Planning Officer's Report - LDCA 24TH NOVEMBER 2021

APPLICATION	**2021/90 – Proposed Development of a Satellite Earth Station Facility, Horse Point Plain, Bottom Woods**
PERMISSION SOUGHT	Full Permission
REGISTERED	19 October 2021
APPLICANT	Network Access Associates Limited
PARCEL	PB0031
SIZE	7.72 hectares
ACTUAL SITE SIZE	7.72 hectares
LOCALITY	Horse Point Plain
LAND OWNER	Crown Land
ZONE	Coastal
CONSERVATION AREA	Important Wirebird Area
CURRENT USE	Grazing/Recreational
PUBLICITY	The application was advertised as follows: ▪ Independent Newspaper - 22 October 2021 ▪ A site notice displayed in accordance with Regulations.
EXPIRY	19 November 2021
REPRESENTATIONS	One received - Mr A Pearce
DECISION ROUTE	~~Delegated~~ / **LDCA** / **EXCO**
SITE VISIT	Preliminary site visit prior to the Application being made and formal site visit on submission of the Application

A. CONSULTATION FEEDBACK

a)	Water Division	No Objection
b)	Sewage Division	No Objection
c)	Energy Division	No Objection - Comment
d)	St Helena Fire & Rescue	No Objection - Comment

e)	St Helena Roads Section	No Objection
f)	Heritage	Objection - Comments
g)	Environmental Management	No Objection - Comments
h)	Public Health	No Response
i)	ANRD	No Objection
j)	Property Division (Crown Est)	No Response
k)	St Helena Police Services	No Objection - Comment
l)	Aerodrome Safe Guarding	Response Awaited
m)	Sustain Development	No Objection
n)	National Trust	Response Expected - Comments

B. PROPOSED DEVELOPMENT AND LOCATION

The proposed development application is for the installation of earth satellite station facilities (Space Park) that includes the installation of satellite antennas, service trenches, ancillary building and a security fence. The proposed development will be located at Horse Point Plain in the north-eastern part of the Island.

Diagram 1: Location Plan

The site falls within the proclaimed Millennium Forest Nature Reserve, but not within the current boundary. At present, the application site is undeveloped and is open to the public. The vegetation largely comprises non-native species such as creeper, ice plant with occasional tungi, which provides suitable breeding habitat for the endemic Wirebird. Currently, the area is rather degraded and is characterised by large areas of bare ground and is traversed by several tracks.

Diagram 2: Site Location in Context

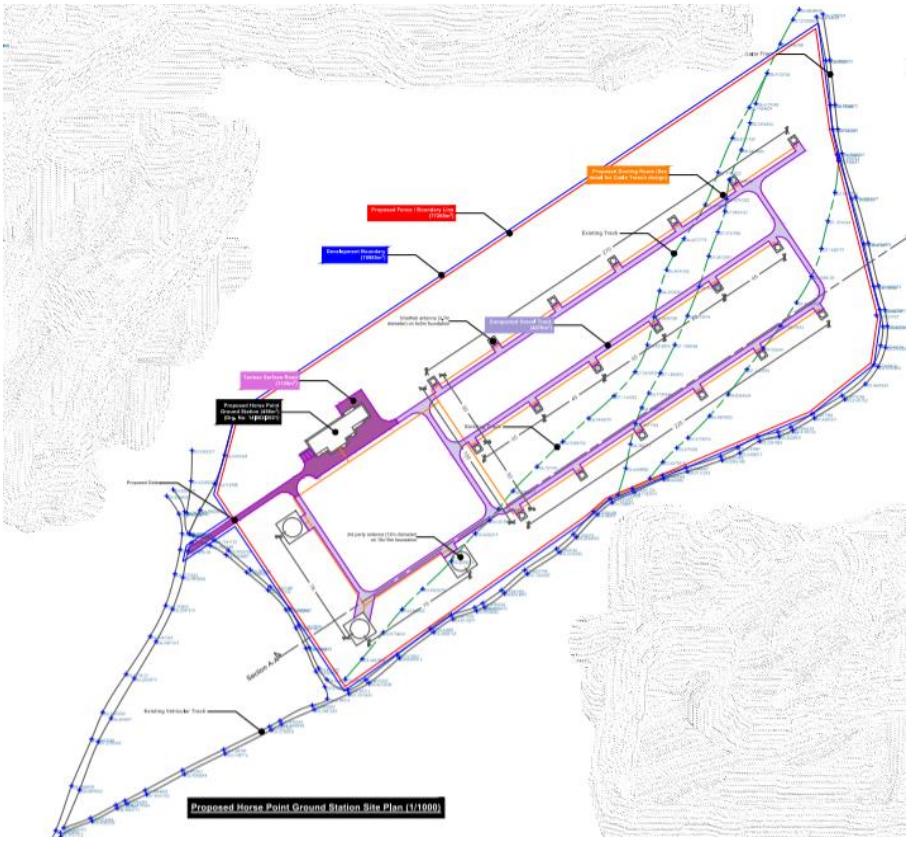
The site itself is not part of the designated East Coast Scenic Area, however Horse Point Plain forms part of the spectacular north-eastern coastline of Island and can be viewed from several Post Box walks and other viewpoints. Horse Point Landfill Site lies immediately to the west of the proposed Space Park and Horse Point quarry borders the north-western corner. The Millennium Forest visitor centre and car park are located about 600m to the west. The nearest residential properties (two) are found at the government garage, about 1km from site, while the east-facing houses in Bottom Woods are located about 1.6km away.

Diagram 3: Application Site

PROPOSED DEVELOPMENT DESCRIPTION

The proposed earth satellite station is a terrestrial radio station designed for extra-planetary telecommunication with spacecraft or reception of radio waves from astronomical radio sources and includes OneWeb's planned constellation of more than 600 Low Earth Orbit (LEO) satellites set to provide global broadband coverage. The earth stations communicate with spacecraft by transmitting and receiving radio waves in the super high frequency or extremely high frequency bands (microwaves). A principal telecommunications device of the ground station is the parabolic antenna.

Diagram 4: Development Layout



Antennas: The proposed Space Park will comprise an initial phase of nineteen 3.7m diameter antennae, set out in three lines 50m apart with each antenna situated 45 m from each other along each line. There will be further three larger 12m diameter antenna, referred to as "Third Party Antennas" on the eastern side of the proposed development. Each antenna will be constructed on 25sqm plinth. The designated site for the Space Park is approximately 7.7ha, but the actual area of disturbance will only take up some 0.24ha, 2% of this total.

Trenches: The Space Park will be linked to both the forthcoming fibre-optic cable network and the existing electricity grid via underground cables. The nearest connection point is likely to be at Horse Point Landfill site, requiring about 500-600m of trench to be excavated between the T-off point and the Space Park control room. From the control room, there will be power and data cable trenches connecting all of

the antennae. The Space Park will be an unmanned facility and the control room will only house electronic gear. There will therefore be no need to provide water or sewage facilities on site. Access to the Space Park will be via the un-surfaced road from the main road intersection to the Millennium Forest, landfill and quarry. A new track will need to be constructed from the T-off point to the control room – a distance of some 100-120m.

Control Room: The Space Park will be an unmanned facility, however there will be an air-conditioned building to house the electronic equipment on site. The building may be a prefabricated structure which is moved to site and secured. From the concept drawings, it is estimated that the control room will cover about 455sqm. There will be no need for offices, workshops, sewage facilities, water supply, parking areas or other amenities associated with a manned building.

Access Road and Tracks: Access to the site will be via the track that currently goes past the Horse Point Landfill Site entrance which en route to the far end of Horse Point or it can also from the access road to Horse Point quarry, with a T-off to the control room. Both routes are approximately 100-120m long and the route selected will be determined during the detailed design phase, based on the Ecological Sensitivity of the area. There are no details provided for the road or its surface and finish, however the road will be 5m wide and 120m long, an area of approximately 600 sqm will be permanently affected. During construction, access to the cable trenches and to each antenna plinth will be required and this will be via a clearly demarcated temporary stone-surfaced track, with off-road driving being strictly prohibited. For the operational use, a small clearly demarcated tracks or footpaths will need to be maintained between the antennae.

Security Fencing and Lighting: The Space Park will need to be secured with the erection of security fence with a locked access gate to prevent unauthorised access and to protect the antennae from accidental damage. There are no design details provided for the security fence, however it will be of design to allow the natural environment and ecology to thrive and would typically be 3m high and equipped with signage and an external camera monitoring system. The site only takes up a portion of the Horse Point headland and the remainder of the site will remain open to the public both during construction and when the Space Park is fully operational. The site will be equipped with directional down lighters to provide sufficient lighting to allow safe passage through the antenna field when needed. These lights would be at a low level and would only be switched on if required for urgent maintenance works. Motion detection sensors light may also be installed for security purposes. Final designs for the lighting systems has not been finalised at this stage, however these will be Dark Skies compliant and any permanent lights would preferably be avoided. There will also be a dual generator set in a dedicated shelter to supply back-up power to the Space Park in the event of grid failures.

Site Office and Laydown Area for Construction: There may need to be a temporary structure on or near the proposed Space Park to act as a site office during construction. In addition, there may be a need for space on or near the site to set out materials and components in anticipation of construction such as cable drums, piping, crushed stone and sand, cement, antenna components. This laydown area could be placed on or adjacent to the site, or the applicant will negotiate with EMD for use of the Waste Reception Building at HPLS which is not being used for waste holding at the time of construction.

Operational Activities: The antennae will be working 24/7 throughout the year in order to provide a permanent satellite link. The operation of the station will be controlled from OneWeb's Operations Centre in the UK. The nominal life of the Space Park is 10 years, however there is a possibility of extending this with technology updates. During operations, the antennae will move as they track satellites and as with all mechanical apparatus, there will be some low sound emitted. The antennae transmit and as such emit radio frequency (RF) energy.11 On the licence application, also as per the licensing rules, RF emissions of the antennae will comply with the European ECC Report 272 for the protection of airfields and aircraft and with the ITU's Radio Regulations of 2016.

The applicant anticipates that the Space Park will commence operations at or soon after the proposed new wind turbines have been commissioned. OneWeb have calculated that by using renewable energy instead of fossil fuel (diesel), there would be a saving of 508 tonnes of CO2 equivalents per year.

Preventative maintenance will be required on a monthly basis. This service will be provided by local technicians employed and trained by OneWeb, with support from OneWeb technicians as and when required.

Part of the maintenance work will also include cutting back any vegetation surrounding each antenna to below 1m in height to allow for the free movement of the dish. The access tracks will also need to be maintained.

C. MOTIVATION AND BACKGROUND TO THE PROPOSED DEVELOPMENT

In August 2021 a trans-Atlantic submarine fibre-optic cable, Google's Equiano cable, was landed on St Helena Island providing backhaul capacity of multiple terabits per second (Tbps) directly to Europe and South Africa. The submarine cable, together with the Island's improved physical accessibility resulting from development of the airport and the commencement of weekly commercial flight to Johannesburg in October 2017 has creates the unique opportunity to establish Satellite Earth Station Space Parks on St Helena. The location of St Helena in the mid-Atlantic provides a number of

advantages for satellite telemetry due to its position near the equator, its remote location, weather conditions, political stability and security. By hosting Satellite Earth Station Space Parks in St Helena, an opportunity is created to increase the Island's use of the fibre-optic cable capacity and spread the costs of internet connectivity more widely. An earth station is a terrestrial radio station designed for extra-planetary telecommunication with spacecraft or reception of radio waves from astronomical radio sources. Earth stations communicate with spacecraft by transmitting and receiving radio waves in the super high frequency or extremely high frequency bands (e.g., microwaves). A principal telecommunications device of the ground station is the parabolic antenna.

The Space Park site needs to meet a number of technical criteria: the site needs to be relatively flat (between 0-10° slope), large enough to set out the satellite array (minimum area of around 11acres or 4.5ha), with good access to the existing road, power and fibre-optic cable networks and a good 'view' of the horizons. The land should also be under government ownership, not be currently used or zoned for productive purposes and with low levels of night time light. However, given the Island's rugged topography, there are only a few suitable sites fitting all these criteria. Following assessment of all alternative sites, the site at Horse Point Plain was shortlisted for further investigation and feasibility studies.

Since late 2019, the applicant has been developing conceptual designs and layouts for the Space Park in readiness for when the submarine Equiano cable will be ready for service and becomes operational sometime after July 2022. The Chief Planning Officer prepared both a Screening and Scoping Opinion based on the initial conceptual design. The Screening Opinion indicated that an environmental impact assessment (EIA) Report would be needed for a Space Park on Horse Point Plain due to the significant environmental impact of the proposed development on the area and the Scoping Opinion set out potential constraints, environmental impact and policy issues that should be assessed and addressed within the EIA report.

In formulation the proposals and assessment of the application site, the applicant has engaged with number of stakeholders on the Island, in particular the Saint Helena National Trust (SHNT) in assisting and undertaking the environmental survey works to develop baseline information for the area. The applicant also invited the public to submit any issues and concerns regarding the application site that they consider to be important and sensitive that the environment and conservation specialist leading on the EIA should have regards to.

IMPACT OF THE PROPOSED DEVELOPMENT

The major impact of the proposed development, particularly twenty-two antennae, is during construction as the installation of the structure requires considerable ground work and the use of heavy machinery in an area that is environmentally very sensitive

and would cause immense disruption and disturbance to the ecology of the area. The other major issue of concern for this project also includes the transportation of the machinery, equipment and instruments to the site. As an assessment of the proposed development, these issues also need to be analysed as transportation of such heavy loads can be very disruptive on the road system and the terrain that is challenging at the best of times.

The application has provided fully detailed assessment of the whole development process with the application and this has also been assessed for the Environmental Impact Assessment (EIA) that has been submitted. The most significant negative impacts prior to mitigation being applied is during construction as when there is likely to be considerable activity in this environmentally sensitive area. This will be amongst other things include:

- Areas being closed off on the Plain;
- Potential road closures on route to the development site from Rupert's Valley during transportation of the extra-large loads of machinery and equipment and components;
- Increased traffic volumes; and
- Potential of considerable noise construction activities.

The post construction, the major operational impact of the satellite antennae will include:

- Visual impacts of the antennae on the landscape;
- Diversion of the access tracks; and
- Impact on Wirebird population due to general disturbance.

However such major developments also provide potential benefits to the area and for a remote Island, the benefit arising from such development can be significant and this is particularly during the construction and these include:

- Boost to the local economy through local procurement;
- Employment, training and skill development of St Helenians;
- Possible exposure of the Island to the wider world with news coverage of development that has international benefit through the satellite coverage of the South Atlantic Ocean area; and
- Potential for cheaper broadband with successful and increasing benefits from further expansion of satellite earth stations on the Island.

Much of this adverse impact and benefits arising from the proposed development has been assessed for the EIA that has been submitted with the development application. The officer assessment of the EIA and the proposed mitigations that will be put in

place to safeguard against and to minimise the adverse impact and to maximise the potential benefits is set out in the latter sections of this report.

D. ENVIRONMENTAL IMPACT ASSESSMENT

The development application is accompanied by Environment Impact Assessment (EIA) report for the proposed development in compliance with the Environmental Impact Assessment Regulations. The EIA is comprehensive and is supported by local environmental information, survey data, assessment of environmental information and potential impact of the proposed development and consideration of the mitigation measures to overcome adverse impact arising from the development for both construction and post construction (operational). For post construction this also includes the Environmental Management Plan for the area affected by development and the applicant's commitment to enhance the nature conservation benefits of the designated area for Wirebirds.

The EIA provides a detailed baseline on the environmental conditions and the impact of the proposed development on the area in respect of number of components. The components affected by the development include: climate, soil, topography, landscape and visual amenity, water resources, demand for energy supply, land uses, vegetation, avifauna (wirebirds), invertebrates, cultural heritage, population growth and economic growth.

ASSESSMENT OF CONSTRUCTION IMPACT

The assessment relates to the impact on the area during construction, including the transport of the heavy machinery, equipment and instruments from Rupert's Bay, where they will arrive by sea, to Horse Point Plain and the operational use post construction. The method of assessment is risk-based and assessed for following criteria:

- Nature or type of impact (beneficial/positive, adverse/negative, direct, indirect or secondary effect and cumulative effects)
- Magnitude of the impact (large, medium or small)
- Extent of the impact (whole or large part of the Island, limited to Deadwood and Longwood areas or on site only)
- Duration of the impact (persist long-term/permanent, continuous during construction or operational phases, non-continuous during construction but frequent throughout construction or operation, intermittent or occasional during construction or operation)

The impact significance is calculated by adding the scores of the criterion and the score is then defined. The score determines the significance rating to estimate the probability or likelihood of the occurrence of the impact.

The calculated and defined score determines the risk impact as high, medium or low and these risk impacts will need to be managed and the environmental management plan in its recommendation provides the mitigation actions to reduce or manage the identified risks. The impact assessment provides the assessment without mitigation measures applied (worst case) and what the residual risk will be once the mitigation measures are consistently applied in an effective manner. This provides two indicators of confidence in the assessment of the conceptual development information and confidence of the likelihood that the mitigation measures will be applied and will be effective.

The construction impact is informed by previous experience of similar projects and information from stakeholder consultation. It is considered that 57 environmental components may be adversely impacted by the construction phase activities associated with this project. Similarly, it is anticipated that there will also be benefits to the St Helena economy in the form of employment and procurement of goods, raw materials and other services during the construction phase. The evaluation of the impact before and with mitigation of the more significant components is summarised.

Water resources (quantity and quality): Water resources are a highly topical issue and use of water is a concern particularly in light of recent drought periods experienced on the Island. As water supplies on the Island are highly susceptible due to periods of droughts, therefore water conservation is of utmost importance at all times. The estimated requirement as a minimum is for 52,500 litres of water for concrete mixing plus additional water for other uses such as dust suppression, could have a direct, moderate, adverse impact on the Island's water resources and if the Island is experiencing drought in the lead up to the construction then this could rise to highly significant. The application of water conservation measures could be reduced to a certain extent, and the overall risk could be reduced to low in a non-drought situation.

In terms of water quality, there are no water courses in the vicinity of the application site and the site slopes to the north and south where there are small drainage lines which are highly ephemeral in nature. The nature of construction and erection of the earth stations antennae will not involve the use of large quantities of chemicals and no effluents are likely to be discharged from the site in sufficient volumes to reach these water courses. The impact of construction on water quality is therefore considered to be negligible prior to mitigation and no impacts are likely to occur if the mitigation measures are applied.

The outcome of the mitigation measures does not reduce the adverse impact in respect of two environmental factors and they remain from moderate/medium and low to moderate and low in all two cases.

The proposed mitigation measures for the conservation of water resources provide medium confidence in effectiveness however for protection of water quality, the confidence assessment and effectiveness is considered to be high.

Visual impact: As the Horse Point site is relatively flat, the amount of earthworks required to raise or lower the satellite plinths to obtain a roughly equal elevation will be low. Construction works will also include the excavation of cable trenches, and the upgrading of access tracks. The satellite antennae will be assembled on site using small mobile equipment. It is, therefore, considered that the level of disturbance will be relatively low and difficult to observe from the nearest residential areas of Bottom Woods and Levelwood. The topography and trees around the Longwood residential area will largely obscure construction works at Horse Point.

Horse Point is highly visible from several Post Box walks, such as The Barn, Flagstaff, Cox's Battery, Great Stone Top, and Diana's Peak, but the views from these points are all well over 2.5km away and given the likely low level of disturbance of the site during construction.

The impact is considered to be moderately negative, which can be reduced to a low risk with the application of the mitigation measures. The impact assessment confidence is considered to be medium.

Impacts on traffic and access: There are two main issues associated with traffic during the construction phase of the project: road closures during the movement of large components or loads, and a general increase in the volume of traffic on the roads. The transport components development and the equipment to be used to assemble the antennae will take a few days. During this period, the road through Rupert's and the airport access road from Rupert's Valley to the entrance to HPLS may be closed to the public for certain periods. This will have different impacts depending on the location and users (number of businesses and residents in the valley, use the airport access road between Rupert's Valley and Reggie's intersections and users of airport access road from Reggie's to the Millennium Forest/HPLS turnoff and those accessing the airport, Met Office, HPLS and the Millennium Forest). The overall adverse impact in this respect would be moderate.

It is possible that access to the view point at the end of Horse Point may be prohibited or interrupted for periods of time during the construction phase, which could moderately affect tour operators and local residents. However, if the track is left open, or an alternative track provided, the impact would be minor adverse

There will also be additional traffic impact related to the increase in general volume of traffic during the 6-9 month of the construction and commissioning phases with worker and delivery of material to the site. The assessment of potential impact is qualitatively based on previous experience of construction sites. Most of the traffic

movements will be between Rupert's and the site using the airport access road, but there could be occasional trips between the site and the Horse Point landfill and quarry, and between site and Longwood and Jamestown.

The impact is considered to be moderate/minor negative, which can be reduced to minor and low risk with the application of the mitigation measures. The impact assessment confidence is considered to be medium, however the confidence effectiveness is considered to be high.

Disturbance of Wirebirds: The disturbance and impact on the Wirebirds has been identified by Saint Helena National Trust (SHNT) during site walkover with the EIA team. The Ecological Baseline Survey in October 2020 identified three Wirebird territories centred on the proposed site and the approximate size of a territory ranges between 0.5 – 1.0 ha which means that between 1.5 – 3.0 ha of Wirebird territory could be affected by the proposed development. This would, at worst, affect 1% of the global population of Wirebirds.

A mitigating factor is that the Wirebird numbers respond positively to active pest and predator control and they have also shown to be quite resilient to disturbance. The numbers Wirebirds on and around the airport construction site did not decline as predicted and Wirebirds were frequently observed in the construction areas (personal observations, supported by census data). Although this bird is classified as Vulnerable by the IUCN, the impact on the population will be only moderately adverse and the impact on breeding will be minor adverse due to the small numbers that will be potentially affected.

The impact is considered to be moderate/minor negative, which can be reduced to minor and low risk with the application of the mitigation measures. It is considered that overall impact of mitigation would be assessed as medium and the confidence effectiveness would also be medium.

St Helena economy: Some of the building materials and other inputs for construction of the development will be procured on-Island (aggregate, bedding sand, water, cement and diesel) however the specialist antenna components, cables, electronics, rebar will all have to be imported due to a lack of manufacturing capability on the Island. Nevertheless, the local Island economy will benefit from the expenditure on accommodation, meals and subsistence for the OneWeb technicians, supervisory and commissioning personnel who will visit the Island during construction and commissioning

From recent development works on the Island, it was calculated that non-resident temporary workers spend about £90 per person, per day (SHG study, 2020). Although the number of ex-pat workers is likely to be small, the impact of their expenditure on

the Island's economy with be significant for a short period. Furthermore, it is likely that local contractors will be appointed to undertake the civil and electrical works, which will provide employment for some 5-20 managers and staff for the 6-9 month construction period that will also have a high positive impact.

The impact is considered to be a high positive benefit , which remains as high positive benefit with the mitigation measures. It is considered that the effectiveness of mitigation is medium and the confidence level of the impact assessment also medium.

Nuisance (noise, dust): Construction of the proposed development will have number of noisy activities including the transportation of heavy equipment and components, an increase in general traffic, earthworks, cutting, concrete mixing, and the use of a generator. The severity of noise impacts from the development depends on a number of factors that includes:

- proximity (distance) to sensitive receptors;
- landscape 'hardness' or 'softness' to reflect or absorb noise respectively;
- sound power levels of the equipment/vehicles/activities;
- wind direction and speed;
- topographic screening; and
- time of the day.

There are no residential areas within at least 1km of the site, and none in the downwind direction (to the north-west), therefore noise impacts on residents from construction activities at the application site is expected to be negligible. However, the residents and businesses Rupert's will be mostly affected by noise during the short period when the large trucks conveying the development components will be transported through the valley from the wharf. The residents located near the main road at Colt Sheds, Deadwood and Bottom Woods will also be affected by traffic noise at various times but only on an intermittent basis.

If construction takes place in the summer period, dust from the development site could have a cumulative minor adverse impact on the area due to the existing dusty activities at the HPLS and Horse Point quarry. However, a number of mitigation measures have been identified to reduce dust emissions slightly during construction, but it is a challenge in this very windy environment. In winter, dust impacts will be lower due to the dampening effect of the rain. The mitigation measures include:

The outcome of the mitigation measures does not reduce the adverse impact in respect of three environmental factors and they remain from moderate/medium and low to moderate and low in all three cases. The confidence level in the assessment of in both cases is high, however the effectiveness for mitigation impact for noise nuisance is high whilst for the dust nuisance it is low.

Vegetation and invertebrates: The proposed footprint of the development site is in an area of high ecological importance. Although the plants themselves are largely non-native, they provide important habitat for a large number of endemic or possibly endemic invertebrate species as well as supporting a healthy population of Wirebirds. The high presence of invertebrates indicates a thriving specialised environment and also a high potential for endemic species that have been pushed to the brink of their native range due to human activity. The presence of fungus weevil, which has been previously undescribed and is possibly 'new' to science means that the site could be fatally flawed if this species is not confirmed elsewhere on Horse Point or elsewhere on the Island. Efforts in May 2021 to confirm its presence on site and over the wider Horse Point environment failed, possibly due to the season and therefore the Precautionary Principle still pertains.

In view of siting a new specie previously unknown and in the absence of no further finds of the fungus weevil in the area, the reports considers number of options in the assessment of the proposed development in this locality. The options include:

- this is no-go option - the site is rejected;
- decision-making ion the proposed development is delayed while further work is undertaken to understand the biology and biogeography of the fungus weevil and other little known endemics which were found on the site (Precautionary Principle);
- impacts are avoided by moving the site boundaries to avoid known sensitive habitats;
- development is allowed under stringent mitigation conditions; and/or
- adopting a biodiversity offset, by fencing-off a larger area than required to provide de facto protection to the species of concern.

Due to the impact on the vegetation and invertebrates, should the proposed development be considered acceptable on this application site, the mitigation and enhancement measures identified must be strictly applied.

The outcome of the mitigation measures reduces the adverse impact in respect of two environmental factors from high and medium to medium in both cases. Similarly there are positive benefits arising from the development and following mitigation there are further benefits for the two environmental factors, increasing minor and high positive benefits to high and very high direct positive benefits, respectively. The impact statement assessment and the confidence effectiveness of the proposed mitigation is considered to be medium in both cases

Health and safety: Impacts on health and safety can relates to occupational activities and those which might affect the general public. Occupational impacts could include: noise, dust and fumes, muscle strain, electrocution, falling from heights, blunt force

trauma. In an unregulated, unprofessional work site, these could prevail and result in a moderately adverse impact through multiple accidents and injuries, however, with sufficient controls in place, the provision of personal protective equipment (PPE) and other measures and these impacts can be reduced to very low risks.

The health and safety risks to the public include loud and persistent noise, presence of respiratory dust, vehicle fumes and traffic accidents. With mitigation, these risks can also be reduced to very low.

A number of mitigation measures have been included to the reduce and minimise the impact on health and safety arising during construction and following mitigation measure the adverse impact reduce low in both cases from moderate/minor and low. The impact statement assessment and the confidence effectiveness of the proposed mitigation is considered to be high in both cases

Conclusion of Construction Impact: In summary, all the predicted construction impacts (biological, physical, social and economic) shows that the **most significant** negative impacts *prior* to mitigation being applied are on the ecology of the area, primarily Wirebirds and invertebrates. The flora of the site is dominated by mostly non-native species such as creeper and some tungi, with patches of native samphire, ice plant and numerous lichen species, all of which are common on the Island. However, this vegetation provides important habitat for a large number of invertebrates and Wirebirds.

The two invertebrate surveys (October 2020 and January 2021) an endemic fungus weevil (*Homoedera* ap.) was found on the proposed site which is possibly a 'new' species. A further detailed survey (May 2021) to verify the presence of the fungus weevil on site and wider Horse Point Pllain failed to find this species, possibly due to the season and/or the occurrence of wet conditions immediately prior to the survey.

At least three pairs of Wirebirds have territories overlapping the proposed site and a further nine pairs were observed over Horse Point more generally, thus confirming the importance of this area for this vulnerable, endemic species.

The report concludes that most of these impacts could be avoided by realigning the site boundaries and adopting a sensitive site layout, or the impacts can be mitigated using known and cost-effective measures to reduce the severity or duration of the impacts. This means that **if the mitigation measures are applied consistently and effectively**, these highly adverse impacts could be reduced to moderate or minor significance.

Other residual moderately adverse impact includes the visual impacts of construction works, water supplies (in the case of a drought) and a possible increase in traffic and short-term traffic disruptions. During construction, there will also be three potential benefits for the Island, namely a boost to the local economy through local procurement, employment of St Helenians and site rehabilitation at the end of construction to a better ecological state than at present.

ASSESSMENT OF OPERATIONAL IMPACT

There is likely to be negative and positive impacts for the operation of the use following construction. The main negative impacts could be caused by the visual impact on residents and tourism and leisure products such as the East Coast Scenic Reserve, Post Box walks, off-road tours, light pollution and maintenance activities. However, there will also be several direct and indirect benefits arising from this project that would include increase in government revenue from the Space Park operation (direct impact), access to quicker and cheaper internet connections for the Island (indirect benefits), potential for further economic benefits as a result of better investment opportunities due to internet accessibility (indirect benefit), *De facto* conservation of the ecology of the area due to the presence of a security fence which will prevent rabbits and off-road drivers accessing the area and opportunity to extend the Millennium Forest due to restoration planting and site rehabilitation (e.g. removal of invasive alien species).

Increase in Government revenue: There are no details yet about the financial arrangements between the Space Park developer (OneWeb) and SHG, but it is likely that the developer will have to pay some form of licence fees, land rent and taxes to the government. This will help reduce the Island's reliance on UK subsidies and improve spending on public services on the Island.

The developer will also pay a share of the use of the Equiano fibre-optic cable, enabling businesses and private citizens improved access to internet services. This should lead to an increase in investment and business activity on the Island which in turn will further contribute to government revenues. In such a small economy, with high dependence on subsidies, such increases in revenue will have a very high, positive impact. Further enhancement measures can put in place to further enhance these benefits.

There are high positive benefits and with a number of mitigation measures the very high positive benefits remain. The impact confidence in assessment the enhancement confidence effectiveness is high in both cases.

Provision of quicker and cheaper internet for the Island and investment opportunities: The establishment of a Space Park on St Helena will have a number of indirect highly significant benefits, the primary one being that it will facilitate access to cheaper, quicker internet access for SHG, the private sector and private users on the

Island. This in turn would help the Island achieve all of the five National Goals (**Altogether Wealthier, Altogether Safer, Altogether Healthier, Altogether Better for Children and Young People and Altogether Greener** set out in St Helena's SEDP 2018 to 2028 and the associated 10 Year Plan 2017-27.

The presence of fibre-optic cabling on the Island, without the cross-subsidising effect of the Space Park, will improve internet speeds, but costs would still be very high, thus inhibiting the widespread usage of the internet and many of the benefits listed above would not materialise. For these listed benefits to materialise, a telecommunications service provider will need to install fibre-optic cable to all parts of the Island and develop an affordable pricing policy. This is beyond the scope of the Space Park developer and has therefore not been examined the EIA report.

There direct and indirect very high positive benefits from the development in respect of two factors and with further enhancement measures these direct and indirect very high positive benefits remain. The impact confidence in assessment is high and the enhancement measure of confidence effectiveness is medium.

Conservation and site restoration: The original intention of the Millennium Forest project was to extend the gumwood plantings onto Horse Point within the Nature Reserve boundary. With hindsight, this goal appears to have been extremely ambitious and unlikely to be achieved with current levels of funding and planting rates. Furthermore, given the healthy population of Wirebirds and endemic invertebrates on Horse Point, which do not favour treed habitats, additional planting of gumwoods may not be desirable. However, the proposed development could be the catalyst for improving the habitat on this site as part of an ecological offset for taking up land within the proclaimed Millennium Forest Nature Reserve. Shrubs and other endemic plants can be planted in the large areas between the antennae, leaving a buffer zone of 2m around each satellite plinth. In addition to restoring habitat, planting vegetation within the application site will help to soften the visual impact. The presence of a security fence will ensure that rabbits, which graze on young plants, will be prevented from entering the area and the current levels of off-road driving will also stop – both of which will promote site restoration.

Horse Point Plain is a Wirebird breeding area, although it is not designated as 'Important Wirebird Area'. Wirebird eggs and chicks are susceptible to predation by cats, rats and mynah birds, and controlling the numbers of these predators has been seen to be highly effective in restoring Wirebird numbers on the Island. The security fence around the proposed development will help to keep out cats and if the operator is willing to allow rodent bait to be placed on site, the application site will become a *de facto* conservation area for Wirebirds, complemented by the proposed habitat restoration programme. This will be a very significant benefit for the Island's endemic species.

There are direct and indirect high and very high positive benefits arising from the development and with enhancement measures these benefits remain direct and indirect high and very high positive benefits for three environmental factors. The confidence in the assessment of the impact and its effectiveness is low to high in both cases.

Impact on views, tourism and leisure activities: The assessment of the visual impact is a highly subjective exercise and is very much dependent upon a person's background, experience, personal preferences and perceptions. The two main groups of visual receptors are local residents, whose views may be affected, and tourists and recreational walkers who use the tourism products (Post Box walks, guided vehicle tours).

The visual impact for local residents in Bottom Woods, Bradley's and Levelwood will be moderate to high. Whether this is seen as an adverse impact, or positive will depend on the viewers' perceptions, with some seeing the development as being representative of much-needed progress and linkage to the outside world, while others, especially those in closer proximity, will feel that the development is an intrusive element in their view. For those residents living further away in Levelwood, the impact will be ameliorated by the distance and weather conditions.

As with the perceptions of the residents, tourists, tour operators and the general public may also have varying opinions about the visual impact of the development and so the impact rating could range from a high negative impact through neutral to a high positive impact. Interestingly, Horse Point itself does not feature in the survey done by Bormpoudakis et al. (2019) on cultural ecosystem services in which respondents were asked to characterise and value landscape elements in terms of their cultural and recreational importance.

Simulations of the views from The Barn, Cox's Battery and Flagstaff Post Box walks have been considered. Views will be affected by weather conditions, the time of day, the position of the dishes and the colour they are painted. When painted grey or beige, the visual impact is much lower than when the dishes are white. Only a few people per year undertake the strenuous Post Box walk to The Barn, while some complete Cox's Battery. The walk to Flagstaff is one of the most popular Post Box walks (St Helena Tourism).

Perhaps the most significant visual impact will be during vehicle tours to the Millennium Forest and the Horse Point lookout, where the track will take guests alongside the development security fence en route to the view point. The site will also be visible from aircraft approaching runway from the north. The satellites, together

with the conservation work on site could become another Island attraction with good marketing.

It should be noted that this development is not the first visual intrusion into the landscape in this scenic north-eastern part of the Island. Other visually intrusive elements include the airport terminal building, runway and fire training rig, Bradley's camp and the Government Garage, the wind farm on Deadwood Plain, HPLS and the Horse Point quarry. There is a planned housing development in Bottom Woods, three large wind turbines on Deadwood Plain and the new prison will also be built within this landscape. There is therefore a very high cumulative impact from these combined developments which affect landscape quality.

The visual impact on the three environmental factors is most difficult to assess as much depend on personal perceptions. In view of this, the visual impact of the development can range from high and very high negative impact to high and very high positive impact for these environmental factors. With the mitigation measures these impact remains unchanged within these broad range. The confidence in assessment of the impact and confidence in the effectiveness is low in both cases.

Light pollution: St Helena has been seeking accreditation from International Dark Sky Association that is authorised by the international astronomy associations and societies to assess the darkness of the skies for being an exceptionally good place for anyone to pursue their interest in astronomy. St Helena has exceptionally good dark skies making it a prime destination for professional and amateur astronomers. However, any increase in light pollution could affect the value of the Island's star-gazing potential. Normal security lights around the perimeter of the site could have a very high adverse impact on the night sky visibility, but this is not desirable for optimum satellite operation and will be avoided by installing Dark Sky-compliant motion detector lights, which only illuminate when triggered by motion. This will reduce the impact to one of minor significance with a very low risk.

The impact of light pollution is very high adverse impact, however with the mitigation measure the adverse impact is reduced moderate adverse impact. The confidence is the assessment of the impact is medium and the confidence effectiveness of the impact is high.

Maintenance activities: It is anticipated that the development will require some preventative maintenance on site on a monthly basis, which will probably give rise to a small amount of waste, which will have to be removed from site. The bigger risk is that such maintenance may involve driving to each antenna. Without proper control measures in place, off-road driving could have a moderate negative impact on re-established endemic flora and the nests of the ground-nesting Wirebird. However, if access to the antennae is limited to pre-defined tracks and/or raised boardwalks over

sensitive areas, the impact could be reduced to a minor negative effect with a very low risk to species

The impact of the maintenance activities will have moderate adverse impact, however with mitigation measure the adverse impact can be reduced to minor/low. The confidence in assessment of the impact is high and the confidence of the effectiveness is also high.

Radio frequency impacts on community health and airport operations: One of concerns raised about satellite telemetry is its impact on community health from radio frequency (RF) radiation. RF radiation, which includes radio waves and microwaves, is at the low-energy end of the electromagnetic spectrum. It is a type of non-ionising radiation which does not have enough energy to remove electrons from an atom and thus RF radiation is not thought to cause cancer by damaging the DNA in cells the way ionising radiation does. This, together with the fact that residential areas are all over a kilometre away from the site, means that the impact is negligible.

Another potential concern is that the proposed Space Park operations would somehow interfere with airport communications and the safe operation of navigational aids. It was confirmed by OneWeb that the Space Park will be operating in the Ku and Ka bands above 10,700 MHz, while civilian aeronautical communications and navigational aids operate far away in the VHF band below 140 MHz. This means that there will be no interference by the Space Park on airport operations.

The impact of the radio frequency on community health and airport operation is considered to be moderate/minor adverse impact, however with mitigation measure the adverse impact can be reduced to minor/low impact. The confidence in assessment of the impact is high and the confidence of the effectiveness is medium to high.

Conclusion of Operational Impacts: There are only a few impacts associated with the operation of the satellite earth station and the most significant adverse effects are the visual impact and the potential impact of light pollution. While the latter can be readily mitigated through the use of Dark Skies compliant motion detector lights, there are fewer mitigation options available to reduce the visual impact. The report strongly recommends that all or part of the satellite dishes should be painted in a neutral colour such as grey or beige and while planting endemic vegetation between the antennae will soften the impact with time.

The report further considers that the assessment of the visual impact of the development once it is in operation is highly subjective and can be interpreted as adverse or positive depending on one's perspective. For some people, the presence of satellite dishes could be an exciting introduction into an already altered landscape,

which could indirectly bring multiple social and economic benefits to the Island and represent progress. Similarly to others, the development at Horse Point may be viewed as another unwelcome intrusion into the spectacular scenic landscape of the north-east coast of the Island. Others may be completely ambivalent over the presence of the development. Therefore these different impact ratings are presented for assessment.

Another potential concern relates to the impact of high frequency radio waves on community health and airport operations. The site will be compliant with the International Telecommunications Union (ITU) Radio Regulations (2016) and as the radio waves are non-ionising, there is not enough energy to damage DNA cells and cause cancer. In terms of airport communications and navigational aids, the Space Park antennae operate in a very different band width and should not cause any interference with normal civil aviation activities.

There is also no doubt that the presence of the Space Park will have significant direct economic benefits for the Government through the payment of licence fees, land rent and taxes, which would help to reduce the current reliance on subsidies from the UK government. This in turn should filter down and improve the level of services currently being provided by the Government. The opportunities created by the presence of the Space Park to improve the current slow and expensive internet services, will provide innumerable benefits to all spheres of professional, economic and social life on the Island. This is because the more business users there are for broadband, the more the costs can be spread, thus creating the opportunity for cheaper internet for private citizens. The Space Park could also be a catalyst for future developments in telecommunications and telemetry, including Space Park developments, or even an observatory.

The applicant has expressed their willingness to consider planting gumwoods or scrubwoods and other endemic plants to extend the Millennium Forest onto Horse Point, as originally envisaged in the Millennium Forest Management Plan. With the security fence excluding rabbits and off-road drivers, significant ecological restoration and conservation of endemic invertebrates could be achieved on

E. POLICY FRAMEOWRK

The relevant policies of the Land Development Control Plan (LDCP 2012 - 2022) that are applicable in the assessment of the proposed development are set out below:

- Coastal Zone: Policies CZ.1
- Natural Heritage: Policy NH.3
- Water Supplies: Policies W.1(a) & W2
- Telecommunications Policy TX1. (a) & (b)

The principle Zone policy of the Land Development Control Plan does not provide support in principle for the proposed development, however direct and indirect support for the proposed development and it is for this reason that assessment must be for all policies where applicable. The principle policy for the assessment of the proposed development is CZ.1, which states:-

CZ1: Primary Policy: There will be a presumption in favour of retaining the natural appearance and ecology of the Coastal Zone and the grant of development permission will therefore be regulated by the following implementation policies with the presumption that all development shall include provision for rainwater collection, storage and re-use, commercial development shall include provision for grey water treatment and re-use, and all development shall include for sustainable treatment of sewage without risk of pollution.

There is some direct support in principles within the Natural Heritage and the Telecommunications policies to enable positive assessment of the proposed development as long as there are appropriate mitigation or compensatory measure to off-set the adverse impact. These policies states:

NH.3: Where proposed development is likely to have an adverse effect (either individually or in combination with other developments) on St Helena's native species and habitats including the Wirebird, permission will be granted only when the benefits of the development outweigh the impacts that it is likely to have on the national and international importance of that species or habitat. The proposals must include measures to ensure that any adverse effect is mitigated or compensated and this will be subject to monitoring to ensure that the measures are carried out effectively.

TX1(a): Development permission will be granted for development for the effective provision of telecommunications equipment appropriate to the island's development needs including telephone, radio, television and internet;

TX1(b): Subject to environmental impact assessment, there will be a presumption in favour of development permission for the erection of antennae, repeater stations and related equipment on sites that are proved by engineering analysis to be optimum for their purpose except in the National Conservation Areas where protection of the landscape, ecology and historic setting shall take precedence;

Policy Assessment: The proposed development is not supported by the objective of the principle policy, where the aim of the policy is to retain the natural appearance and ecology of the Zone and thereby protecting the character and the landscape. Whilst some development may be acceptable however these must be related to tourism

activities and operations, commercial agriculture or forestry or essential infrastructure. The proposed development is not tourism related and it would be questionable whether it would attract and/or benefits tourists and visitors to the Island. Similarly it is not considered to be essential infrastructure, although the development may support essential telecommunication infrastructure with the role out of fibre optic cable that has landed on the Island and once fully implemented would deliver fast broadband internet and development such as this could potentially reduce costs for the local residents and businesses.

Similarly the Natural Heritage policy allows for some development within the designated area with appropriate level of mitigation to overcome any adverse impact on the national and internationally protected species. Given the application site is within the area designated for the Millennium Forest Nature Reserve, but is not within the current forest boundary and the area undeveloped, unplanted and is open to the public. Whilst there are number of foot path and vehicle track through the application site and the wider area, there are no restrictions and the natural and human activities co-exist. Even with this unrestricted access, vehicular movement and human activity the natural environment has flourished to greater and lesser extent with the Wirebirds and other invertebrates as well as the vegetation

The proposed development in assessment with the principle policies needs to be considered as a departure, although the number of implementation policies in their wider interpretation can be concluded to provide some support for the proposed development.

F. CONSULTATION

The Planning Service organised two public consultation events to seek wider local community views in respect of the proposed development. In total 19 members of the public attended the two meetings and on both occasions there was a lively debate.

The attendees sought clarification in respect of the proposed development and also raised number of issues. The issues raised are summarised;

- level of power demand arising from this development and does supplier have the capacity to meet the potential increase in demand;
- will the applicant at future date be seeking to install photovoltaic panel to supply electricity to the development, if that is the case then such installation could have considerable impact;

- as a number of direct path through the area will be closed, will the only accessible path be upgraded by the developer;
- will security lights be on all night, how sensitive will the security lights be and will animal/rodent movements trigger the lights;
- what other sites were considered and why this site was chosen for this development;
- why do officer proceed in discussion with developer, when the development being proposed in contrary to the policy;
- the development may have an impact on the current quarry site, and will the quarry blasting operations affect the earth station once its completed;
- as there no toilets proposed in this development, what will staff do during the periods of monthly maintenance on the station;
- without the earth station development, the new fibre optic cable would be a waste, plus the development will be of benefit to the island and therefore should be supported;
- the Decision Making Bodies should not allow non-compliance to policies i.e. "visible from different vantage points" hinder the approval of this development.

The issues and concerns raised at these public meetings have been considered in the report and through the analysis of the development and supporting information.

The one representation received in respect of this development and its assessment will be included in the addendum to this report.

STAKEHOLDER CONSULTATION

Number of stakeholders have responded to the consultation. From the responses received at time of writing this report there were no issues raised that cannot be overcome and/or controlled/managed through an appropriately worded conditions. The Police Service in its response has advised that the development should include security lightings that are Dark Skies compliant due the location of the development and its sensitivity and these should be motion sensitive intruder.

The Sustainable Development Group support the proposed development as it consider it will create training and employment opportunities for local people and also support and growth of the local economy. Similarly the development will also deliver on number of Government policies and objectives set out in the Sustainable Economic Development Plan.

The response from Saint Helena National Trust has not been received by the closing date. There will be an addendum prepared to this report that will assess the response received from the stakeholders.

CHIEF ENIVONMENT OFFICER ASSESSMENT

The Chief Environment Officer (CFO) has raised no objection to the proposed development and the issues raised are summarised:

- acknowledges that the accompanied Environmental Impact Assessment (EIA) Report is comprehensive and clearly follows the process of identification of impacts, establishment of baselines, assessment of impacts, identification of mitigation measures, assessment of impacts after proposed mitigation and monitoring and reporting;
- identifies number of environmental issues and the key adverse impacts being those relating to the ecology of the area, primarily wirebirds and invertebrates and the visual impacts of the development;
- socio-economic issues are identified as having potential benefits for St Helena;
- includes a sound justification as to why Horse Point has been selected as the preferred site for siting a Satellite Park.
- concludes that due to the "significant adverse effects of developing the proposed site on wirebirds and endemic invertebrates but bearing in mind the significant socio-economic benefits" of the development, the 5 options identified should be considered during decision making;
- recognising that option 1 (no-go) is unlikely to be supported due to the significant socio-economic benefits of allowing the development and therefore recommends combination of options 3 (avoid sensitive areas), 4 (minimise impacts) and 5 (offset to provide additional conservation benefits); and
- to ensure the best possible outcome, if this development application is approved, then a formal dialogue with local environmental specialists and interest groups is established.

also expected and this will also be assessed and report in the addendum to this report.

G. MATERIAL CONSIDERATION

With the landing of the fibre optic cable to the Island, the Island will be provided with fast broadband internet across the globe. With this installation the development of the satellite earth station can provide wider satellite coverage in the South Atlantic Ocean.

The landing of the fibre optic cable does not guarantee cheaper internet for Island. However with future development of the satellite earth station on the Island there is a potential for cheaper internet.

The construction of the development will provide some boost to the local economy with procurement and local training and employment. There will also be job in respect of the future maintenance of the Space Park. Whilst there may be other sites and/or locations that may be more appropriate for such a development is an important consideration, however, the applicant considers that of the all the sites that have been assessed, his application site provides the optimum location as it is also most easily accessible.

The application site is an important ecologic site, however, its environmental value and ecological condition has never been adequately mange and/or realised. With the proposed development, there is the opportunity to address this situation and with the commitment of the applicant to provide the resources to enhance the ecological value of the site. There is therefore opportunity for *de facto* protection for the protected species at least within the application site post construction as the site will be fenced to provide protection to Wirebird from predators and there will be control on the vegetation and future planting that will benefit the invertebrates in the area.

H. CONCLUSION AND RECOMMENDATION

The development application for the Satellite Earth Station presents many challenging issues which have been discussed in details and this also includes the number of issues raised by the stakeholders on the level of detail and lack of detail in the proposed development. In principle, the proposed development is supported by the various LDCP policies that have been set out in the report, however the issues that remains is assessment against Coastal Zone Primary Policy and whether the EIA report assessing the impact of the proposed development on the local environment is sufficient. The assessment of the EIA report has highlighted some local environmental concerns, however before development commencing the applicant will be required to undertake further assessment work that will include walk over the application site, site preparation works and erection of fencing to control the movement of invertebrates.

The condition and ecological environment of the application site will need to be monitored. The level of detail provided by the applicant on the layout of the development is adequate to make a decision on the proposed development, however further design and construction details of the antennae base (platform) would be conditioned, as will the design of the security fence and details of the service trenches. The applicant will need to ensure that conditions included with approval, should the

proposed development be granted development permission, are discharged appropriately.

Whilst there are concerns raised with regard to the impact on the local ecology, in particular the fungus weevil that was sighted in the earlier survey, however in the subsequent follow-up surveys there have been no sightings. One of the options in this respect set ou in the EIA report is that the development should not proceed on this site. However, the EIA report also considers that considerable care should be taken during construction with stringent mitigation conditions to enable the development to proceed.

The survey information on the site and assessment of the potential impact arising from the prosed development on the number of environmental factors and activities is comprehensive for the construction stage of the development and for the operation of the use. There are number of factors that have considerable adverse impact on the local environment, however with the appropriate level of mitigation there is reduction in the adverse impact. Similarly, there is also positive outcome for number of factors arising from the proposed development and these relate mainly to economic growth and prosperity and social benefits to the community.

It is concluded that, there is some support from the principle policy of the LDCP for the proposed development as set in the report. It is also considered that there is sufficient justification in the number of other development plan implementation policies to support the proposed development. The proposed development will have effect on the ecology of the area because this is a greenfield site which has had no development activity, however, there are number of developments and operations in close vicinity to the site. The application site and the general area also has number of access track across the area that are frequent by vehicles and these can be damaging to the environment and ecology of the area. The development application can be supported as successful implementation could provide long-term ecological benefits to this area as well as the economic benefits that can enable further investment on the Island and encourage economic growth and prosperity in number of sectors including tourism.

In view of this and in accordance with Section 23 of the Ordinance, the development application needs to be referred to the Governor-in-Council for a decision. The views and comments of the Authority will be conveyed to the Governor-in-Council for consideration for a decision.

REFERRAL TO GOVERNOR-IN-COUNCIL

The Application is to be referred to Governor-in-Council in accordance with S23(2)(b)(i) of the Ordinance as the grant of development permission must be considered as a departure from the LDCP Coastal Zone and Natural Heritage policies. The proposed

development is within Coastal Zone policy area and the use is not directly related to tourism activity or can be classified as being essential infrastructure and the application site is also within a designated National Conservation Area. However, it also needs to be acknowledged that the policies do allow for development in such areas if it can be demonstrated that it provides economic benefits to the Island.