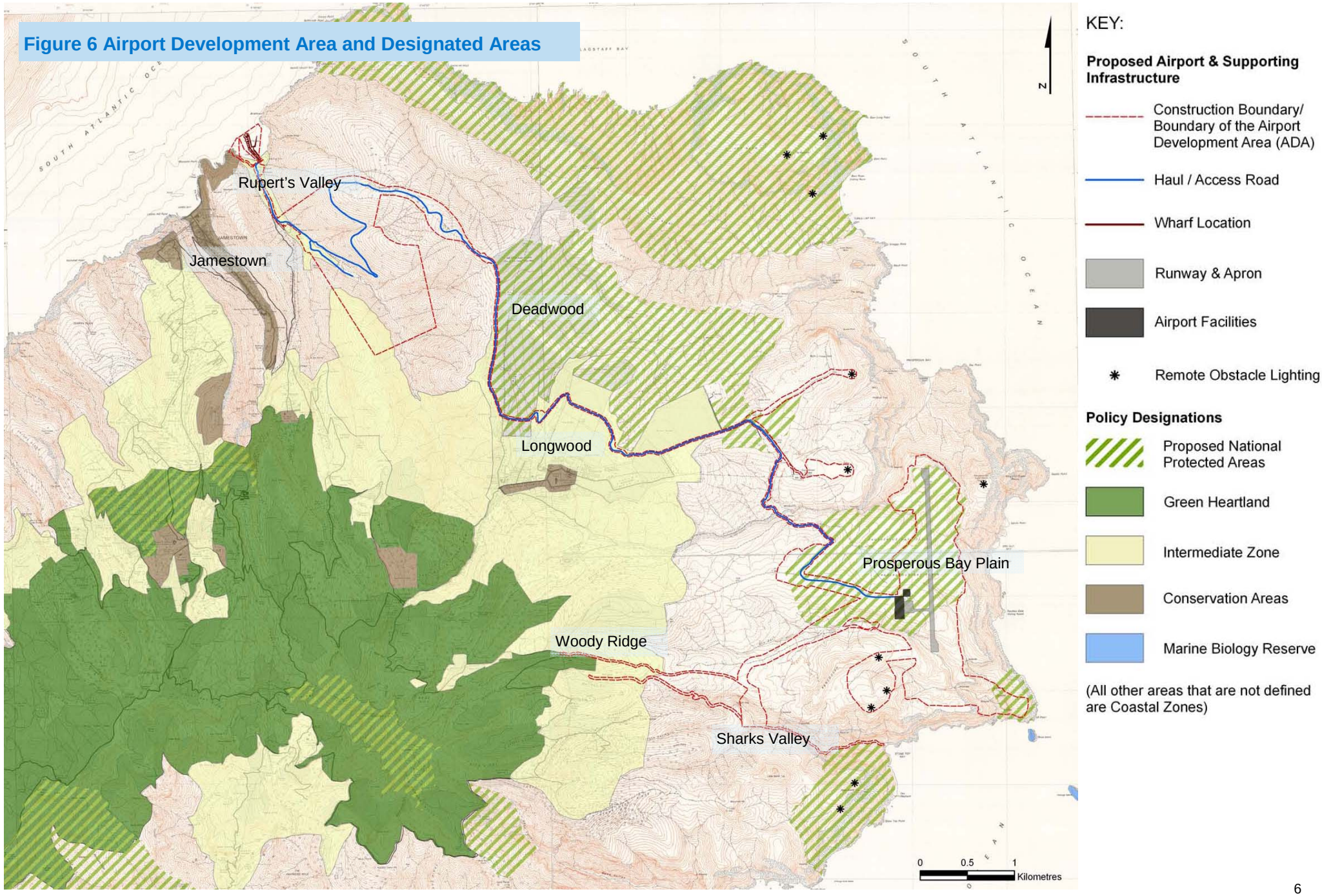
4.2 Land Use

The main permanent land use effects will result from the loss of agricultural land and effects on recreation. Some agricultural land will be lost at Deadwood Plain to build the access road to the airport. The relatively small amount of pasture lost will not have significant effects on the use of the land for farming. With respect to recreation, the only significant impact will be on Rupert's Beach which will be closed temporarily during construction. Although there will be no land take from the existing beach, adverse effects would result from the wharf being close to the beach and the effect that this will have on the amenity value of the area. See Marine Environment below.

The upgrading of a track associated with the airport water supply at Sharks Valley will require some land from private property at Woody Ridge. Temporary access will be required to some properties at Deadwood to provide underground drainage for the airport access road.

Figure 5 Artist's Impression of Upgraded Road at Deadwood

Figure 6 Airport Development Area and Designated Areas



4.3 Noise and Vibration

During construction the most significant impacts are predicted to occur during the initial stages of construction at residential properties which are close to works. This is when the wharf and access road are likely to be built and the quarry will be active. The areas most affected will be Rupert's Valley and Deadwood. For the remainder of the construction programme, the impacts are predicted to be minor. This is because the major construction activities would occur in more remote areas, primarily at the airport site on Prosperous Bay Plain.

Impacts will be minimised by placing strict requirements on the Contractor to follow good working practice in accordance with the Environmental Management Plan. However, some operations, e.g. blasting, will generate noise and vibration which will be significant given the lack of other similar sources of noise on the Island. Disturbance will be managed by a number of measures, including control of working hours and restricting the frequency and timing of blasting events.

Once constructed, it is predicted that the airport, and all other built infrastructure included within this project, will not have significant noise and vibration impacts on people and buildings on the island. This is because of: the low number of flights per week; the routes that aircraft will take to avoid flying over people's homes; the timing of flights to avoid periods when most people are sleeping; and the use of defined routes in and out of the airport to reduce traffic in residential areas.

Figure 7 Artist's Impression of the Upgraded Road in Rupert's Valley

4.4 Air Quality and Dust

The air quality assessment considered the effects of both dust and vehicle emissions. Given the isolated location of the island and the lack of industrial, transport or domestic pollution sources, air quality across the island is currently very good. However, there are large areas in parts of the island (such as Prosperous Bay Plain and Rupert's Valley) with bare ground and dry, windy conditions where dust occurs.

There is a potential for temporary nuisance at residential properties as a result of dust settling on roads, gardens, window sills etc. Impacts will be avoided or reduced by a number of measures including using paved roads, dampening down dust, and covering vehicles with sheets. Taking into account these measures, temporary effects of dust on residents are expected to be minor to negligible. Very small dust particles, which can affect people's health, make up only a small proportion of dust emitted from most workings and construction sites and the measures proposed are designed to prevent adverse effects.

Dust has the potential to affect the canning factory and the Argos fish processing plant at Rupert's Bay. In addition to the general measures to reduce dust nuisance, regular inspections will be necessary to determine the need for further measures to avoid the ingress of dust into these premises.

During construction, dust is likely to be created within the sensitive ecosystems of Prosperous Bay Plain. Mitigation measures for dust generating activities elsewhere, such as in Rupert's Valley, are predicted to be capable of minimising the impacts effectively so that the resulting effects can be classed as minor adverse. The permanent effect of lowering the Eastern Plateau, which currently provides shelter to the Central Basin may result in a long-term impact in terms of dust emissions. Wind speeds on Prosperous Bay Plain, especially within the Central Basin will be affected, and areas which are currently sheltered will become exposed. Dust particles in these areas are predicted to move gradually and deposit in more sheltered areas. The effect on habitats in the Central Basin is summarised in section 4.6 below.

The scheme will generate additional traffic during its construction and once the airport opens. Based on the forecasted traffic levels, the impact on local air quality from vehicle emissions of construction traffic, aircraft flights, airport vehicles and vehicles travelling to/from the airport is predicted to be negligible.

4.5 Carbon Emissions

Greenhouse gas emissions, particularly carbon dioxide (CO_2), are an issue of global concern. Emissions from aircraft and from ships are important sources of CO_2. A comparison of air and sea access has been carried out to establish whether a change to air access will result in greater emissions of CO_2.

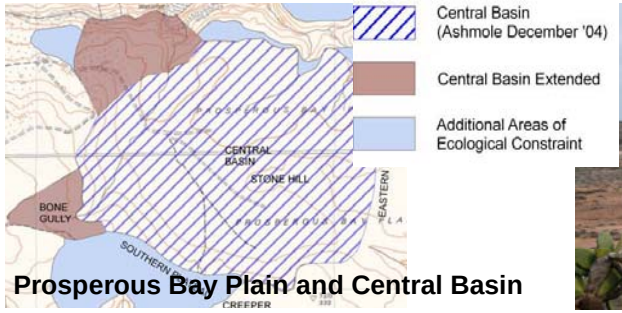
Emissions of CO_2 have been calculated for a number of scenarios. These scenarios have allowed comparisons to be made between travelling to and from the island from South Africa and the UK by ship and by aircraft. A number of assumptions have had to be made in undertaking the study. Direct comparison is problematic as air and sea access fulfil different functions including the movement of freight. In the future the airport will cater for multiple flights (up to 5 flights per week are predicted 15 years after opening). It would not be practicable for ships such as the St Helena RMS to transport the same number of people to the island.

The study suggests that, especially on a per-trip and per-passenger basis, travelling by air could result in lower CO_2 emissions in comparison with using a ship like the RMS. However, it should be noted that freight would still need to be brought to St Helena using ship, albeit freight transport is likely to be more efficient than using the RMS.

In the longer term the increase in flights from 1 per week to up to 10 per week after 35 years would generate greater quantities of CO_2 than the using a ship such as the RMS.

4.6 Terrestrial Ecology and Nature Conservation

The airport and its supporting infrastructure will pass through a number of habitats. Of most importance are Prosperous Bay Plain and Deadwood. The semi-desert habitats at Prosperous Bay Plain appear to be unique and are not found elsewhere on St Helena. Prosperous Bay Plain is a centre of 'endemism', which means that certain species found here (plants and lichens, spiders, insects and the Wirebird) occur only on St Helena and nowhere else in the world. Both Deadwood and Prosperous Bay Plain are important habitats for the Wirebird which is critically endangered.



Prosperous Bay Plain and Central Basin

Habitat losses in Prosperous Bay Plain from airport construction will represent a sizable proportion of the area available for these specialist and endemic species. Mitigation will include the creation of new or improved habitat and the restoration of areas used temporarily during construction. Nevertheless, the airport project is predicted to result in a significant adverse impact on ecology. This is in part because of the uncertainty over the success in creating replacement habitat. In addition, there is uncertainty over the future conditions in the Central Basin of Prosperous Bay Plain (the most import area for endemic invertebrates) following the change to the landforms necessary to create a level area for the airport. The expected increase in wind speeds experienced in the Central Basin is predicted to lead to changes in the composition of the dust and sands in the basin (see Section 4.4). Thus conditions for the populations of endemic burrowing invertebrates are likely to change. The response of invertebrates in the affected areas cannot be predicted with any certainty.

The formation of broad, level terraces on the sheltered western embankment crossing Dry Gut may in part mitigate losses of fine dusty deposits in the Central Basin and provide a suitable habitat for burrowing invertebrates.

The effectiveness of this novel approach is uncertain. Other measures include the reclamation of native semi-desert by removal and control of invasive species from the wider area of Prosperous Bay Plain and an enhancement of the population of endemic plants (see photos below). Eradication of invasive plants from this area is expected to improve habitat conditions for endemic plants, invertebrates and the Wirebird. The mitigation will be applied to an area of Prosperous Bay Plain one and a half times the size of the areas lost to temporary and permanent works.

However, it is unlikely that this alone will mitigate for the loss of Wirebird breeding territories. Improvements to habitats suitable for Wirebird such as pasture re-instatement elsewhere on the island, including Deadwood Plain, will be carried out in order to compensate fully for the impacts on the Wirebird population. This work is set out in a separate study, the Wirebird Species Action Plan, which is being prepared with the assistance of the St Helena National Trust and Royal Society for the Protection of Birds.

Photographs of the Wirebird, Ebony, and Babies Toes

In addition, and where practicable, some construction activities near to breeding populations of Wirebirds may need to restricted during the breeding season. Observations of the reaction of birds to disturbance early in the programme will help determine the effects of continuing operations. If it is considered that significant effects are likely in the medium to long-term, further management measures may be required.

Given the low frequency of flights, and the very gradual increase in the number of movements predicted over the first 35 years of operation, studies indicate that birds are likely to habituate to the routine passage of aircraft and vehicles. Adoption of a strict flight path, avoiding the islands at Gill Point, should further control the impacts to nesting seabirds.

In summary, there will be significant impacts upon the habitats of Prosperous Bay Plain from direct habitat loss and habitat modifications. There are uncertainties regarding the likely success of mitigation. In view of this, and adopting the precautionary principle with regard to mitigation, a large adverse impact is therefore predicted for the desert ecosystems of Prosperous Bay Plain and its Central Basin.

Impacts on the Wirebird population, given the permanent loss of breeding sites, would represent a moderate adverse impact. However, on an island-wide basis the effects on the Wirebird would be neutral assuming implementation of successful and sustained pasture restoration.

4.7 Landscape and Visual Amenity

The assessment considers effects on both landscape character (the qualities and features that make the landscape distinctive) and visual amenity (change in the quality of people's views). A key component of the EIA has been the development of a Landscape and Ecology Mitigation Plan. This will continue to be developed in conjunction with the detailing of the proposed scheme design and will provide an essential means of minimising the adverse landscape and visual impacts both during construction and in the long term.

View of Prosperous Bay Plain and Government Garage at Bradleys

With respect to landscape character, a development of this size on an island where the landscape resource is unique and vulnerable to change will inevitably result in some adverse impacts. During the construction phase the airport and supporting infrastructure will result in significant adverse impacts (major or moderate adverse impacts) in most of the areas in and around the area of works. This is because of the considerable amount of activity involved in constructing the airport and its supporting infrastructure.

In the long term, once the airport is open, only three areas (Rupert's, Prosperous Bay Plain and Dry Gut) will retain significant adverse landscape impacts. Prosperous Bay Plain will experience moderate adverse impacts associated with the extensive earthworks to create the airfield and the resulting changes to key features of this unique semi-desert landscape. Dry Gut will also experience major adverse impacts due to the fundamental change in character resulting from the large embankment structure which will fill the Gut (see Figure 4). Adverse impacts will remain at Rupert's Bay due to the presence of the new wharf. In addition, whichever quarry location is selected in Rupert's Valley, adverse impacts will result on landscape character.

With respect to visual amenity, during the construction phase, significant impacts (major and moderate adverse impacts) will result for residential properties in Rupert's Valley, Deadwood, Longwood and Bottom Woods where the construction of the haul road and other construction activity will impact on local views. Residential properties at Government Garage at Bradleys will also experience major adverse impacts as a result of the visual disturbance associated with the extensive construction activity at Prosperous Bay Plain. The visual amenity from various footpaths and scenic vantage points will experience significant adverse impacts during construction.

Once the scheme is completed, the majority of adverse visual impacts will reduce with the landscape planting helping to integrate the airport and permanent infrastructure into the landscape and views. Significant adverse impacts (moderate adverse) will remain at residential properties at Government Garage, Bottom Woods and Bilberry Field Gut where the access road and the airport will form a prominent element within their immediate views.

4.8 Cultural Heritage

St Helena has a rich cultural heritage, both in terms of buried archaeology and standing features. Features of importance which could be affected by the scheme include the following:

- Rupert's Lines which are coastal defences that were probably begun in the late 17th century;
- A holding station and hospital for slaves rescued by the West African Squadron - which was established in 1840 and remained in operation until 1874
- Burial grounds containing the remains of slaves freed by the West African Squadron and held in the Rupert's Bay depot between 1840 and 1874.
- Boer War period desalination plant and pipeline.
- The site of Boer War Prisoner of War Camp at Deadwood from Rupert's Bay to Deadwood Plain.
- Several batteries and animal compounds.
- A signal station on Prosperous Bay Plain which was probably first built here about 1770. The present building marks the return to use of the site in 1887, when it formed part of the newly-established military telephone network.
- Fisher's Valley Martello Tower and path.

Photograph of the Prosperous Bay Signal Station

The following measures will be implemented to reduce the effects of the proposed scheme on specific features of importance:

- Archaeological excavation behind Rupert's Lines.
- Archaeological excavation in any areas of Rupert's Valley where burials may be disturbed.
- The surviving parts of Rupert's Lines to be partially restored.
- The Boer War desalination chimney to be recorded, dismantled and rebuilt elsewhere in the lower part of Rupert's Valley.
- The Prosperous Bay Signal Station to be recorded prior to its visual (and possibly physical) alteration.
- The Fisher's Valley Martello Tower and its path to be recorded.

Direct physical impacts will be avoided or reduced with the exception of the Fisher's Valley Martello Tower which is likely to be significantly affected by construction works. The visual appearance of Rupert's Lines and the Prosperous Bay Signal Station will be significantly affected due their proximity to new infrastructure.

4.9 Roads, Traffic and Footpaths

During construction, traffic on sections of the existing road network will increase as a result of the worker's vehicles, plant movements and heavy good vehicles making deliveries of materials. Measures will be put in place to manage traffic during construction, e.g. a 15mph speed limit will be enforced in residential areas and footways will be provided for pedestrians. The greatest impact of construction vehicles is likely to be felt by the small number of properties in Rupert's Valley and Deadwood. Jamestown could also be affected by increased trips generated by construction workers.

Once the airport opens, airport workers, passengers' trips and fuel deliveries will mean an increase in traffic (albeit at low levels) passing through residential areas including Deadwood and Longwood.

Suitable temporary diversions for Post Box Walks and other footpaths will be provided during construction. Permanent diversions will be provided for Post Box Walks, including Gill Point and the Signal Station, around the northern and southern edge of the airfield resulting in slightly longer walks over different terrain compared to the existing situation. For this reason impacts on Post Box Walks and other footpaths will be moderate adverse.

4.10 Geology, Contaminated Land and Hydrogeology

Based on an assessment of the ground and groundwater conditions, it is concluded that the construction and operation of the scheme would present no risks to human health or surface water and groundwater. Provided that appropriate mitigation measures are implemented to control potential pollution risks during the construction of the scheme and associated with the airport operations, it is concluded that there will be no adverse impacts on the geological conditions, groundwater, nor will there be affects associated with contaminated land. The potential effects of the changes in wind patterns across Prosperous Bay Plain and the Central Basin are discussed in Section 4.4 and 4.6 above.

4.11 Marine Environment

Rupert's Bay (see photograph below) is considered to be of high importance for a number of reasons including its commercial value for landing fish and receiving fuel deliveries and because of its small beach which is an important recreational area. With respect to ecology, the Bay is considered to be of low diversity with a predominance of species-poor sandy substrates.

Potentially significant effects during construction of the proposed wharf on Rupert's Bay can largely be mitigated. The wharf has been located to avoid direct effects on the recreational beach. The working practices and techniques that will be followed during construction aim to avoid pollution incidents.

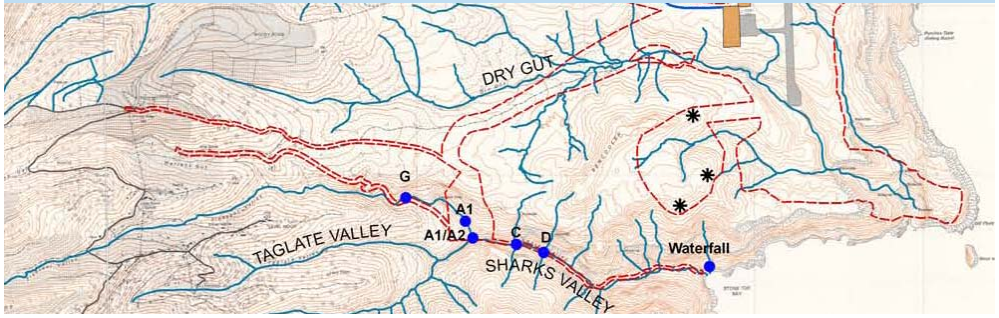
The wharf will change the way waves move around the Bay. Permanent impacts could therefore result from the possible movement of the small beach at the southern corner of the bay. Nourishment of the beach with sand arising from dredging would be undertaken to limit any impact. The proposed new wharf will provide significant benefits for commercial users of the bay.

4.12 Surface Water

The majority of watercourses which could potentially be affected by the proposed scheme are guts and valleys with steep, bare slopes including Rupert's Valley, Dry Gut and Sharks Valley. With the exception of the stream in Sharks Valley, the streams do not flow with water all year round.

The Contractor will minimise the demand for water as far as possible so as to reduce the volume of water that is required during construction and operation. A maximum of 40m^3 per day will be abstracted from a point close to Hancock Hole in the upper valley of Sharks Valley. The following are three possible options for collection and storage of water for use during construction:

- Collection of large quantities of water from Sharks Valley close to the waterfall at the beach; or
- Temporary Storage Reservoir in Dry Gut; or
- Abstraction and use of sea water for compaction of the Dry Gut embankment during construction.



The quantities of water to be collected will be kept to a minimum. Should water be taken from Sharks Valley stream close to the waterfall, the Contractor will leave approximately 25% of the flow in the stream. Ecological management and monitoring will be put in place to control the potential loss of water dependent species. Should a temporary storage reservoir be required in Dry Gut to provide water for construction works mitigation measures will be put in place to protect the channel and the plants and invertebrates occupying the Gut. If the Contractor uses sea water he may only do so subject to him demonstrating that he can meet the strict environmental constraints stated in the EMP. These measures include a requirement that sea water will only be used for the core of the Dry Gut embankment if it is proven that salt will not migrate to the surface of the land or to groundwater.

Potential effects on the surface water environment are not considered to be significant. The effects can be mitigated to neutral or minor adverse effects through appropriate design and good environmental controls during construction. The mitigation measures will reduce the potential for contamination of the water and erosion.

Photographs of Dry Gut and Sharks Valley

4.13 Waste Management

Any substantial increase in waste generated both during the construction and the future operation of the airport could impact on the remaining lifespan of the existing waste management facilities on St Helena. The management of construction wastes will therefore be carried out so that the existing problems relating to the island's limited waste disposal facilities are not exacerbated in the short or long term.

The Contractor will put in place policies and actions to minimise the amount of waste produced and to maximise the re-use and recycling of waste. He will be required to prepare a Waste Management Plan in close consultation with SHG. The Contractor will put in place the means of segregating waste for re-use or recycling, either at source or through a waste separation process, appropriate to the facilities available on the island. The Contractor will liaise with the airlines to ensure that the maximum amount of re-use is made of containers and packaging used by the aircraft operators.

4.14 Combined Effects with Other Projects on St Helena

Before and after the opening of the airport a considerable amount of development is likely to take place on St Helena. The Access project in conjunction with other SHG activities is intended to facilitate economic growth based on tourism. Development will include both private sector project such as hotels, as well as infrastructure provided by government e.g. roads, waste facilities.

The population, including visitors and tourists, is forecast to increase from about 4000 to around 8000 over an approximate 20 year period. The increase in population will lead to an increase in house building, which combined with tourism will create additional demand for energy, water and other resources. Existing infrastructure is insufficient to cope and new infrastructure will need to be developed. Some of the improvements to the infrastructure must be put in place prior to the completion of the airport.

The effects of other projects, and the measures which should be taken to avoid, reduce or compensate for their effects, fall outwith the decision being made for the airport. However, there are some measures that are being taken to ensure that the Access project minimises the potential for combined effects with other projects. There are also wider policy and legislative actions which SHG and DFID are taking to manage the effects of other developments. These include:

- The Wirebird Species Action Plan which covers all of St Helena.
- Contractual controls on the Contractor to take account of other works and avoid disruption to other development activities.
- Other projects would be subject to separate planning applications and in all cases would be judged against the policies set out in the LDCP and other legislative requirements.
- SHG are proposing to include requirements for EIA in their new Land Planning and Development Control Ordinance. If enacted, it will be a requirement to undertake EIAs of certain projects and to ensure that mitigation measures are incorporated into each project.
- The Sustainable Development Plan identifies a number of actions and programmes including the Commitments of the Environment Charter.
- A separate strategic assessment of future activities will be undertaken in tandem with the preparation of the Infrastructure Plan.

4.15 Social and Economic Effects

The economy and population of St Helena is currently in decline. The development of the airport provides the key opportunity to reverse this decline and act as a catalyst for economic and population growth. GDP is forecast to increase significantly as a result of the project, with an end to the island's reliance on overseas aid within 15 to 25 years of the start of airport operation.

Private sector economic activity in the tourism sector is forecast to be the driver of change, directly providing a significant number of job opportunities and helping to sustain a range of wider economic activities. Improved economic opportunities are anticipated to drive a number of social changes including reducing out-migration of young adults resulting in a re-balancing of the population structure, improving the ratio of economically active to non-economically active residents and aiding family cohesion. A further benefit will be the potential of emergency medical evacuation from the island when necessary.

Significant challenges will arise as a result of the airport development, particularly relating to controlling inflation, the housing market, ensuring equitable access to economic opportunities for Saints and minimising the social effects of high levels of inward migration and tourists. SHG has already put in place a number of forward planning strategies, and a number of other measures are planned to ensure that the benefits of the airport are maximised and the negative impacts are minimised.

5. SUMMARY

Environmental impacts were identified for both the construction period and following the opening of the airport. Measures were identified to avoid, reduce or offset impacts and these measures have influenced construction methods, scheme designs and how the airport would operate. The significance of the impacts, remaining after mitigation, was assessed and both positive and negative impacts were identified.

In summary, the significant **adverse** impacts of the scheme are:

- Permanent loss of, and/or changes to, parts of the Central Basin of Prosperous Bay Plain. A significant proportion of unique habitat used by endemic insects and spiders is likely to be affected (large adverse).
- Permanent loss of some Wirebird habitat, particularly at Prosperous Bay Plain (moderate adverse). On an island-wide basis the effects on the Wirebird are likely to be neutral.
- Permanent effects on the landscape character of Prosperous Bay Plain, Dry Gut and Rupert's (moderate adverse). Permanent impacts at residential properties at Government Garage, Bottom Woods and Bilberry Field Gut where the access road and the airport will be prominent within views (moderate adverse).
- Diversions and/or temporary closure of Post Box Walks including those to Banks Battery, Gill Point and the Signal Station. Closures are temporary but some diversions would be permanent (moderate adverse).
- Permanent physical effects on the Martello Tower at Fisher's Valley and effects on the setting of Rupert's Lines and the Prosperous Bay Plain Signal Station (moderate to major adverse).
- Increases in traffic at Longwood and Deadwood following the opening of the airport (moderate).
- Permanent change in appearance of Rupert's Beach and short-term closure during construction (moderate adverse).
- Construction traffic in Rupert's Valley (moderate averse). Construction noise at residential properties, mainly at Rupert's and Deadwood (moderate adverse).
- Temporary effects on the landscape resulting from extensive construction activities. Temporary visual impacts on residential properties (in Rupert's Valley, Deadwood, Longwood, Bottom Woods and Government Garage, Bradleys) and from footpaths and scenic vantage points (moderate to major adverse).

In addition, a number of **positive impacts** of the scheme have been identified, including:

During construction:

- Economic growth and job creation providing a range of new opportunities for Saints living at home and overseas (moderate beneficial).

Following the opening of the airport:

- Reversal of the trend of population decline and re-balancing the population structure through an increase in the proportion of people of working age (major beneficial).
- Significant economic growth including a 330% increase in Gross Domestic Product (GDP) in 30 years and increase in employment by 2,000 jobs in 25 years from commencement of airport operation (major beneficial).
- Increase in tourist numbers from around 800 per year to over 50,000 per year 25 years from the opening of the airport (major beneficial).
- End to the requirement for overseas budgetary aid leading to financial independence between 15 and 25 years from opening of the airport (major beneficial).
- Development of the private sector to become the main source of investment and economic activity (major beneficial).
- Improved health and education systems enabled by the growth in population and increased Government revenues (moderate beneficial).
- Improved access to international health expertise, including enabling emergency medical evacuation of critically ill people (major beneficial).
- Improved adult skill levels due to new employment opportunities and vocational education (moderate beneficial).
- Improved family-based care of the elderly and a reduction in the informal fostering of children by relatives enabled by the return of Saints of working age to the island (moderate and major beneficial).
- Reduced pressure on the welfare system freeing up resources (moderate beneficial).