

# SPACE HUB SUTHERLAND

Environmental Impact Assessment Report: Volume 1: Non-Technical Summary February 2020



























Pell Frischmann



# HIGHLANDS AND ISLANDS ENTERPRISE

# WHO WE ARE

Highlands and Islands Enterprise (HIE) is an ambitious organisation with a unique remit from the Scottish Government that integrates economic and community development.



HIE is the Scottish Government's economic and community development agency for the Highlands and Islands of Scotland. This diverse region extends from Shetland to Argyll, and from the Outer Hebrides to Moray - more than half of Scotland's land mass.

HIE aims to build a highly successful, inclusive and prosperous region in which increasing numbers of people choose to live, work, study and invest. Its three complementary priorities are to: grow successful, productive and resilient businesses; create the conditions for growth, and build strong, capable and resourceful communities.

## WHY ACCESS TO SPACE?

The National Space Policy sets out the UK's commitment to establish a spaceport in the UK to enable access to space from the UK. The Government's ambition is to establish small satellite launch activities and/or suborbital spaceflight operations from the UK and to grow the value of the UK Space Sector. Such a facility would be an economic development project bringing income and employment into remote areas and helping to achieve the Government's space objectives.

Since the 1980s, studies have acknowledged that the far north of Scotland is the only region in the UK that could be capable of supporting a vertical launch spaceport, and one of the few sites across Europe. This suitability is dictated by geography, the physics of the launch itself and flight safety.

Since 2014, HIE has been exploring the possibility of establishing a vertical launch facility and have undertaken a number of high level site selection exercises. This evaluation process included early project initiation work, feasibility studies, participation in a call from the National Space Technology Programme (NSTP) and submission to the UKSA call for Grant proposals for Spaceports and Launchers. One of the reports for the NSTP evaluated 12 sites across the north of Scotland, including A' Mhòine, and included a commercial evaluation of the sites, as well as evaluation of a range of wider issues such as technical, logistics, available labour and environmental considerations. The UKSA call for Grant for Spaceports and Launchers brought forward 26 proposals from across the UK. Two proposals – from Lockheed Martin and Orbex – were successful and both proposed to launch from Sutherland.

# PROJECT OVERVIEW

The aim of the project is to provide low cost access to space, as well as providing income and employment into remote areas and helping achieve the Government's space objectives.

#### INTRODUCTION

Highlands and Islands Enterprise (HIE) has applied for planning permission to construct and operate a new proposed spaceport facility at A' Mhòine. The project is referred to as Space Hub Sutherland (hereafter referred to as the "proposed development") and would include a Launch Operations Control Centre, a Launch Site Integration Facility, the launch pad complex, access road, fencing and services.

#### **ENVIRONMENTAL IMPACT ASSESSMENT**

An Environmental Impact Assessment Report (EIAR) has been prepared to support the application for a planning permission. The purpose of the EIAR is to document the potential for significant environmental effects as a result of the proposed development and to specify mitigations to avoid or reduce significant effects. This document provides a Non-Technical Summary (NTS) of the EIAR.

The aim of the NTS is to summarise the content and main findings of the EIAR to assist the public in understanding the likely environmental effects associated with the proposed development. The full EIAR provides a more detailed description of the proposed development and the findings throughout the EIA process.

#### LIKELY SIGNIFICANT EFFECTS

The EIA process is designed to identify significant environmental effects resulting from the proposed development. Significant effects associated with the construction, operation and decommissioning of the proposed development are described by this NTS.

#### **FURTHER INFORMATION**

The application documents, including this EIAR, are available to download through The Highland Council's Planning Portal (<a href="https://wam.highland.gov.uk/wam/">https://wam.highland.gov.uk/wam/</a>) or the project website (<a href="https://www.spacehubsutherland.co.uk">https://www.spacehubsutherland.co.uk</a>). The EIAR is available in other formats if required. For details, including costs, contact June Love at Highlands and Islands Enterprise, Tollemache House, High Street, Thurso, Caithness, KW14 8AZ.

The planning application, including the EIAR and associated documents, will be available for viewing at the following public locations.

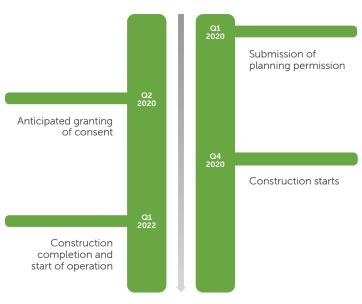
Kyle Centre, Tuesday: 9:00 am - 3:00 pm,
Tongue, Wednesday: 9:00 am - 1:00 pm;
Lairg, Thursday - Friday: 9:00 am - 3:00 pm;
IV27 4XA Saturday - Monday: CLOSED.

Talminne Post Office,

Talmine, Monday to Friday: 8:30 am - 5:30 pm; Sutherland, Saturday: 8:30 am - 4 pm; Lairg, Sunday: CLOSED.

IV2<u>7 4YP</u>

#### PROJECT TIMELINE

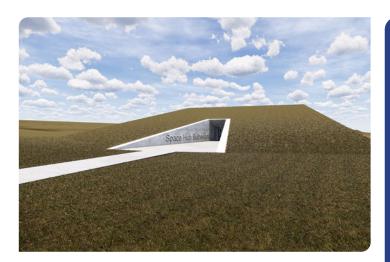


# PROJECT DESCRIPTION

The proposed development is located at A' Mhòine, approximately 4 km south west of the settlement of Melness in northern Scotland. The location of the proposed development is illustrated on page 6.

The site boundary for the proposed development covers 307 hectares, although the area of the site directly effected by the proposed development is approximately 4.2 hectares.

The proposed development would be operated by a Launch Site Operator (LSO) to launch small satellites into high inclination orbits. The design of the proposed development allows for launch campaigns by multiple Launch Service Providers (LSPs) using different Launch Vehicles (LVs).



#### SUMMARY OF THE PROPOSED DEVELOPMENT

The proposed development would consist of the following key infrastructure:

- Launch Operations Control Centre (LOCC): A building where launch and range control activities will take place;
- Launch Site Integration Facility (LSIF): A building where the LVs are assembled, and the payload is integrated into the LV;
- Launch Pad Complex: This incorporates the launch pad, ground services equipment, lightning tower, fuel storage and water tanks for launch operations;
- Antenna Park: An area of hardstanding where telemetry and tracking radar devices will be located for launch operations;
- Access Road: A new access road to provide access from the A838 to the LOCC, the LSIF and Launch Pad Complex;
- Fencing: Certain areas of the proposed development would be fenced;
- Services: New primary services such as electricity will need to be run to the site.

#### **CONSTRUCTION ACTIVITIES**

It is anticipated that construction would start in late 2020 and be completed in early 2022. The construction phase would comprise initial enabling works to prepare the site for the construction of the proposed development followed by the main construction activities. All temporary site infrastructure required during the construction phase would be located on the footprint of what would be the permanent infrastructure. A Construction Site Licence will be obtained by the Principal Contractor for the operation of the construction site and all works would be subject to a Construction Environmental Management Plan (CEMP), including monitoring of works by an Environmental Clerk of Works (ECOW) and associated Construction Method Statements (CMS) to minimise environmental impacts during this period.

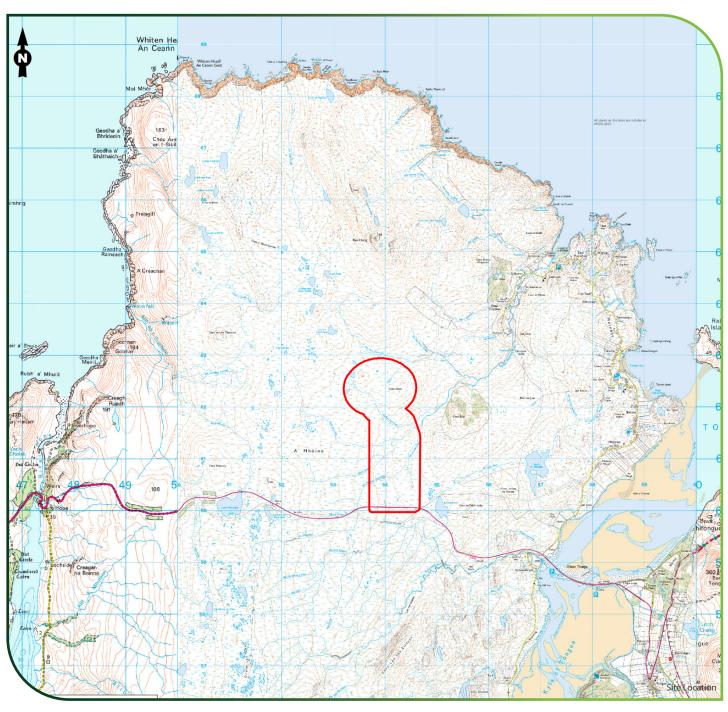
#### **OPERATIONAL ACTIVITIES**

A representative launch scenario has been defined by the EIAR which is expected to represent typical operational activities. The operational phase would consist of the delivery of the LVs, satellites, fuel and commodities to the site, assembly of the LVs and integration of the satellites at the LSIF building, transfer of the LV to the launch pad, fuelling and preparation of the LV for launch, launch of the LV, clean-down of the facility. A launch operation from commencement to successful launch would run for approximately four to six weeks and it is anticipated that there would be up to 12 launches per year. All operational works would be subject to an Operational Environmental Management Plan to minimise the environmental impacts during this period.

#### **DECOMMISSIONING ACTIVITIES**

The proposed development would not have a pre-determined operational life. It is assumed that the proposed development could be operational for 50 years or more. A Decommissioning Plan would be prepared following a period of five years' inactivity at the site.

# **SITE LOCATION**



Legend

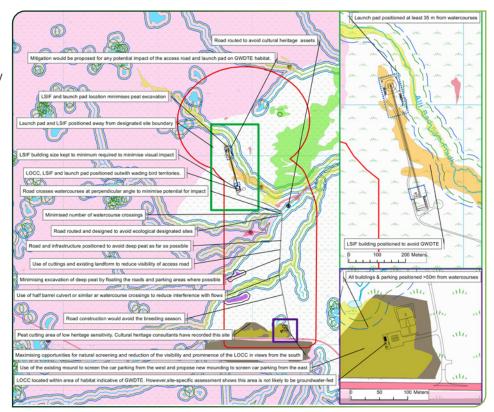
Site Boundary

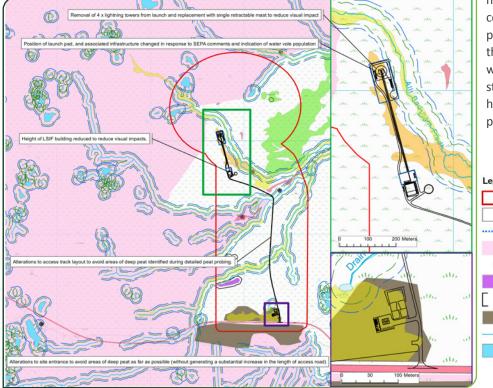
# **DESIGN EVOLUTION**

### The EIA Report provides details on the reasons for the final design option selected for the proposed development.

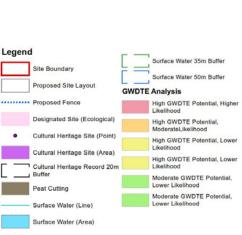
The key design objectives were to:

- Minimise visibility from the designated landscapes, sensitive landscape character areas and receptor locations including key transportation and recreational routes;
- Minimise the intervisibility with other installed, consented and proposed developments;
- Avoid direct disturbance of European and nationally designated sites and their features;
- Avoid areas of good quality blanket bog and minimise potential impacts on groundwater dependent ecosystems;
- Avoid watercourses wherever possible and minimise the number of watercourse crossings;
- Avoid direct impacts on known cultural heritage assets;
- Avoid noise impacts on nearby sensitive human and ecological receptors;
- Achieve a site layout which is viable from both launch trajectory and safety perspective.





The design of the proposed development has evolved in response to consultation comments received in the pre-application period, including those received as part of the EIA Scoping Opinion and engagement with Statutory Consultees and other stakeholders. The ways in which the project has responded are shown In Figures on this page.



# SEASCAPE, LANDSCAPE AND VISUAL AMENITY

The landscape in the vicinity of the proposed development is typified by undulating moorland and peatland containing numerous watercourses and lochans. However, this is interrupted to the north of the site by the elevated summit of Ben Hutig, which forms a local landmark and focal point. The wider area is characterised by undulating moorland as well as mountains and the coastline of the A' Mhòine and Kyle of Tongue bay with a mix of rocky cliffs, small beaches and croft fields.

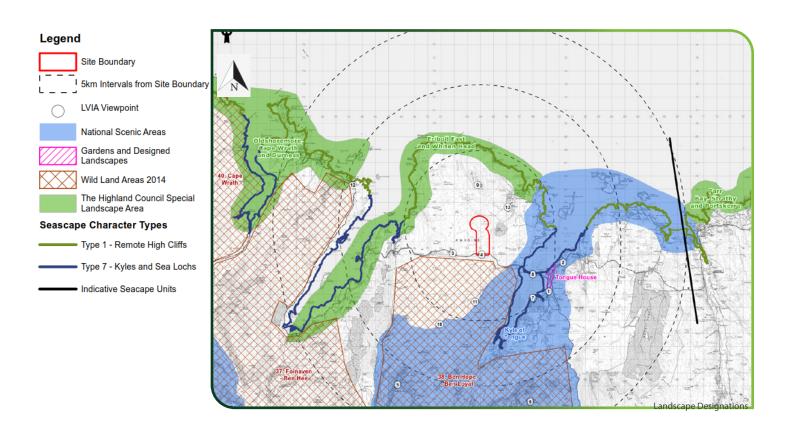
#### POTENTIAL RECEPTORS

Sensitive receptors identified include visual receptors such as walkers, cyclists, road users, settlements, places of work, visitors and loch and coast users. Additionally, the Landscape Character Types, Kyle of Tongue National Scenic Area and Eriboll East and Whiten Head Special Landscape Area and Ben Hope to Ben Loyal Wild Land Area have been identified.

#### **POTENTIAL EFFECTS**

There are potential sources of seascape, landscape and visual effects during the construction of the proposed development and the assessment of these has concluded that temporary significant impacts would be associated with disturbance, construction lighting and vehicle activity. However, it was noted that these impacts would be temporary, and short term.

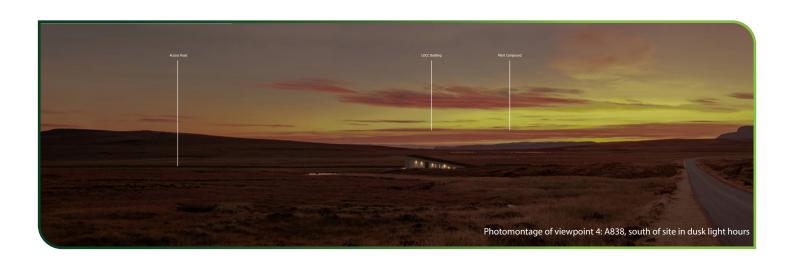
The assessment also concluded that significant impacts would be associated with the operational phase as a result of increased vehicle activity and noise and light disturbance impacts during a launch event. However, it was noted that these impacts would be of short duration and occur up to 12 times per year



Figures below are examples of visualisations provided to support the assessment of Landscape and Visual effects. All visualisations can be found in the EIA Report Volume 3b.







# **ECOLOGY AND NATURE CONSERVATION**

#### **DESIGNATED SITES**

The site boundary is overlapped by one SAC, one SPA, one Ramsar site and by two SSSIs. There are no other SACs or Ramsar sites or SSSIs within 3 km. These sites are:

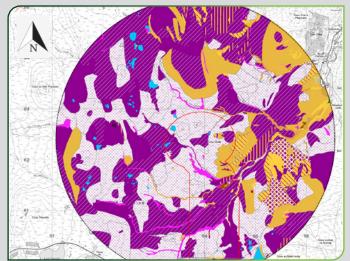
- Caithness and Sutherland Peatlands SAC
- Caithness and Sutherland Peatlands SPA & Ramsar site
- Ben Hutig SSSI
- A' Mhòine SSSI



## **BASELINE HABITAT**

Habitat on the site is dominated by blanket bog, mainly in a modified or semi-modified state. Other habitats include wet heath on shallow peat, acidic flushes, one alkaline flush, continuous bracken and a small amount of dry heath. No montane heath, grassland or woodland occurs within the site.

Potential Ground Water Dependant Terrestrial Ecosystems (GWDTE) were recorded throughout the survey area. Protected species surveys identified water vole presence on the Allt Bad nam Fiadh and signs of otter activity on site (no resting places were identified). Deer are known to use the site and the local population is managed. Seal haul out areas are present along the coast to the north of the site.

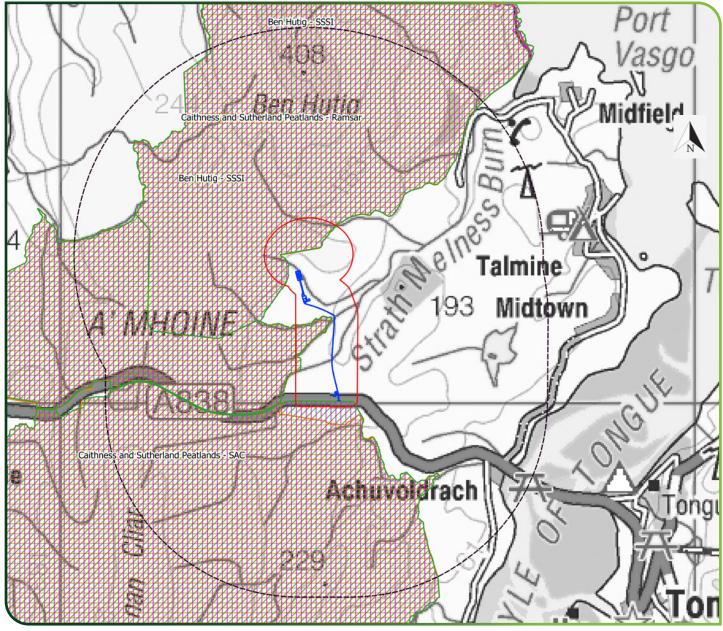


Phase 1 Habitat Map (please find legend on page 11)



#### **POTENTIAL EFFECTS**

Without application of mitigation, significant effects are predicted associated with fragmentation of otter and water vole habitat during construction, and disturbance of water vole through piling as part of construction and during launch activities. Following the application of mitigation, which includes implementation of a Habitat Management Plan, no residual effects are predicted on designated sites, protected species and non-invasive species. No effects which would be considered to be significant in EIA terms are identified for any stage of the proposed development.



Ecology Designations For Ecology Designation Map above

#### For Phase 1 Habitat Map on page 10 Legend Legend Site layout BM E3.2 - Fen - basin mire D2 - Wet dwarf shrub heath A1.1.1 - Broadleaved woodland - semi-natural G1 - Standing water 3km buffer D5 - Dry heath/acid grassland A1.1.2 - Broadleaved woodland - plantation I1.4.1 - Other exposure - acid/neutral Site boundary D6 - Wet heath/acid grassland A1.2.2 - Coniferous woodland - plantation D-E1.6.1 - Heath (wet/dry) Blanket bog mosaic Hard standing (roads & buildings) Sites of Special Scientific Interes A2.1 - Scrub - dense/continuous D-E1.6.1 - Heath (wet/dry) wet modified bog mosaic Survey boundary Special Areas of Conservation (S B1.1 - Acid grassland - unimproved Site boundary E1.6.1 - Blanket sphagnum bog Ramsar sites B4 - Improved grassland E1.6.1-E1.7 - Blanket & wet modified bog mosaic B5 - Marsh/marshy grassland E1.7 - Wet modified bog C1.1 - Bracken - continuous E2.1 - Flush and spring - acid/neutral flush D1.1 - Dry dwarf shrub heath - acid No.1-D1 - Dry heath - wet heath mosaic B E2.2 - Flush and spring - basic flush

# ORNITHOLOGY

#### **DESIGNATED SITES**

There are five sites with a statutory designation for ornithology, and with potential connectivity to the proposed development, within 10 km of the proposed development

- Caithness and Sutherland Peatlands SPA (CSPSPA)
- Caithness and Sutherland Peatlands Ramsar site
- North Sutherland Coastal Islands SPA
- A' Mhòine SSSI
- Ben Hutig SSSI



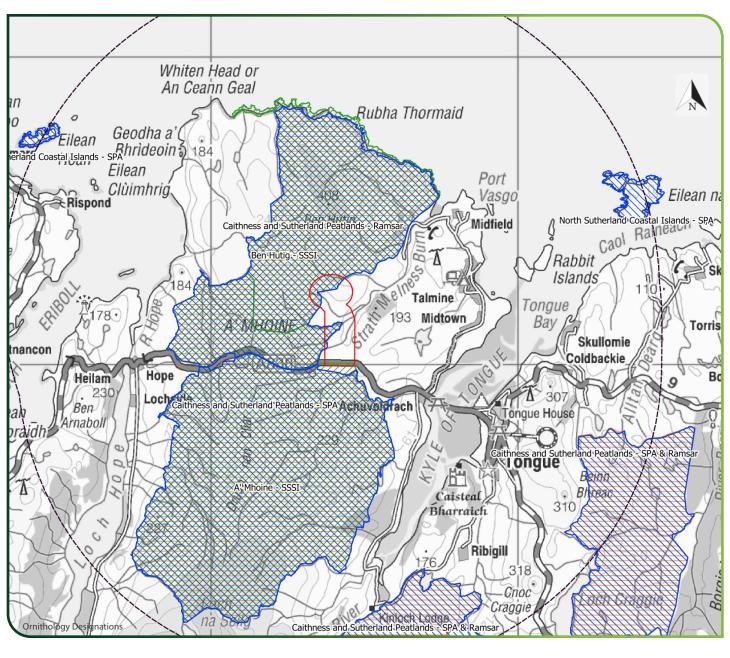
#### **BASELINE CONDITIONS**

Ornithological field surveys were carried out between 2017 and 2019 to collect information on bird activity in key locations where flight activity was predicted to coincide with the proposed development. The survey effort covered a study area that extended beyond the site boundary to ensure the broader ornithological context of the site was understood.

Bird species present in the study area include: golden eagle, white-tailed eagle, merlin, greenshank, redthroated diver, golden plover, greylag goose, peregrine, pink-footed goose, hen harrier, barnacle goose, short-eared owl and dunlin.

#### **POTENTIAL EFFECTS**

Without application of mitigation, significant effects on ornithological interests are predicted associated with disturbance and displacement, and damage or destruction of nests during the construction stage, and disturbance and displacement during operation of the proposed development. Following the application of mitigation, which includes implementation of Species Protection Plans, no residual effects are predicted on designated sites, and bird populations. No effects which would be considered significant in EIA terms are identified for any stage of the proposed development.



## Legend



# SUMMARY OF OTHER EFFECTS

## WATER RESOURCES

The water resources assessment concluded that in the absence of mitigation significant effects could arise during construction through the potential release of pollutants (oils, fuels or concrete), sedimentation and surface run off, interruption to surface water and shallow groundwater flows, direct loss of potential GWDTE area (in the launch pad area), indirect impact to potential GWDTE areas due to reduction in the quality or quantity of surface water and shallow groundwater flows, reduction in water quality through the release of sediments from the bed or banks of rivers, alterations to river morphology and natural function due to engineering, increase in flood risk at watercourse crossings and foul water.

The assessment also concluded that in the absence of mitigation significant effects could arise during the operational phase of the proposed development through the potential release of chemical pollutants, sedimentation and surface run off, interruption to surface water and shallow groundwater flows and fowl water.

The assessment of potential impacts has taken in to account the implementation of a detailed Construction Environmental Management Plan (CEMP) (outlined in EIAR Volume 4: Technical Appendix 2.1: Outline CEMP) and adherence to regulatory requirements and best practice guidance in relation to the surrounding hydrological conditions. It is anticipated that the implementation of such measures shall mitigate against most of the potentially significant effects identified. In addition, the implementation of the Habitat Management Plan (HMP) (EIAR Volume 4: Technical Appendix 5.8) shall ensure that direct loss of potentially groundwater dependent vegetation communities is suitably compensated.

Following the implementation of the proposed package of mitigation measures, the assessment of residual effects indicated that there would be no significant adverse effects on water resources associated with the construction and operation of the proposed development.



## **AIR QUALITY**

Consideration has been given to the potential impacts of the proposed development on air quality arising during the construction phase, upon operation from LV emissions and during decommissioning. Potential impacts have been predicted at representative ecological receptors in proximity to the proposed development and the nearest human health receptors.

During the construction works, there is the potential that emissions of dust arising from the application site could result in damage, through soiling, at nearby existing ecological receptors. However, with the implementation of suitable mitigation measures, which would be set out within a detailed CEMP, dust effects would be not significant.

The number of vehicles generated during the construction works has been estimated as 82 daily HGV movements during the peak construction phase, which would last for approximately two months. Following Institute of Air Quality Management (IAQM) guidance, the impact of the emissions from the construction phase traffic can be considered temporary and negligible, and not significant.

Air quality impacts once the proposed development is operational would arise due to emissions from the LVs associated with the proposed development. The assessment has shown that the assessed LV emissions would not result in a significant impact on air quality at existing human health receptor locations, where air quality with the proposed development operational is predicted to meet all relevant air quality objectives. The assessment has also shown that the proposed LV emissions would not result in a significant effect at the ecological receptors in proximity to the launch site.

## **NOISE**

The noise and vibration assessment concluded that there is potential for noise and vibration effects from construction activities, construction traffic, operational traffic, noise associated with the launch including sonic boom and fixed plant installation. However, only the noise associated with the launch is considered to have significant effect at the human receptors. It is also important to consider the nature of this noise source, which is predicted to occur for approximately the first 67 seconds of a launch event, with launches happening up to 12 times per year.

Due to the large distances between cumulative sites and the receptors no cumulative noise and vibration effects are considered likely.





#### Legend

Site Boundary



10km Outer Study Area



Scheduled Monument



Category A Listed Building



Category B Listed Building



Garden and Designed Landscape

## **CULTURAL HERITAGE**

Seven heritage assets were identified within the proposed development site, all of which are valued at no more than the local level and are of low or negligible sensitivity.

Taking into account the historic land use, it is assessed as unlikely that buried remains of archaeological significance survive within the site. The archaeological potential of the site is accordingly assessed as being low or negligible.

The proposed development has been designed to avoid most identified heritage assets within the site. The area of peat cutting (Ref 4 on EIAR Volume 3a: Figure 10.1), on either side the A838, will be crossed by the access road and is the proposed location of the LOCC building. No mitigation is required in relation to this direct impact and the residual effect on the peat cutting would be of no more than minor, which is considered not significant in EIA terms. Three shieling huts (Refs 1 to 3 on EIAR Volume 3a: Figure 10.1) would be marked out for the duration of the construction phase in order to ensure their preservation and there would be no residual effect on these heritage assets.

Predicted effects on the settings of heritage assets in the Outer Study Area (EIAR Volume 3a: Figure 10.2) are assessed to be of no more than minor, which is considered not significant in EIA terms.

There would be no residual adverse effects on cultural heritage assets resulting from noise and vibration or from increased traffic and transport volumes during either the construction or operational phase of the proposed development.

# SUMMARY OF OTHER EFFECTS

## **TRAFFIC**

The proposed development would lead to increased traffic volumes on a number of roads in the vicinity of the proposed development during both the construction and operational phases. An assessment of potential effects of the proposed development on traffic determined that mitigation measures would be required for both phases.

A potentially significant effect is predicted for the settlements of Tongue and Thurso during construction as a result of the increase in HGV movements. The principal mitigation measure would be the development of a Construction Traffic Management Plan (CTMP). The impacts and effects experienced during the construction phase would be temporary and transitory in nature and are considered to be not significant.

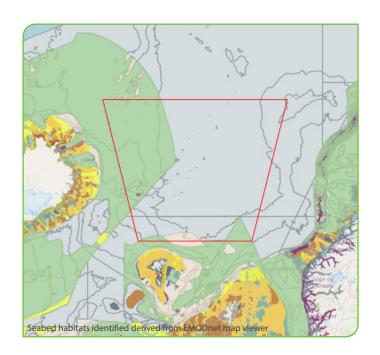
A discussion post consent would be held with THC Roads Department to consider the need for lengthening works at existing passing places on the single-track sections of the A836 to accommodate additional traffic flows during the construction and operational phases. To ease traffic management, it is suggested that more formal passing places and minor widening within the adopted road boundary are considered on both sides of the River Naver Bridge and that a priority control system is introduced using priority signs. The finalised locations and nature of passing place upgrades would be contained within the CTMP and measures would be constructed prior to the peak of construction activities occurring on site.

The potentially significant effects noted in the operational phase would only occur during launch days and are primarily caused by spectator traffic. To ensure public safety and efficient access along the A836 and A838, a Launch Day Traffic Management Plan (LDTMP) would be produced. The LDTMP would include measures such as road signage, public information protocol (including a website detailing dates and times of launches etc.), car parking plans for spectators, 'no parking' arrangements along the A838 and security arrangements. The LDTMP would be a live document and would be reviewed following each launch to review the operation, to learn from past events and to adapt to changes in spectator numbers. With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues.

## **TRANSBOUNDARY**

The transboundary risk assessment determined the likelihood and consequences associated with the deposit of LV components (e.g. LV stages, fairings) in the marine environment, and associated transboundary effects, during the operational phase of the development. Construction and decommissioning phases have been excluded from the assessment, as there is no pathway for these to have transboundary implications.

The Study Area for the assessment lies within Arctic waters and falls within the jurisdiction of several countries including Iceland, Faroe Island (Denmark) and Norway. The Study Area is considered an important area for a number of ecological receptors, even though it has been largely influenced by human activities and associated pollution incidents. At the same time, the Study Area is considered to be characterised by a relative low density of human infrastructure and activities.



Given the low number of anticipated launch events per year (up to 12) and anticipated ability of the receiving environment to cope with deposit of LV components generating debris (due to large open nature of the water body under consideration), overall risks for transboundary effects on water quality and ecological receptors are anticipated to be low and not significant. Similarly, assuming that some form of notice for mariners is issued prior to launch events, the overall risks for transboundary effects on humans and human activities are anticipated to be low and not significant. No further requirement for mitigation has been identified for during the operational phase of the proposed development.

# SUMMARY OF OTHER EFFECTS: CLIMATE

An assessment of the likely significant effects associated with the construction, operation and decommissioning of the proposed development on climate change was conducted. The assessment specifically considered climate change resilience, in-combination climate impacts and greenhouse gases (GHSs):

## **CLIMATE CHANGE RESILIENCE**

Potential impacts during construction include an increase in heavy rainfall events leading to surface water flooding, peat slip, erosion of stockpiles and damage to the work areas and construction materials. High temperatures and heatwaves could increase the amount of dust generated impacting on site personnel. However, with mitigation measures in place, such as the appropriate storage of materials on site, no significant effects are anticipated.

The climate resilience assessment has also identified several ways in which climate change has the potential to impact the operation of the proposed development. Potential impacts include increased frequency and severity of extreme heat which could increase the vulnerability to wild fires and reduce the effectiveness of peat restoration. With the implementation of mitigation measures no significant effects are anticipated. These measures are outlined in the Emergency Response Plan and Peat Management Plan (PMP) (EIAR Volume 4: Technical Appendix 5.9) respectively, including reuse of all peat excavated in construction for restoration of existing degraded peatland.



## IN-COMBINATION CLIMATE IMPACTS

Potential impacts during construction include an increase in the frequency of extreme rainfall events which lead to the exposure of site personnel to chemicals, fuels and propellants stored on site. However, with mitigation measures in place, such as appropriate storage of hazardous chemicals, no significant effects are anticipated.

The in-combination climate impact assessment has also identified a number of ways in which climate change has the potential to impact the construction of the proposed development. Potential impacts include an increase in the frequency of extreme rainfall events which lead to the exposure of site personnel to chemicals, fuels and propellants stored on site. However, with mitigation measures in place, such as appropriate storage of hazardous chemicals, no significant effects are anticipated.

## **GREENHOUSE GAS**

The high level greenhouse gas assessment has estimated the construction of the proposed development would result in approximately 16,852 tonnes of carbon dioxide equivalent emissions over the course of the 15-month construction period based on information available at the time of the assessment. IEMA best practice guidance states all GHG emissions contribute towards climate change and are significant. However, implementation of a PMP and CEMP in line with PAS2080 carbon emissions reduction hierarchy will contribute to reducing GHG emissions associated with the construction phase of the proposed development.

The greenhouse gas assessment has estimated the operation of the proposed development would result in approximately 950 tonnes of carbon dioxide equivalent emissions per year once the proposed development is completed based on information available at the time of the assessment (EIAR Volume 4: Technical Appendix 12.1).IEMA best practice guidance states all GHG emissions contribute towards climate change and are significant. However implementation of the PMP and specifically the reuse of peat excavated in construction for restoration of existing degraded peatland would offset any loss of peatland habitat associated with the proposed development.

# SUMMARY OF OTHER EFFECTS: MAJOR ACCIDENTS AND DISASTERS

The major accidents and disasters assessment identified credible Major Accident scenarios, associated with the proposed development, such as a catastrophic LV Failure on the Pad during operation or the release/spillage of a flammable substance on site, that could result in a Major Accident To The Environment (MATTE).

A MATTE is considered to be a significant adverse effect in EIA terms. Mitigation measures for Major Accident scenarios relate to the controls and management of activities associated with the construction, operation and decommissioning of the proposed development.

Mitigation measures for the construction phase include the implementation of a Construction phase HSE Management System (HSE MS), CEMP (during construction), spill containment and response arrangements and emergency response arrangements. Following the implementation of mitigation measures, residual adverse effects during the construction phase would be related to a MATTE resulting in a major fire on site (e.g. from release and ignition of a flammable substance) and/or escalation of this fire to offsite (e.g. ignition of peat, firewater runoff). Residual adverse effects during the decommissioning would be the same MATTE as identified for the construction phase.

Mitigation measures associated with the operational phase include the implementation of an Operational phase HSE MS, licencing and regulatory approval processes, design basis of facilities (designed in accordance with relevant codes and standards), instrumented protection and safeguarding systems (e.g. detection, isolation, shutdown), provision of secondary and tertiary containment, LV Validation, verification processes and emergency/spill response arrangements and maintenance, inspection, testing arrangements.

### POTENTIAL OPERATIONAL EFFECTS

Residual adverse effects during the operational phase which would be considered significant in EIA terms would be related to a MATTE arising from a LV anomaly resulting in physical damage to adjacent peat areas, presence of debris, contamination by propellent and payload hazards materials, ignition of peat; and release of commodities (BioLPG, RP-1, LOx) resulting in a major fire and/or escalation of this fire to offsite (e.g. ignition of peat, firewater runoff).



It should be recognised that the Major Accidents and Disasters potentially associated with the proposed development have a very low likelihood of occurring. All operational activities will be subject to stringent licencing control and regulatory oversight under existing safety and environmental regulations and the forthcoming secondary legislation which will implement the Space Industries Act 2018 (SIA).

# WHAT HAPPENS NOW AND HOW DO I HAVE MY SAY?

An application for planning permission, including an EIAR prepared to meet the requirements of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, has been submitted to The Highland Council to construct and operate a spaceport facility, known as Space Hub Sutherland, at A' Mhòine.

#### **FEEDBACK**

All representations on the application may be submitted via



Online via The Highland Council's online Planning Portal at (https://www.highland.gov.uk/wam/)



Post to e-Planning Centre, Council Headquarters, Glenurquhart Road, Inverness IV3 5NX identifying the proposed development and specifying the grounds for representation.

Written or emailed representations should be dated, clearly stating the name (in block capitals), full return email and postal address of those making the representations.

All comments should be received not later than the date falling **30** days from the date of the print publication notices placed in The Northern Times and Edinburgh Gazette, although The Highland Council may consider representations received after this date. Any additional information which we will submit will be subject to further public notice, and further comments will be accepted.

#### INFORMATION

Information will also be made available via the project webpage and social media channels:

#### **Project Website:**

https://www.spacehubsutherland.co.uk/

#### **Follow us on Twitter:**

@SpaceSutherland





FOR MORE INFORMATION CONTACT spacehubsutherland@hient.co.uk





