

SHORTLIST FOR DATA CENTRE SITE DEVELOPMENT

Scottish Futures Trust/Host in Scotland, Crown Estate Scotland and Scottish Enterprise – Revision 1



#SCOTLAND|SNOW

CONTENTS

SITE SHORTLIST REPORT

Section (including site / council area)	Potential Use	Contact Details	Page
Site Shortlist Summary			4
Arnish, Lewis & Harris, Na h-Eileanan Siar	Hyperscale / Edge / Cable Landing Station	jmacphee@cnc-siar.gov.hk	10
Blackhillock, Moray	Hyperscale	larry.irwin@struttandparker.com	17
Chapelcross, Dumfries and Galloway	Hyperscale / Edge	tony.smithers@nda.gov.uk	22
Cockenzie Power Station, East Lothian	Hyperscale / Edge / Cable Landing Station	dproudfoot@eastlothian.gov.uk	27
Dounraey, Highland	Hyperscale / Edge / Cable Landing Station	tony.smithers@nda.gov.uk	34
Fearn Airfield, Highland	Hyperscale	allan.maguire@highland.gov.uk	39
i3, Irvine, North Ayrshire	Hyperscale / Edge	marnieritchie@north-ayrshire.gov.uk	44
Machrihanish, Campbeltown, Argyll and Bute	Hyperscale / Edge / Cable Landing Station	malcolm@maccdl.co.uk	51
MeyGen Data Centre, Caithness, Highland	Hyperscale / Edge / Cable Landing Station	AlexReading@greenhighland.co.uk	57
Michelin Scotland Innovation Parc, Dundee	Hyperscale / Edge	colin.arnold@msipdundee.com	62
Peel Ports Hunterston, North Ayrshire	Hyperscale / Edge	andrew.Martin@peelports.com	69
Pyramids Data Centre, Bathgate, West Lothian	Hyperscale	swm@ashfieldland.co.uk	75
Queensway Park Data Centres, Fife	Hyperscale / Edge	alan.oconnor@QPDC.co.uk	81
Scatsta Airport, Shetland Islands	Hyperscale / Cable Landing Station	marvin.smith@shetland.gov.uk	86
Zero Four, Montrose, Angus	Hyperscale / Edge	jamie.Macfarlane@crownestatescotland.com	91

PREFACE

SITE SHORTLIST REPORT

This report has been commissioned by Scottish Futures Trust/Host in Scotland, Crown Estate Scotland and Scottish Enterprise in order to provide an overview of potential data centre locations in Scotland. The work responds to the Green Datacentres and Digital Connectivity Vision and Action Plan (<https://www.gov.scot/publications/green-datacentres-and-digital-connectivity-vision-and-action-plan-for-scotland/>) which contains an action to complete a strategic datacentre analysis.

The first shortlist report was issued in March 2021 following a period when site visits to some remoter locations were impacted by COVID 19 travel restrictions. This latest revision has allowed potential locations in the Highlands and Islands to be included whilst also providing an opportunity to review some new sites. Whilst this revision incorporates the best sites for data centre development from both rounds of work, it should be noted that it is not exhaustive and we continue to look to add other sites.

We consider that this work will provide a reliable starting point and guide to investigate data centre opportunities and carry out further due diligence. We also believe that this report will be of interest to current data centre owner/operators in Scotland as well as potential new entrants to the market. Furthermore, the report may be of value to potential infrastructure providers and investors to consider future potential opportunities and demand/business cases in Scotland. This report adds to the existing suite of documentation that is available on www.hostinscotland.com in respect of data centre and subsea infrastructure development in Scotland and readers are encouraged to read this document in conjunction with that material.

The work has been undertaken by TechRE, a specialist data centre consultancy that provides advice to existing and prospective data centre owners, occupiers and investors. The study uses a methodology and approach which is consistent with how the data centre industry identifies sites for further detailed due diligence. This included a desk-based study of potential sites, and importantly, site visits to validate information.

All sites included within the Site Shortlist Report are considered as good potential sites for data centre development. Whilst some sites have received an amber flag for connectivity, this is a reflection of the current terrestrial connectivity across Scotland nationwide but particularly in some rural locations. However, these sites have still been shortlisted given their other unique attributes for data centre potential and future upgrades of infrastructure may be possible, noting the planned digital infrastructure underway, for example through the R100 and DSSB Programmes that could generate additional opportunities.

Similarly, some sites were given an amber flag for natural hazard exposure reflecting data output from the Scottish Environment Protection Agency (SEPA) and from a CatNet assessment. CatNet is a propriety geo risk tool developed by the global insurance company, Swiss Re. In such cases of amber rating, we have recommended further due diligence is required and landowners may be able to provide more detailed evidence or mitigation works to demonstrate such risk is acceptable.



Host in Scotland

**SCOTTISH
FUTURES
TRUST**



**Crown Estate
Scotland**
Oighreachd a' Chrùin Alba



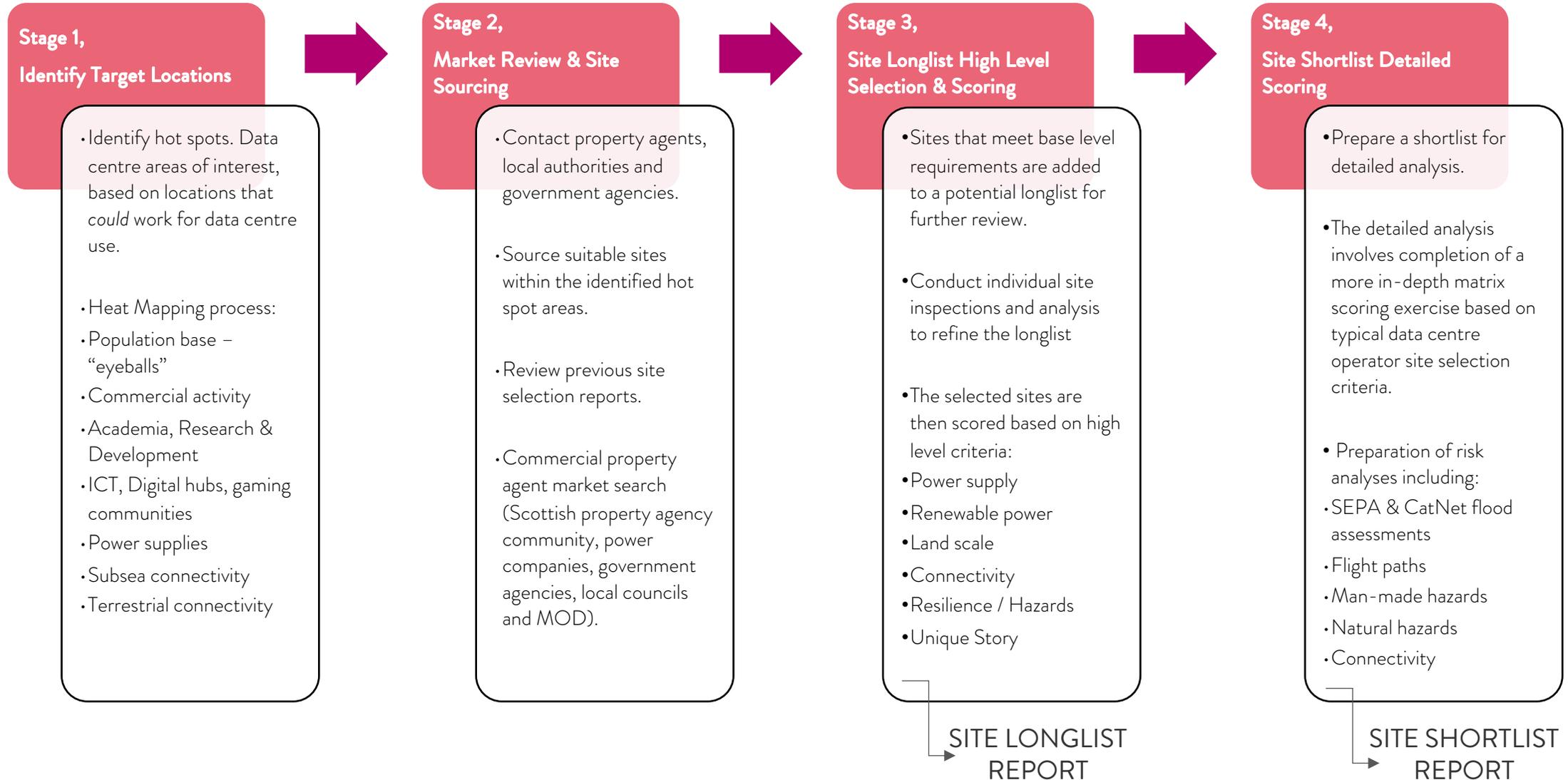
Scottish Enterprise

SITE SHORTLIST SUMMARY

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METHODOLOGY

THE PROCESS



METHODOLOGY

DETAILED NOTES

Stage 1, Identify Target Locations

- Involved the preparation of heat maps identifying existing data centre activity and areas of potential demand from a range of generators. Layering this information over one another yielded broad areas of interest for subsequent data centre search

Stage 2, Market Review & Site Sourcing

- Sourced sites by contacting local authorities; selective property companies; power companies; the Ministry of Defence; as well as multiple individual agents
- Reviewed past reports and surveys such as data centre site selection studies by commissioned property agents

Stage 3, Site Longlist High Level Selection & Scoring

- Sourcing led to a potential longlist pool of over 80 sites in the first round of work, subsequently reduced to a pool of 36 sites following further refinement via analysis and validation. This revision involved a further 40 sites added to this bank, all of which were individually visited.
- The merged longlist sites were then reviewed with added new sites assessed as before across a range of indicators to be either a green, amber or red reflecting a site's attributes from strong to less favourable. Indicators included:
 - power supply: primarily assessed the conventional power supply that could currently be provided to the site
 - renewable power: assessed the potential for power to be provided by green and/or sustainable power
 - land scale: assessed not just the size of area available but also the capacity a site had for future expansion
 - connectivity: assessed both subsea and terrestrial fibre connectivity. For the long list assessment, whilst connectivity to many sites were considered to be inadequate, sites were still given an amber status adopting a positive view that this could be upgraded in time.
 - resilience / hazards: assessed the potential impact from natural, industrial or other hazards in the locality including reference to the tier classification under COMAH (Control Of Major Accident Hazards) regulations;
 - unique story: assessed the capacity of a site to offer a compelling proposition for data centre development such as scale married to a large scale renewable or speed to market combined with green energy
- A small number of sites were removed given that they were no longer available. All sites were scored with the highest ranking going forward to a short list and the remaining sites forming a long list kept at 36 in number in this revision, made up from both rounds of work.

Stage 4, Site Shortlist Detailed Scoring

- The updated shortlist comprises 15 sites with 5 sites emerging from the revision. New sites were subject to more detailed analysis as undertaken before in the first report, including an appraisal of risk from natural and man-made hazards to further verify site suitability
- Connections to the terrestrial fibre network were assessed by FarrPoint connectivity consultants who advise on the strategy, procurement and implementation of digital technology
- All the updated shortlisted sites are considered to offer a unique story for data centre development

SITE SHORTLIST SUMMARY

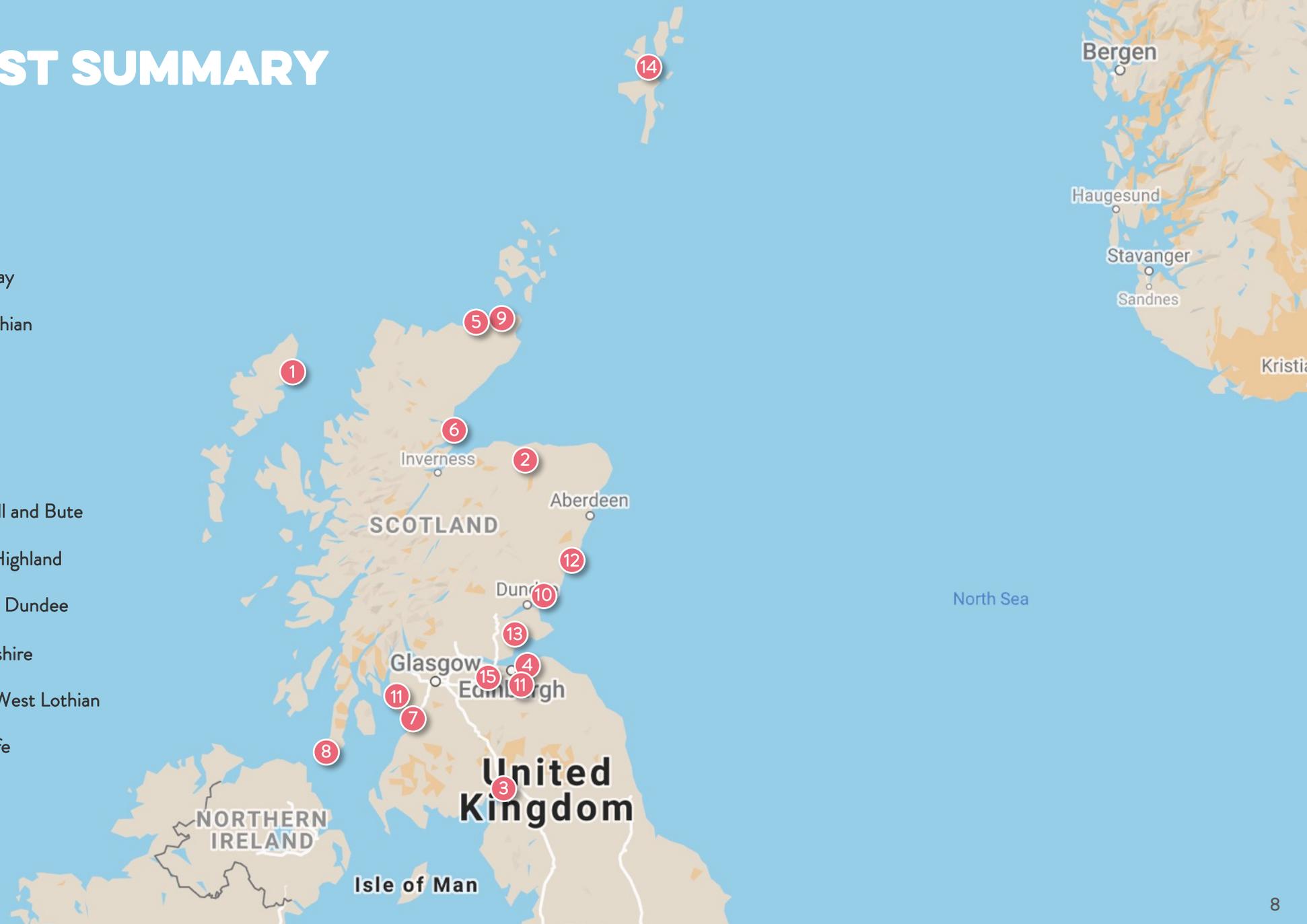
MATRIX SCORING

	Site Name & Council area	Type	Land scale	Power Supply	Connectivity	Renewable Power	Resilience / Hazards	Unique Story
1	Arnish, Lewis & Harris, Na h-Eileanan Siar	Land						
2	Blackhillock, Moray	Land						
3	Chapelcross, Dumfries and Galloway	Land						
4	Cockenzie Power Station, East Lothian	Land						
5	Dounraey, Highland	Land						
6	Fearn Airfield, Highland	Land						
7	i3, Irvine, North Ayrshire	Mix						
8	Machrihanish, Campbeltown, Argyll and Bute	Land						
9	MeyGen Data Centre, Highland	Land						
10	Michelin Scotland Innovation Parc, Dundee	Powered Shell						
11	Peel Ports Hunterston, North Ayrshire	Land						
12	Pyramids Data Centre, Bathgate, West Lothian	Powered Shell						
13	Queensway Park Data Centres, Glenrothes, Fife	Land						
14	Scatsta Airport, Shetland Islands	Land						
15	Zero Four, Montrose, Angus	Land						

SITE SHORTLIST SUMMARY

MAPPING

- 1 Arnish, Na h-Eileanan Siar
- 2 Blackhillock, Moray
- 3 Chapelcross, Dumfries and Galloway
- 4 Cockenzie Power Station, East Lothian
- 5 Dounraey, Highland
- 6 Fearn Airfield, Highland
- 7 i3, Irvine, North Ayrshire
- 8 Machrihanish, Campbeltown, Argyll and Bute
- 9 Meygen Data Centre, Caithness, Highland
- 10 Michelin Scotland Innovation Park, Dundee
- 11 Peel Ports Hunterston, North Ayrshire
- 12 Pyramids Data Centre, Bathgate, West Lothian
- 13 Queensway Park Data Centres, Fife
- 14 Scatsta Airport, Shetland Islands
- 15 Zero Four, Montrose, Angus



UPDATED SITES

NOTES

Revision Update

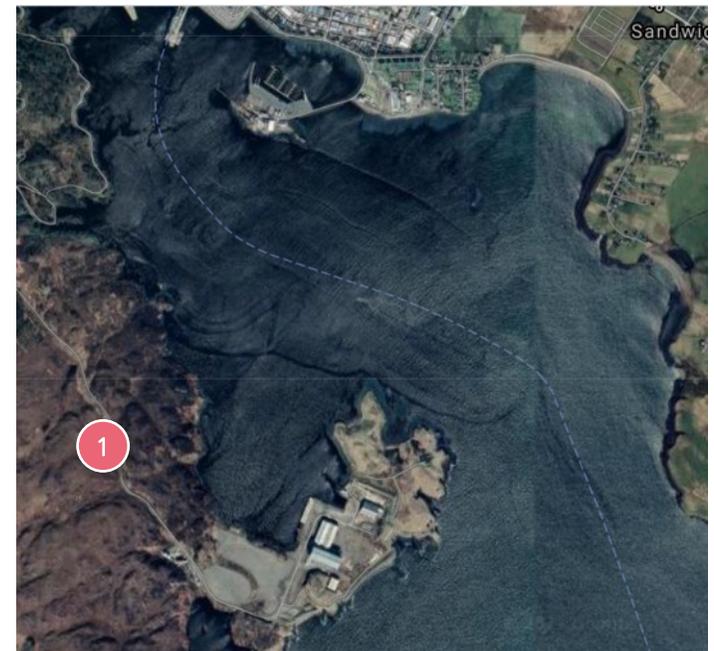
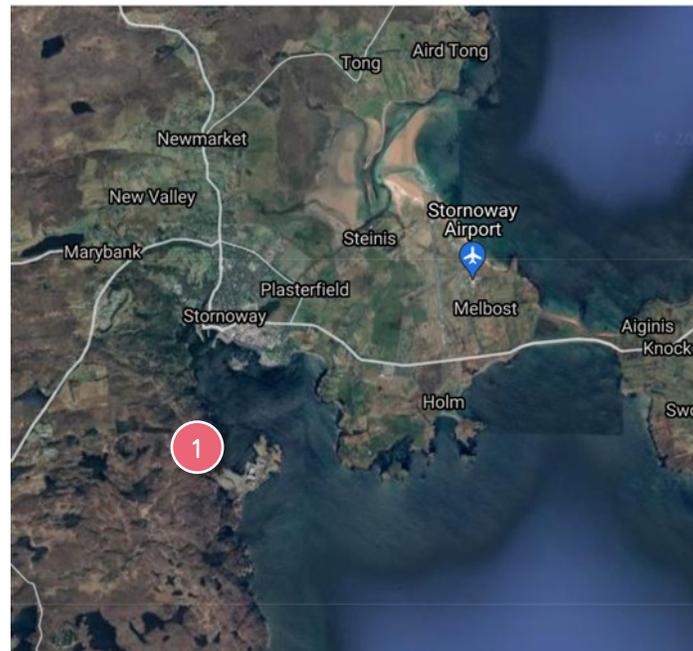
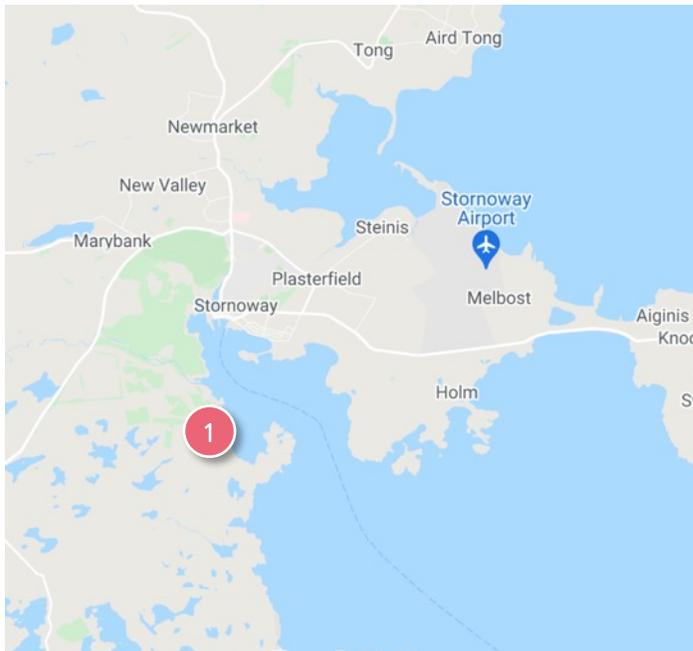
- This updated report involved inspecting sites in the Highlands and Islands that were previously unreachable due to COVID 19 travel restrictions as well as new potential locations that emerged since the issue of the first report taking into account recent subsea connectivity investigations across Scotland.
- The update followed a similar process to the first report including in the first instance a heatmapping exercise identifying key data centre criteria such as access to renewable power, subsea cable landing points, main centres of economic activity and other demand drivers. The heatmaps help to identify strategic locations most suitable for data centre development.
- A further 40 sites were identified in the update by using sources and inputs from agents, local authorities and the wider property community. All of these were individually inspected and assessed in a consistent format following the same process as previously adopted.
- This revision also shows nearby commercial flight paths when sites were located less than 50 km from an international airport or 20 km from a domestic airport. Whilst flight path information was assessed in the first report, the analysis coincided with a period of reduced airline schedules due to Covid 19 restrictions, prompting a need to review this hazard assessment again to confirm the level of risk.
- Five new sites were added to the shortlist including Arnish, Blackhillock, Dounraey, Fearn Airfield and Scatsta Airport. Two sites from the previous shortlist were removed following a fresh scoring review taking into account the pool of all new long list sites or following a change in their availability.

SHORTLIST
ARNISH

#SCOTLAND|SNOW

ARNISH OVERVIEW

Site Overview	An opportunity to develop a data centre as part of the Green Outer Hebrides Energy Hub close to a new Deep Water Terminal (to be completed in 2023) with access to substantial offshore and onshore wind power				
Scale: 119 Acres	Power: Abundant renewable energy (wind + hydrogen)	Connectivity : Limited but subsea fibre present	Renewables: Potential for 5GW from offshore wind	Hazards: None observed in close proximity	Use: Hyperscale / Edge / Cable Landing Station
TechRE Comments	This site offers significant potential for hyperscale use with an opportunity to develop a private wire connection to huge offshore wind power. There are other green options as well as abundant space available. Note, more diverse subsea and terrestrial fibre will be needed to develop the site.				



ARNISH

IMAGES



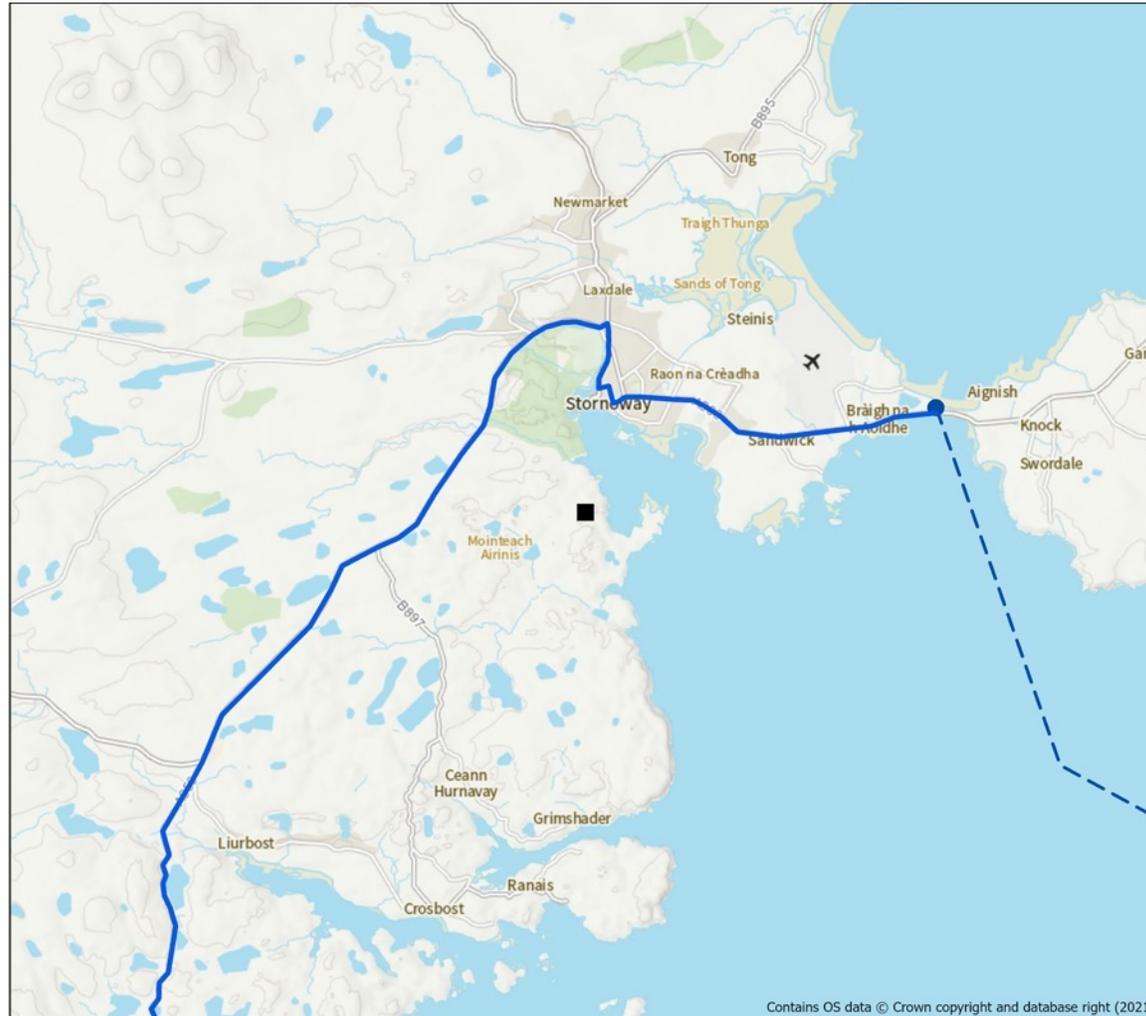
ARNISH FIBRE



Arnish

Legend

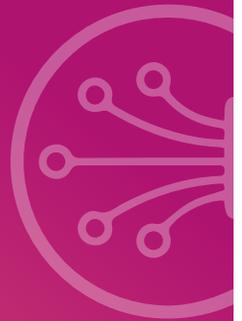
- BT Fibre Routes (Estimated)
- - Sub-sea Telecom Cables (Estimated)
- Sub-sea Telecom Terminals (Estimated)
- Data Centre Sites



Notes

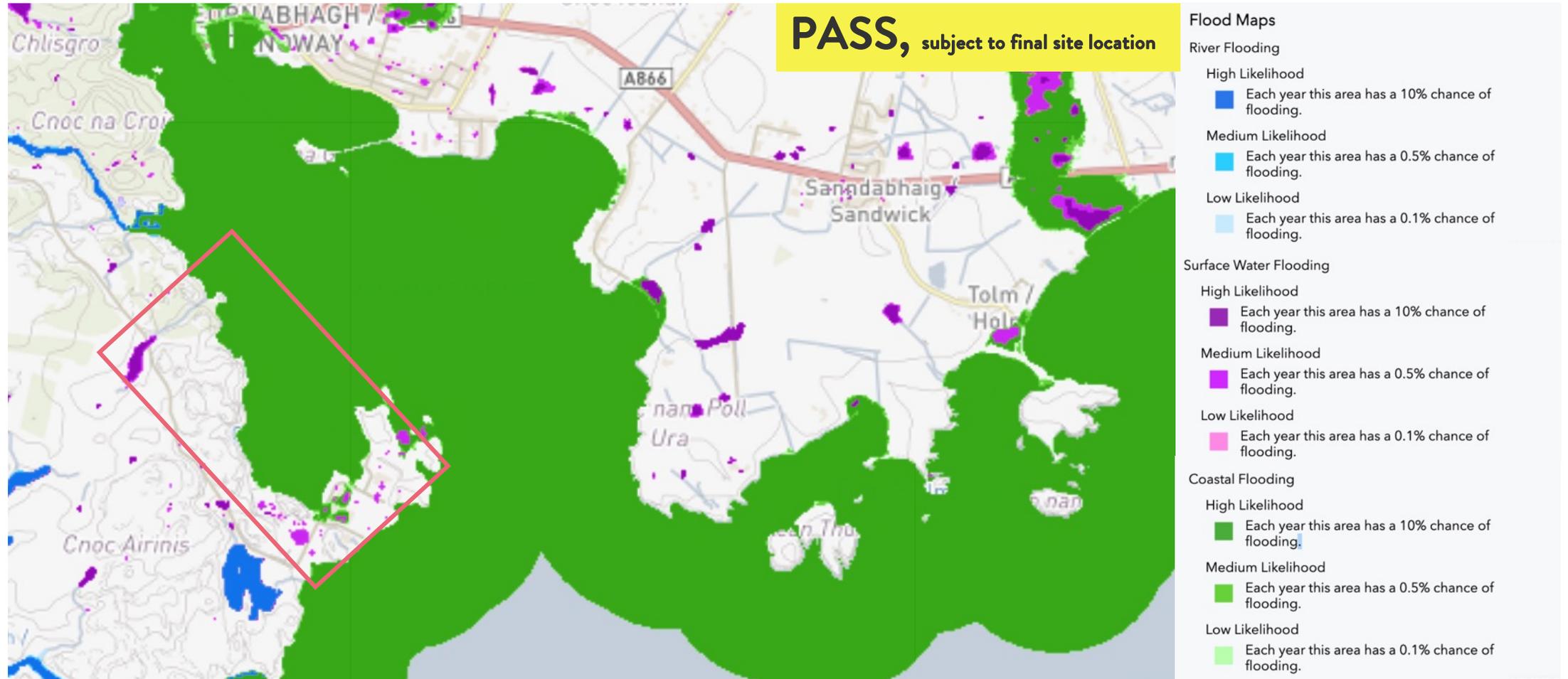
- Close to estimated Openreach fibre route
- Close to estimated subsea route
- There is an additional link off the island to the south which provides some resilience

Note: Fibre routes are deduced from data available in the public domain



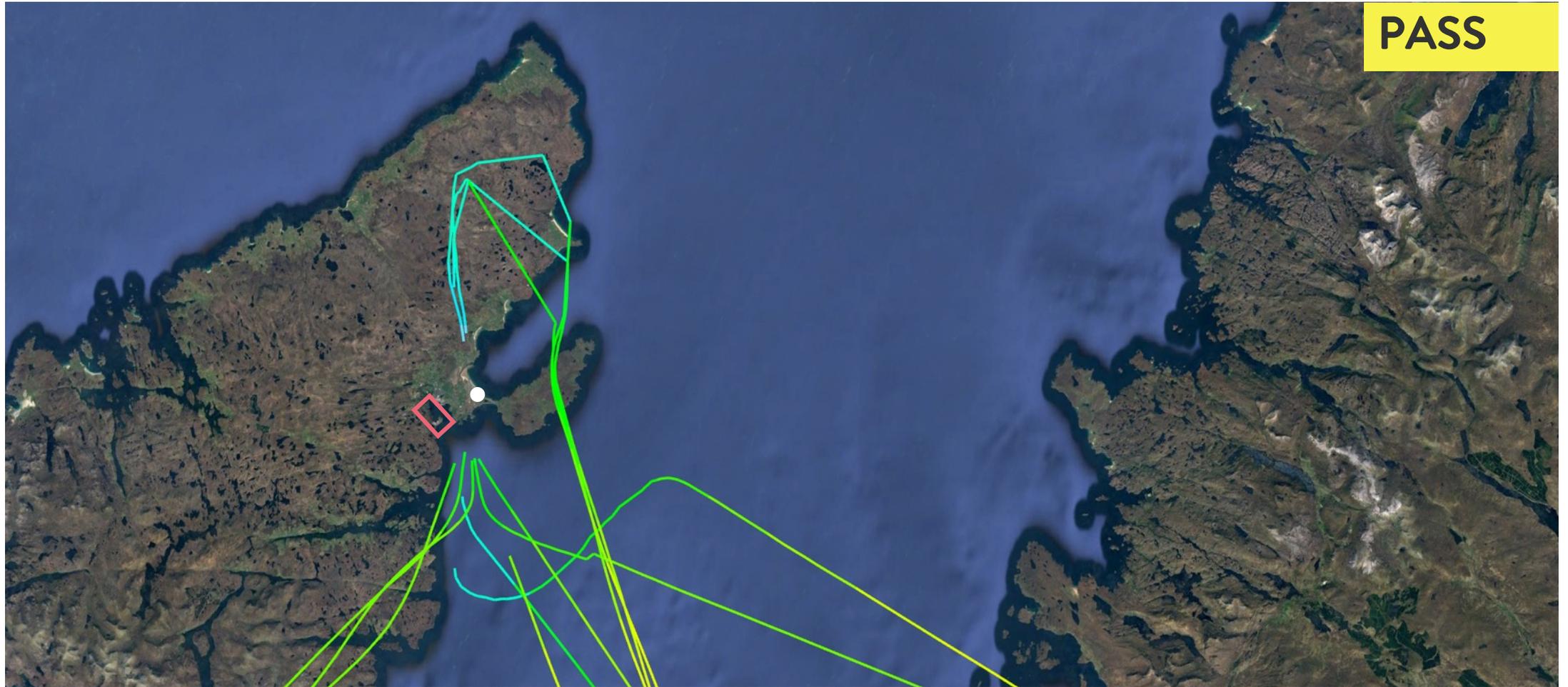
ARNISH

FLOOD RISK ASSESSMENT



ARNISH

FLIGHT PATH ASSESSMENT



ARNISH

WIND POWER



UP TO
5GW
OF GREEN POWER
FROM N2, N3 & N4



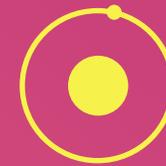
POTENTIAL FOR
DIRECT CABLE
LINK TO ARNISH



360MW
FROM 2 ONSHORE
WIND FARMS



ENERGY THROUGH
HYDROGEN
ELECTROLYSIS



SHORTLIST

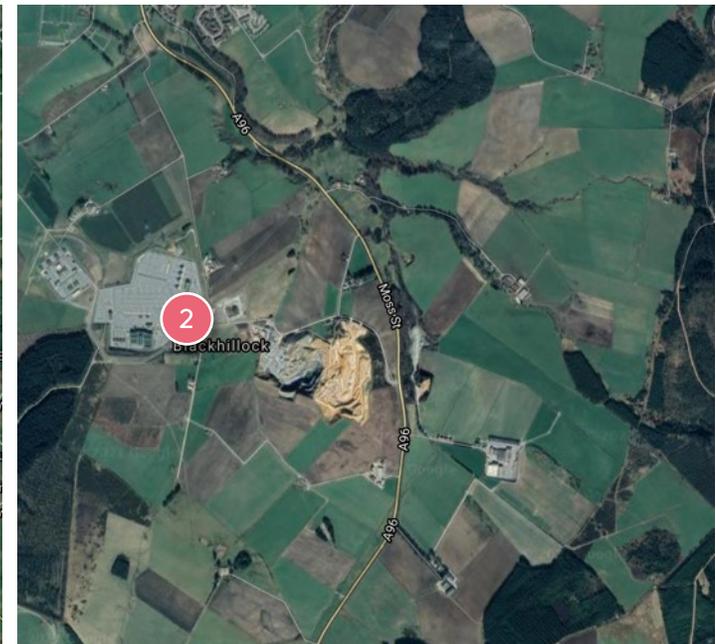
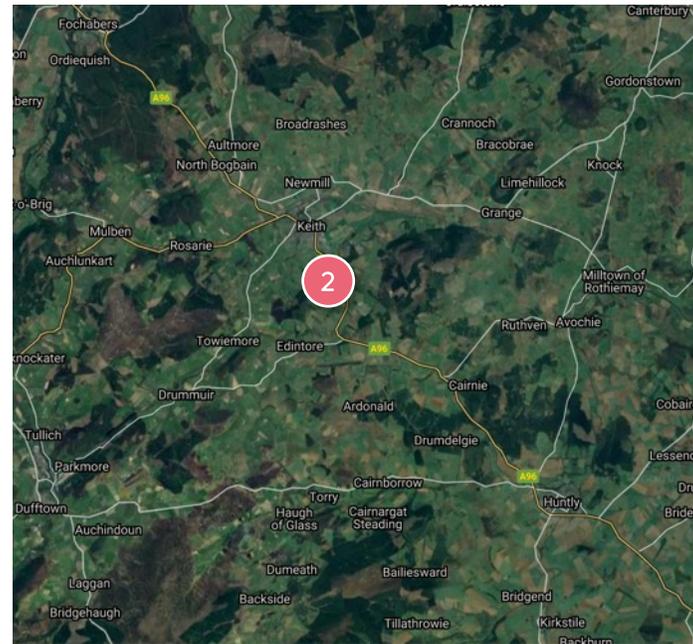
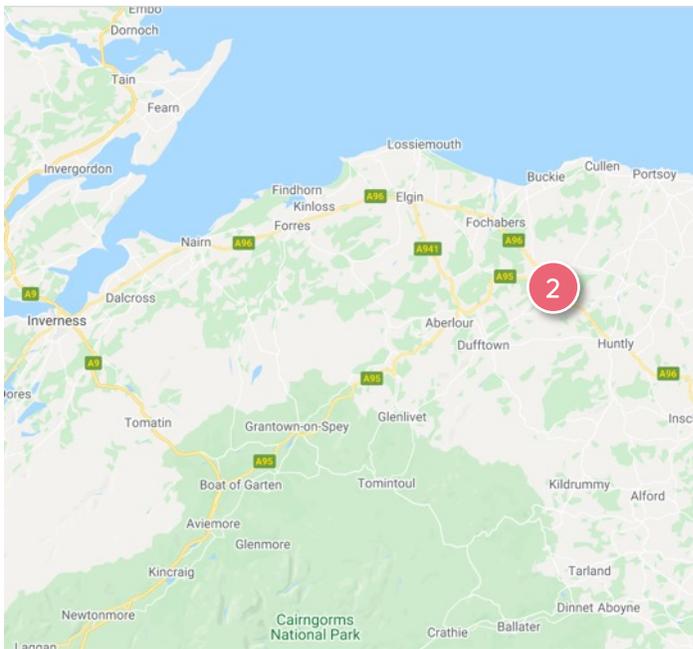
BLACKHILLOCK

#SCOTLAND|SNOW

BLACKHILLOCK

OVERVIEW

Site Overview	The site is located next to the largest substation in the UK and the second largest in Europe. Planned to be the major substation grid connection for renewable energy generated across northeast Scotland.				
Scale: 16 acres	Power: 1,200 MW capacity	Fibre: Limited to Openreach	Renewables: Proximity to onshore & offshore wind	Hazards: None observed	Use: Hyperscale
TechRE Comments	Good site adjacent to major substation powered by plenty of renewables to support hyperscale build. Note, power is direct from grid rather than by private wire and more terrestrial fibre will be needed to develop the site.				



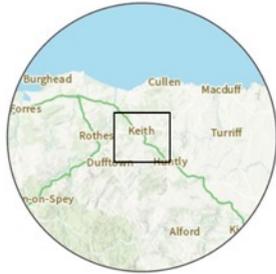
BLACKHILLOCK

IMAGES



BLACKHILLOCK

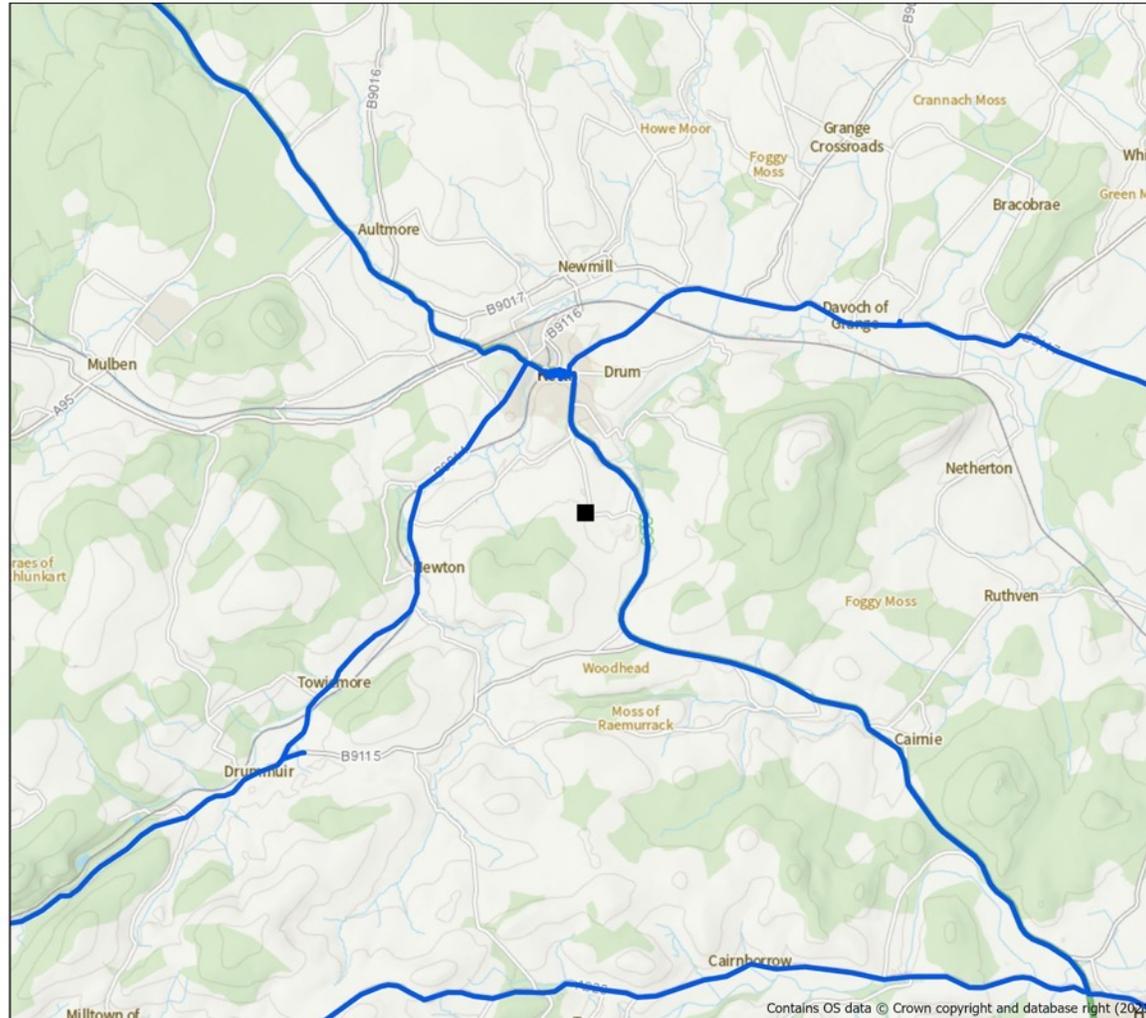
FIBRE



Blackhillock

Legend

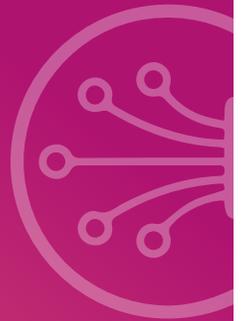
-  BT Fibre Routes (Estimated)
-  Data Centre Sites



Notes

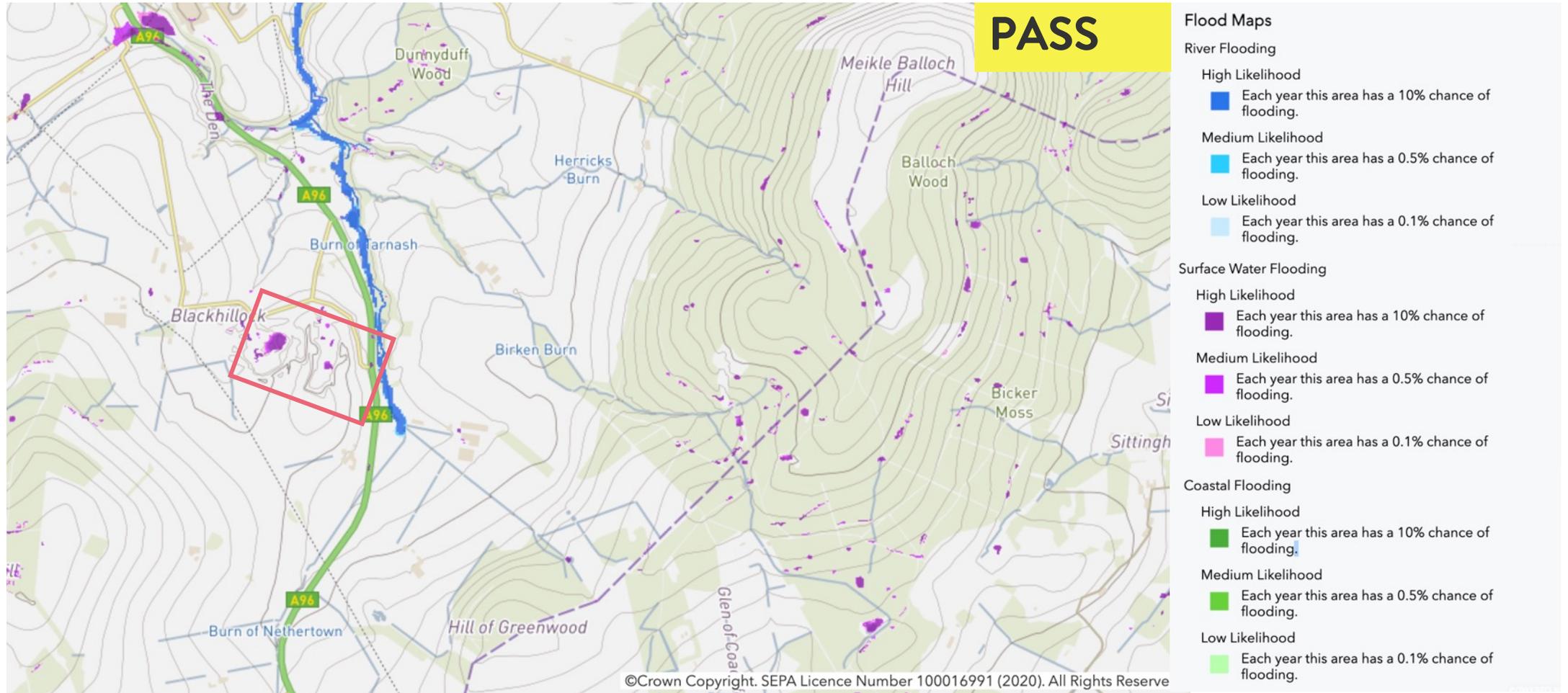
- Close to estimated Openreach fibre route

Note: Fibre routes are deduced from data available in the public domain



BLACKHILLOCK

FLOOD RISK ASSESSMENT



SHORTLIST

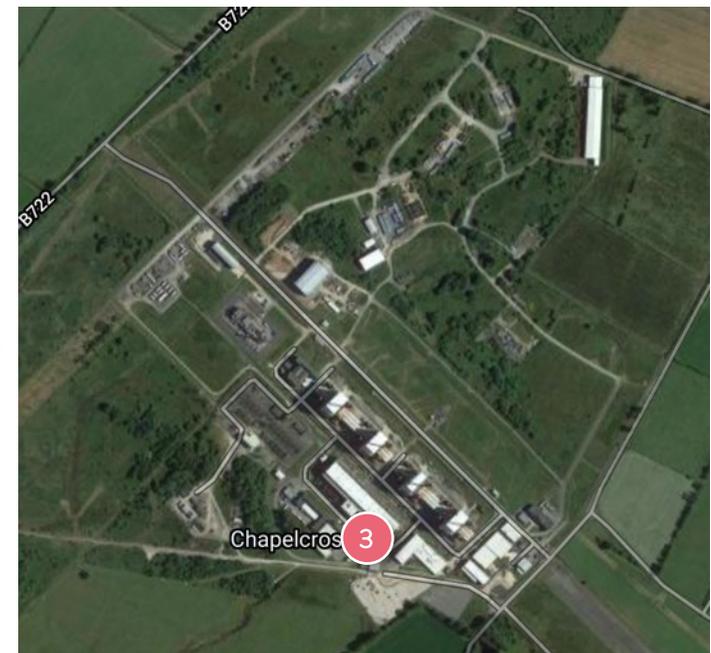
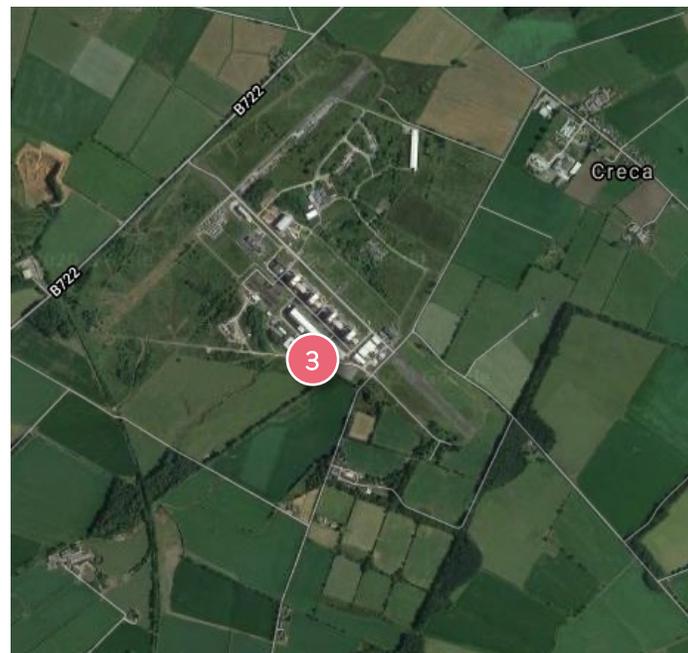
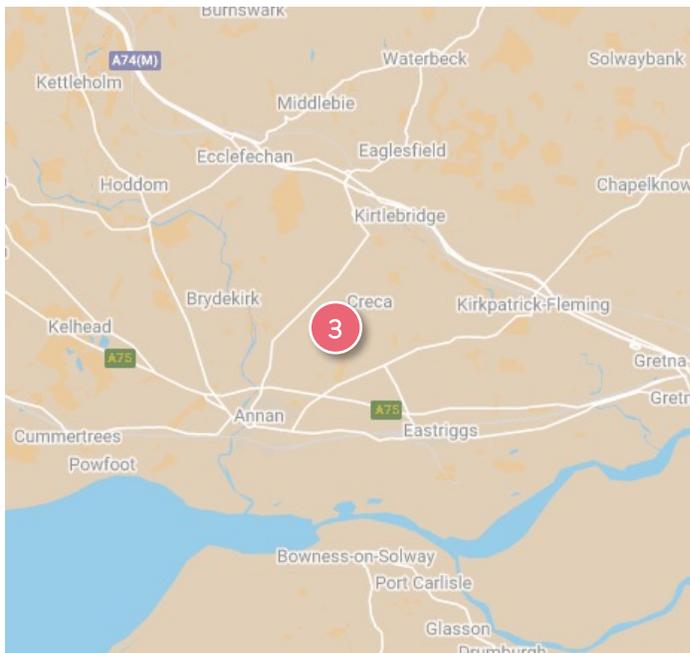
CHAPELCROSS

#SCOTLAND|SNOW

CHAPELCROSS

OVERVIEW

Site Overview	An ex-nuclear power station, Chapelcross has significant grid connectivity, existing fibre connectivity, large amounts of land along with close proximity to large scale renewables.				
Scale: 543 Acres	Power: Abundant, up to 600MW planned on site	Fibre: Virgin Media, Openreach and Level 3	Renewables: Wind & Solar	Hazards: Ex nuclear power station in decommissioning	Use: Hyperscale/Edge
TechRE Comments	This site is of particular interest because of its ability to receive power from the huge wind farms across Dumfries and Galloway, along with its potential to serve a population of 250,000 within 50km. Also potential for new solar power (est. 150 – 200 MW). Suitable for Hyperscale or regional edge.				



CHAPELCROSS

IMAGES



CHAPELCROSS FIBRE

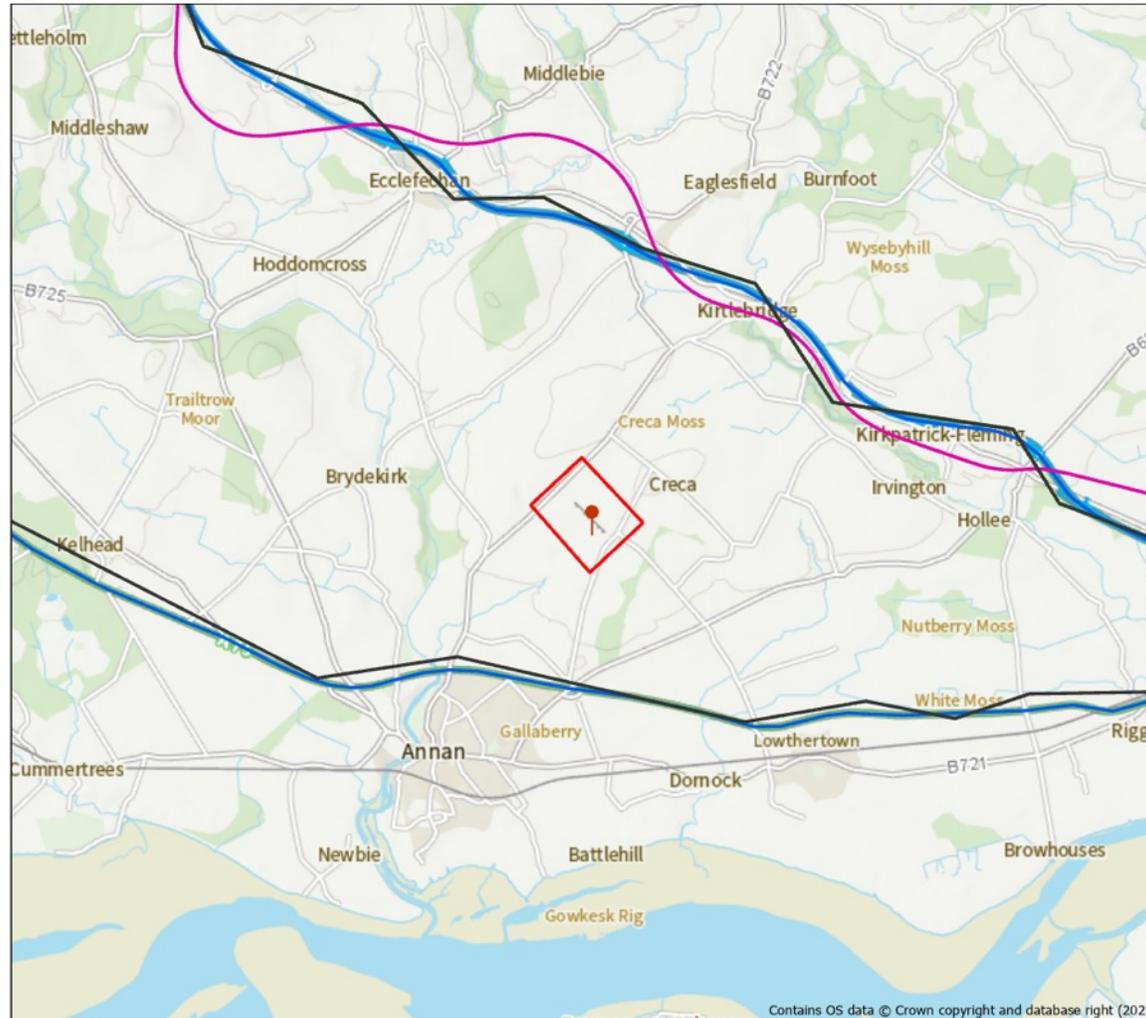


Chapelcross

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Fibre Routes (Estimated)
-  Geo Fibre Routes (Estimated)
-  Level 3 Fibre Routes (Estimated)
-  Virgin Media Fibre Routes (Estimated)

0 0.5 1 2 3 4
Kilometers



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Notes

Multiple operators in the region:

- Virgin Media
- Openreach
- Level 3

Nearby PoPs:

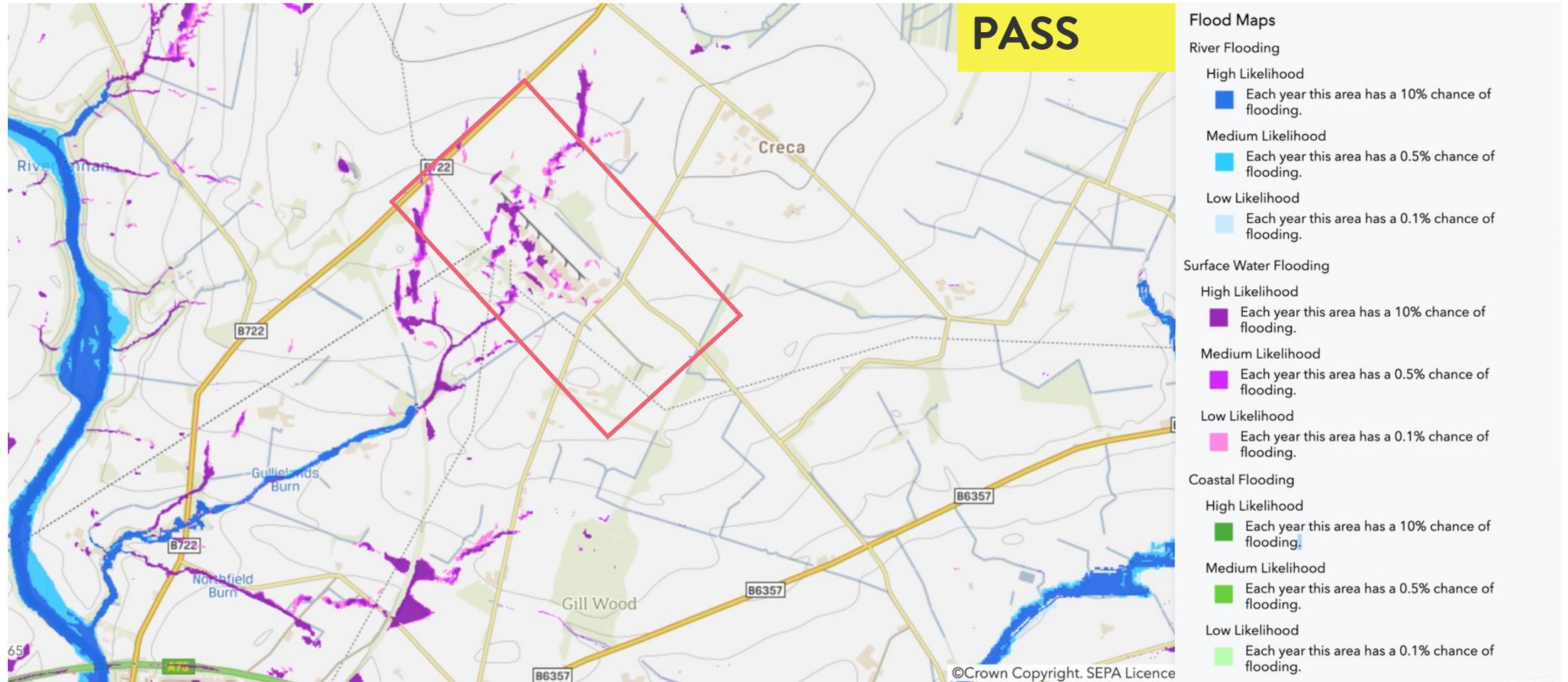
- BT OHP/Ethernet Nodes in Longtown, Dumfries, Carlisle

Note: Fibre routes are deduced from data available in the public domain.



CHAPELCROSS

FLOOD RISK ASSESSMENT



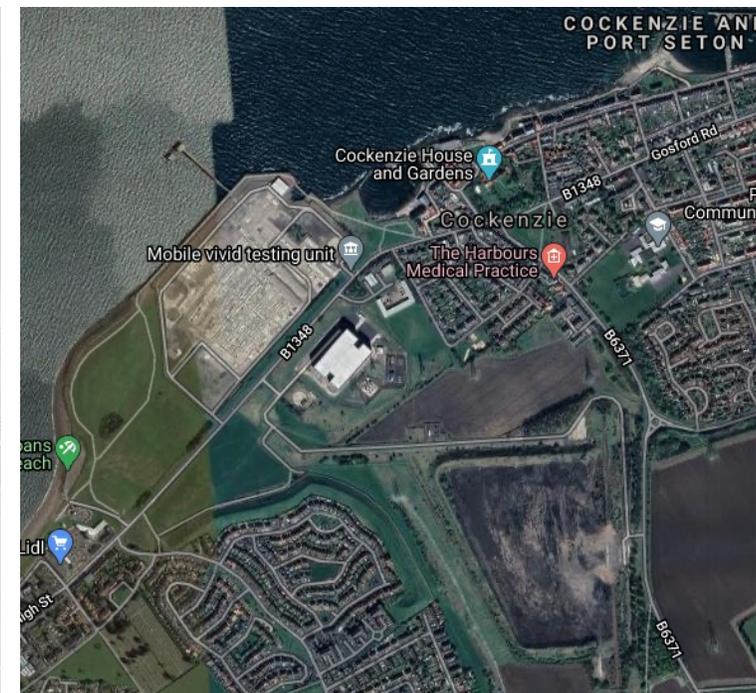
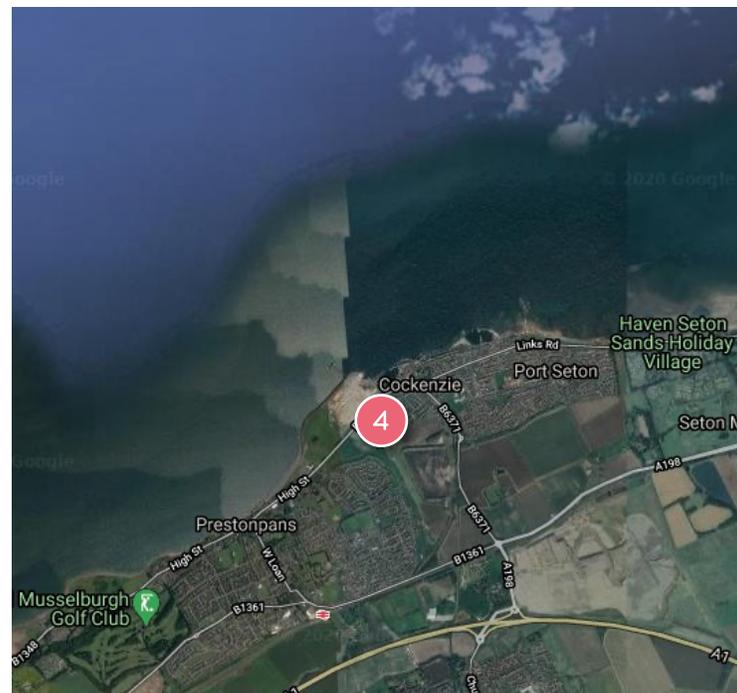
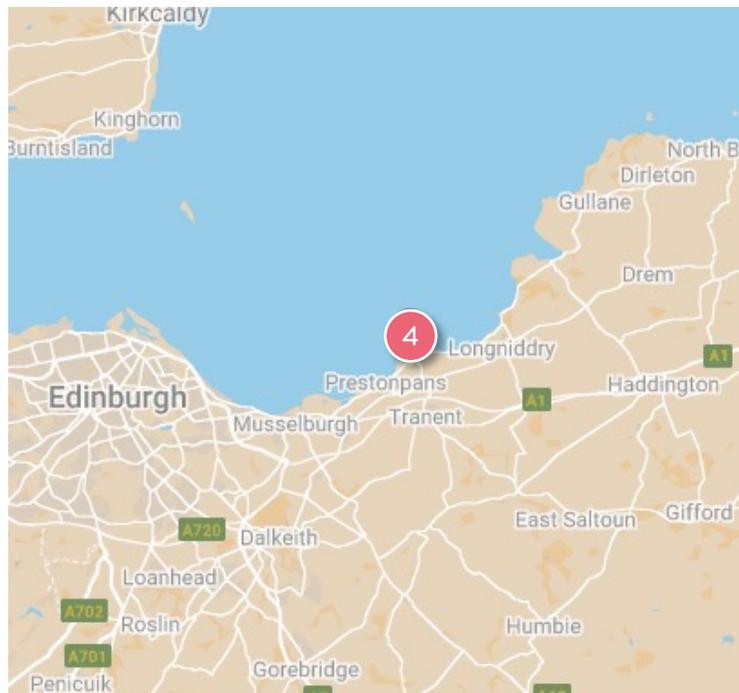
SHORTLIST
COCKENZIE
POWER STATION

#SCOTLAND|SNOW

COCKENZIE POWER STATION

OVERVIEW

Site Overview	A former coal-fired power plant with a significant substation on site. The site is intended to be the mainland recipient of offshore wind energy from Inch Cape Offshore Windfarm.				
Scale: Approx. 35 acres	Power: 1 GW	Fibre: Multiple carriers	Renewables: Offshore Wind	Hazards: None	Shortlist: Hyperscale/Edge/Cable landing station
TechRE Comments	An excellent opportunity to marry huge renewables with a large scale site. There are multiple fibre carriers running close to the site onto Edinburgh, a large population nearby to support data centre customer base and the geographical advantage of potentially attracting subsea connectivity from mainland Europe.				



COCKENZIE POWER STATION

IMAGES



COCKENZIE POWER STATION FIBRE

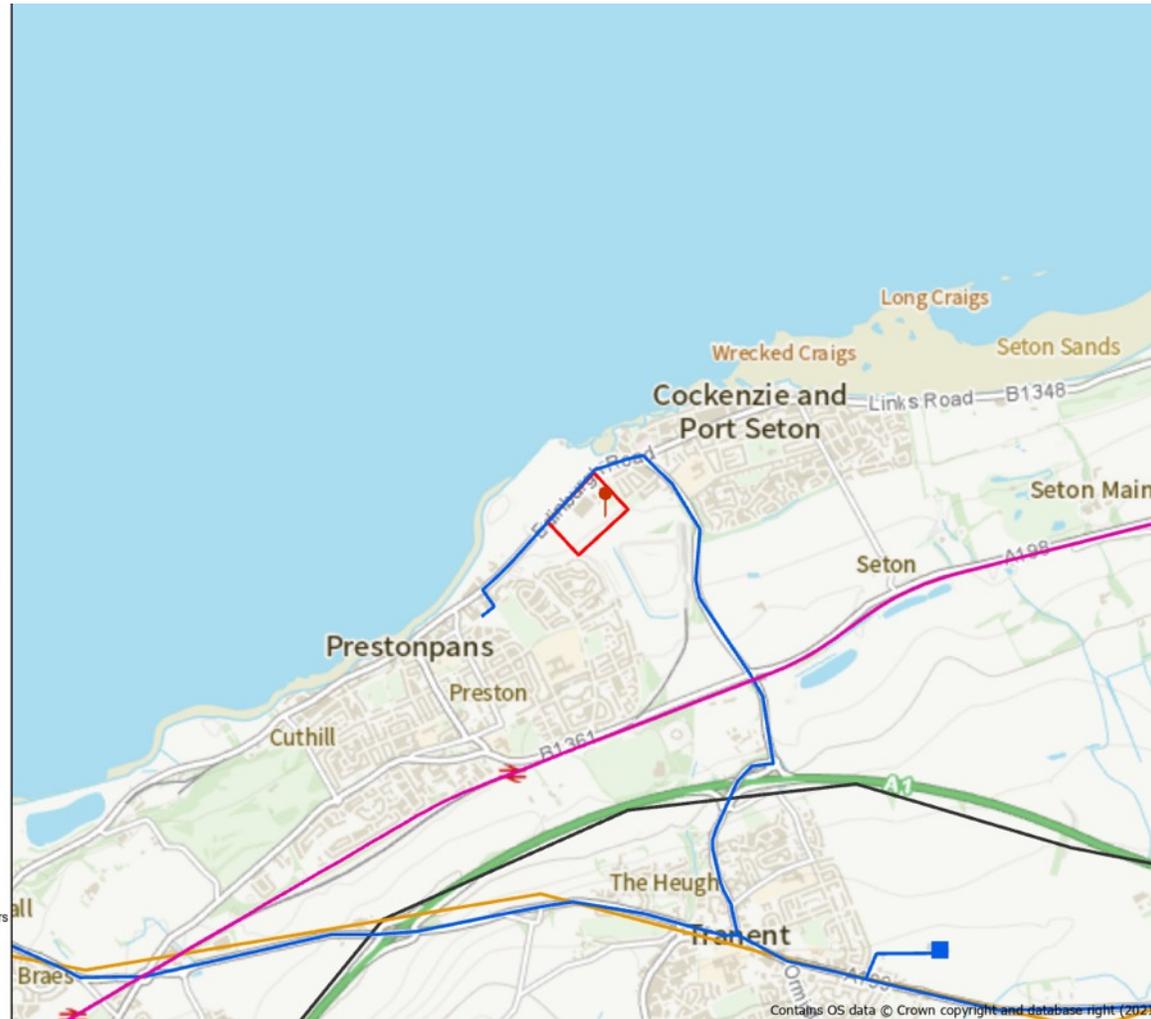


Cockenzie Power Station

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Ethernet Nodes (Estimated)
-  BT Fibre Routes (Estimated)
-  Virgin Media Fibre Routes (Estimated)
-  SSE Fibre Routes (Estimated)
-  Level 3 Fibre Routes (Estimated)

0 0.28 0.55 1.1 1.65 2.2
Kilometers



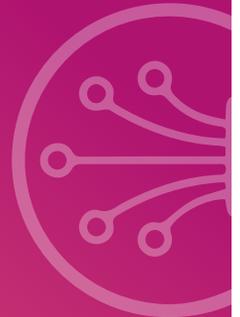
Notes

- Openreach fibre and Level 3 fibre expected in vicinity

Nearby PoPs:

- BT OHP/Ethernet Node in Tranent

Note: Fibre routes are deduced from data available in the public domain.



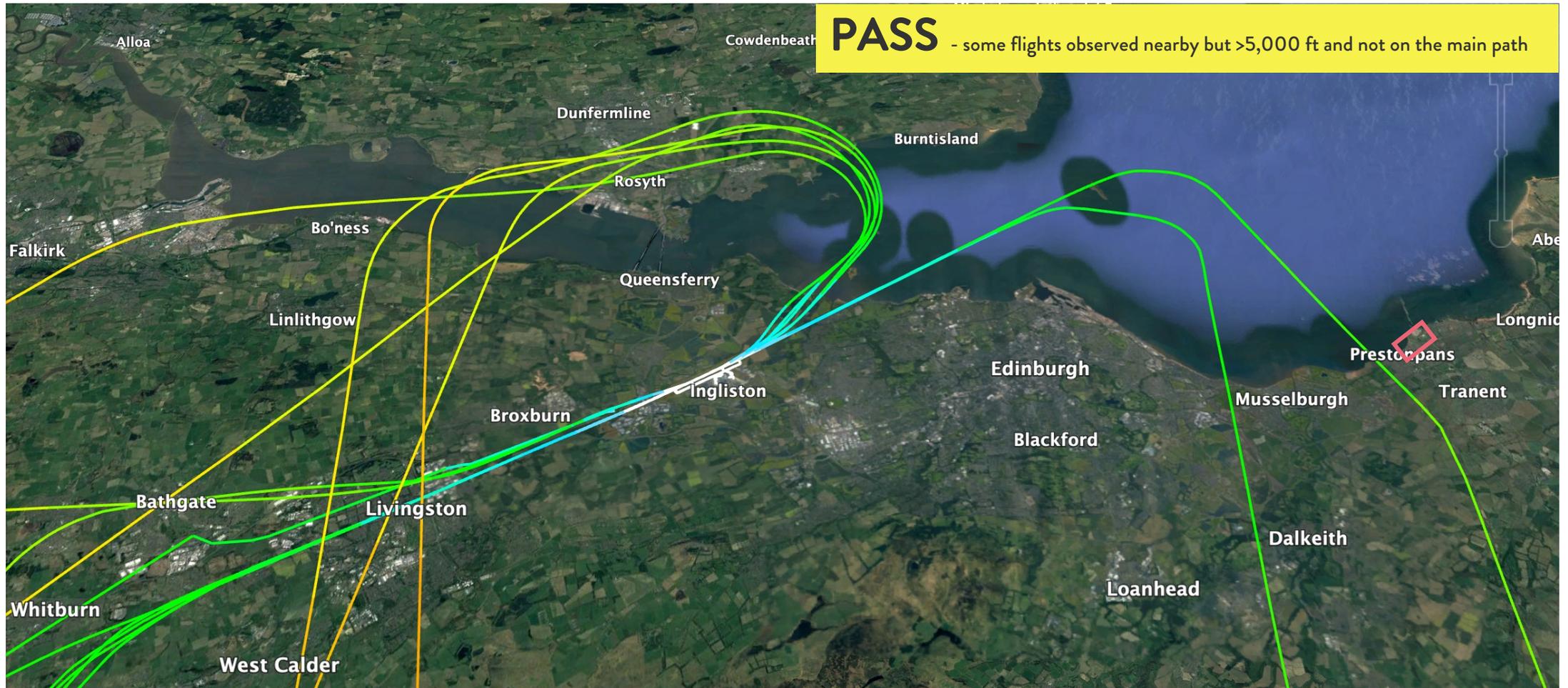
COCKENZIE POWER STATION

FLOOD RISK ASSESSMENT



COCKENZIE POWER STATION

FLIGHT PATH ASSESSMENT



COCKENZIE POWER STATION

POWER



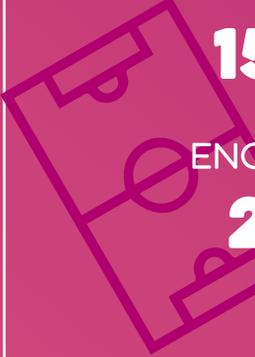
15 KM
FROM THE
ANGUS
COASTLINE



UP TO
1 GW
OF CLEAN
ELECTRICITY



 UP TO
72
TURBINES

 **150 KM²**
FOOTPRINT
ENOUGH TO COVER
21,000
FOOTBALL
PITCHES

Inch Cape is located 15km off the Angus Coast in the East of Scotland

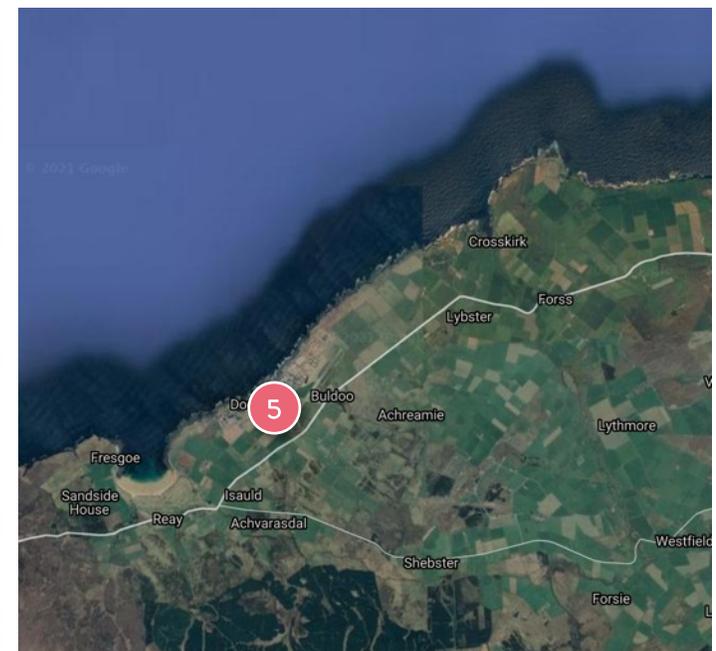
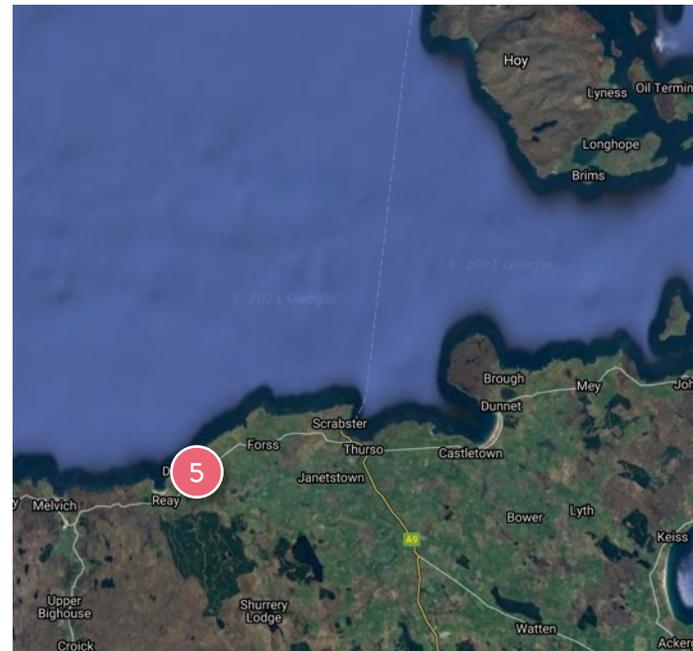
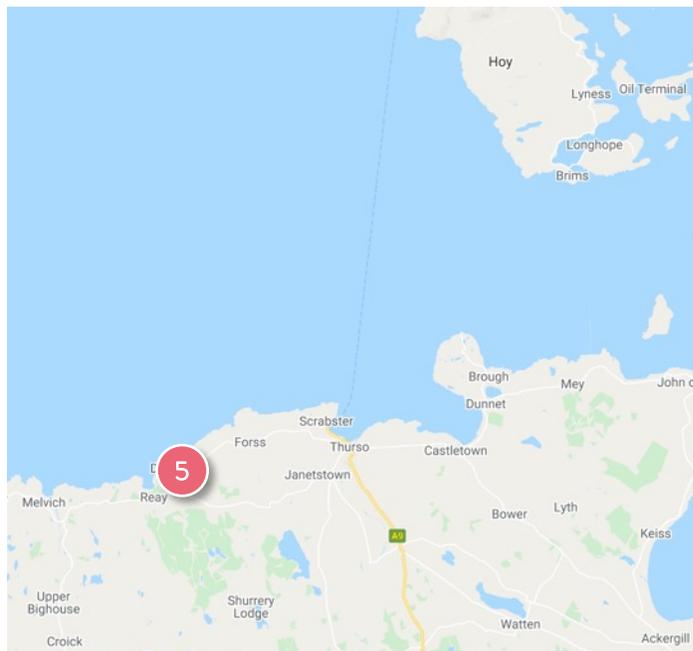
SHORTLIST
DOUNREAY

#SCOTLAND|SNOW

DOUNREAY

OVERVIEW

Site Overview	An ex- nuclear power plant currently being decommissioned. Offers abundant clean and green power options with subsea cable links to Farice (providing a direct connection to London) and potentially AE-5 in the future.				
Scale: 148 acres	Power: Existing infrastructure from nuclear plant.	Connectivity: Limited but subsea cables to Farice	Renewables: Close access to offshore wind farms	Hazards: Nuclear site still being decommissioned	Use: Hyperscale / Edge / Cable Landing Station
TechRE Comments	Dounreay could potentially serve as a superconnector for renewable power from the Outer Hebrides, Orkney and Shetlands creating a major renewables hub. Has government and Nuclear Decommissioning Agency support for re-use. Due diligence required on nuclear risks.				



DOUNREAY

IMAGES



DOUNRAEY

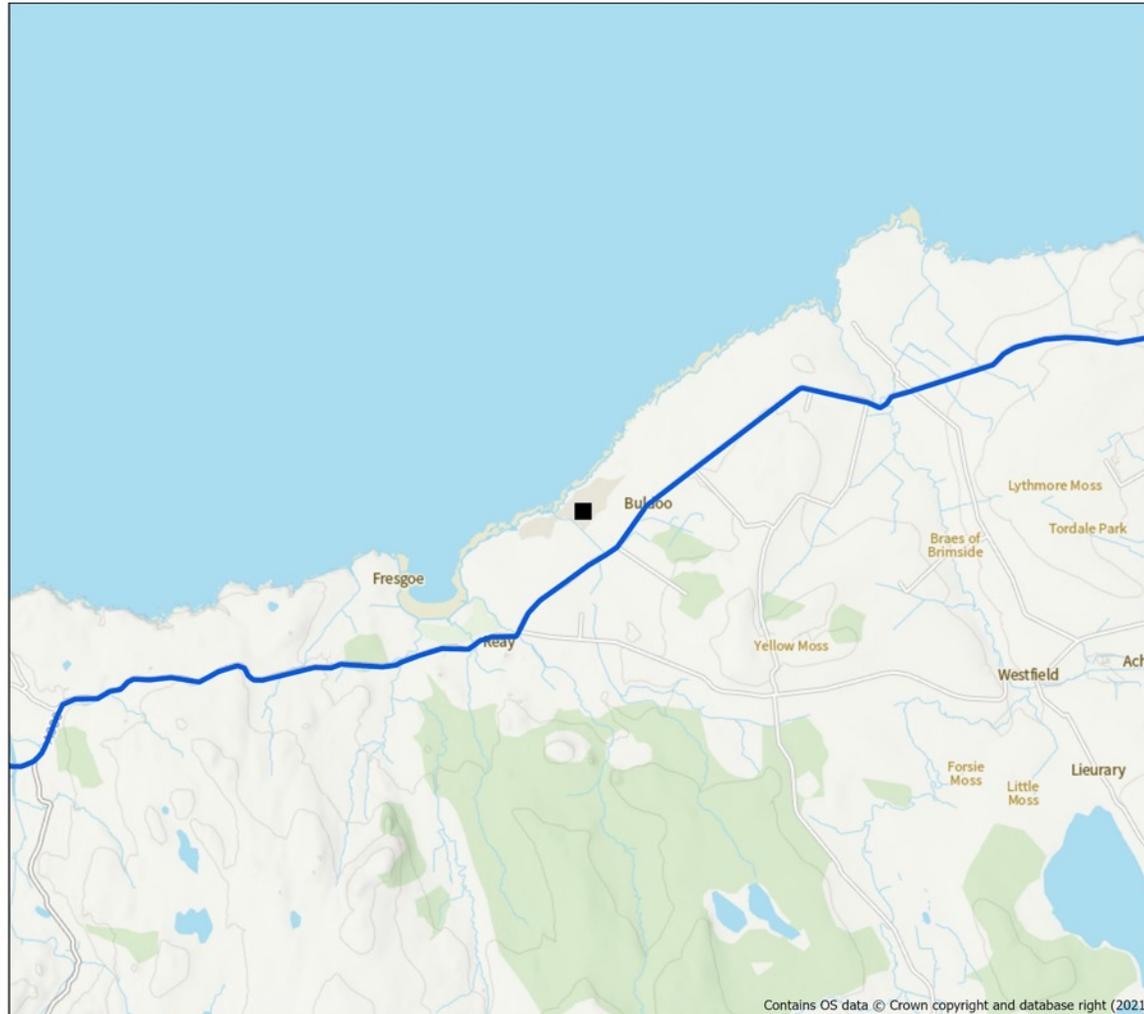
FIBRE



Dounraey

Legend

- BT Fibre Routes (Estimated)
- Data Centre Sites



0 0.75 1.5 3 4.5 6 Kilometers

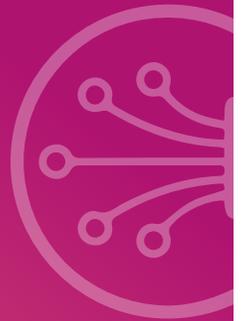


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Notes

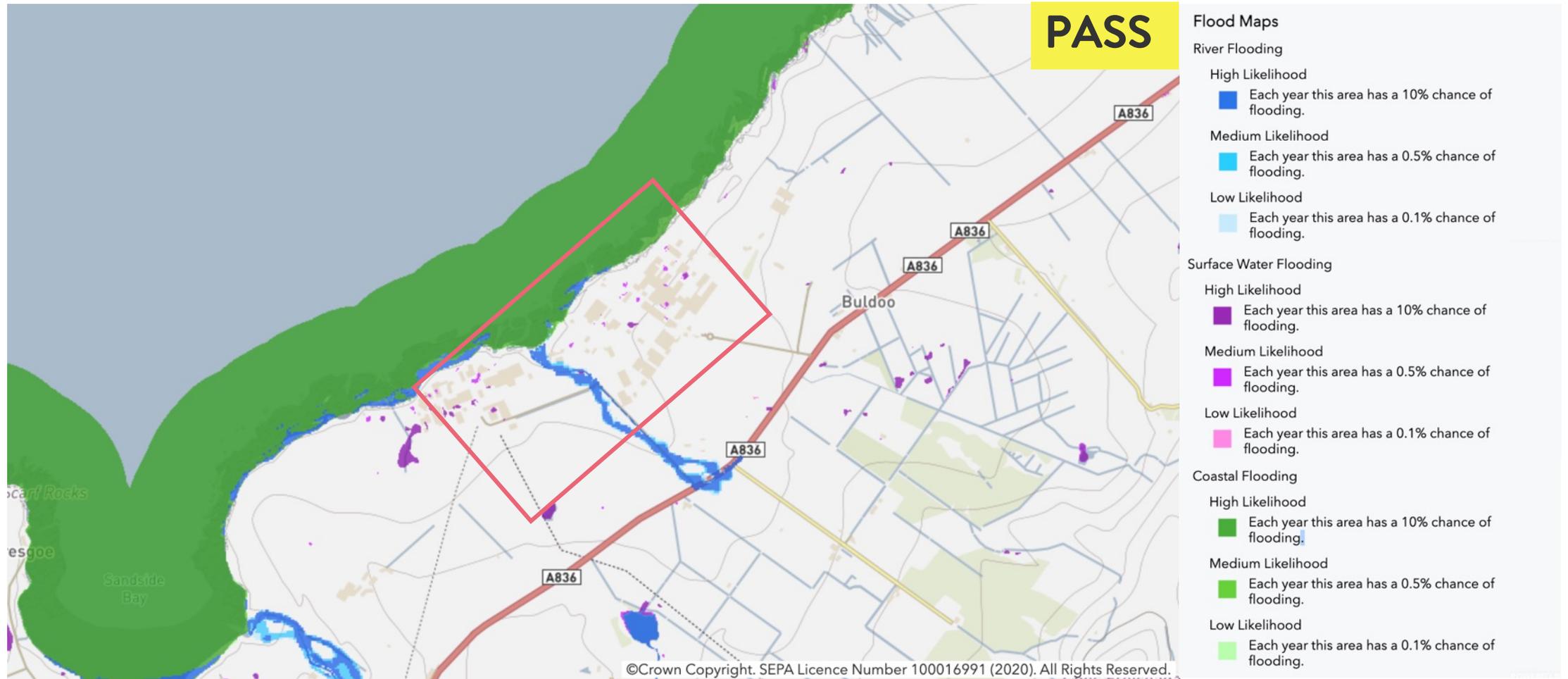
- Close to estimated Openreach fibre route

Note: Fibre routes are deduced from data available in the public domain



DOUNREAY

FLOOD RISK ASSESSMENT



SHORTLIST

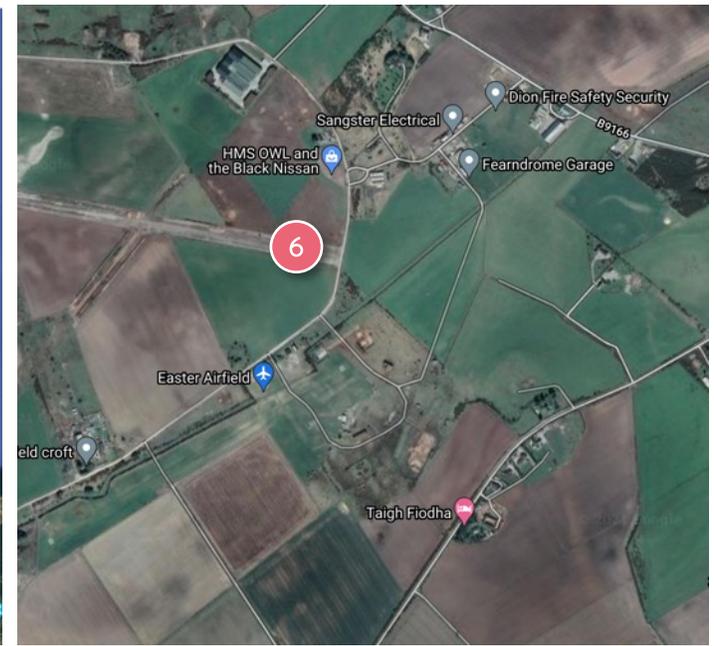
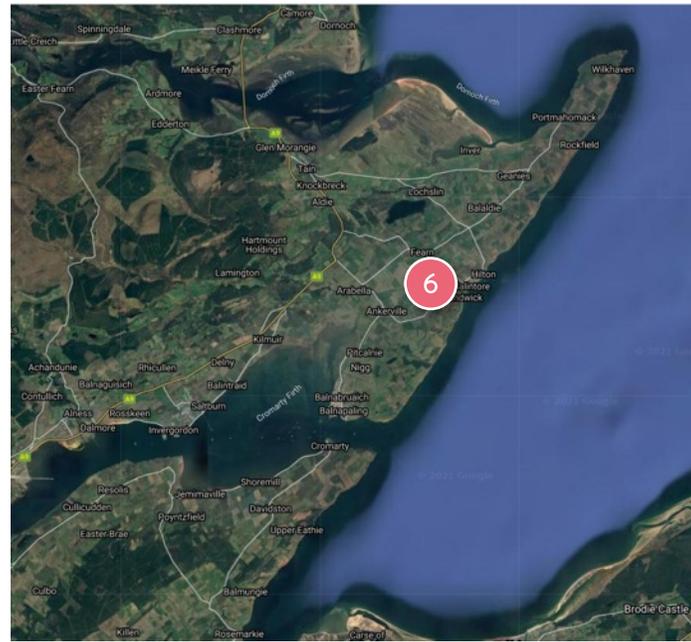
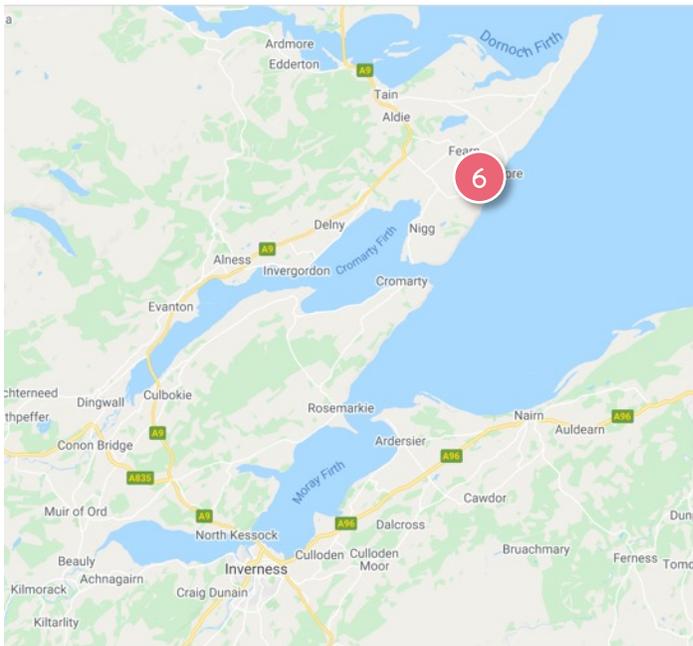
FEARN AIRFIELD

#SCOTLAND|SNOW

FEARN AIRFIELD

OVERVIEW

Site Overview	A large ex RAF airfield with significant agricultural buildings on part of the site. Located within the Inner Moray Firth Local Development Plan				
Scale: 310 acres	Power: Limited but significant renewable potential	Connectivity: Limited to Openreach	Renewables: Close to offshore wind farms	Hazards: Further due diligence on flood risk	Use: Hyperscale
TechRE Comments	A site with plenty of scale to serve as a hyperscale campus with major offshore wind farms close by. New data centre facilities would be compatible with the visual impact of the existing farm buildings. Note, though more terrestrial fibre will be needed to develop the site.				



FEARN AIRFIELD

IMAGES



FEARN AIRFIELD

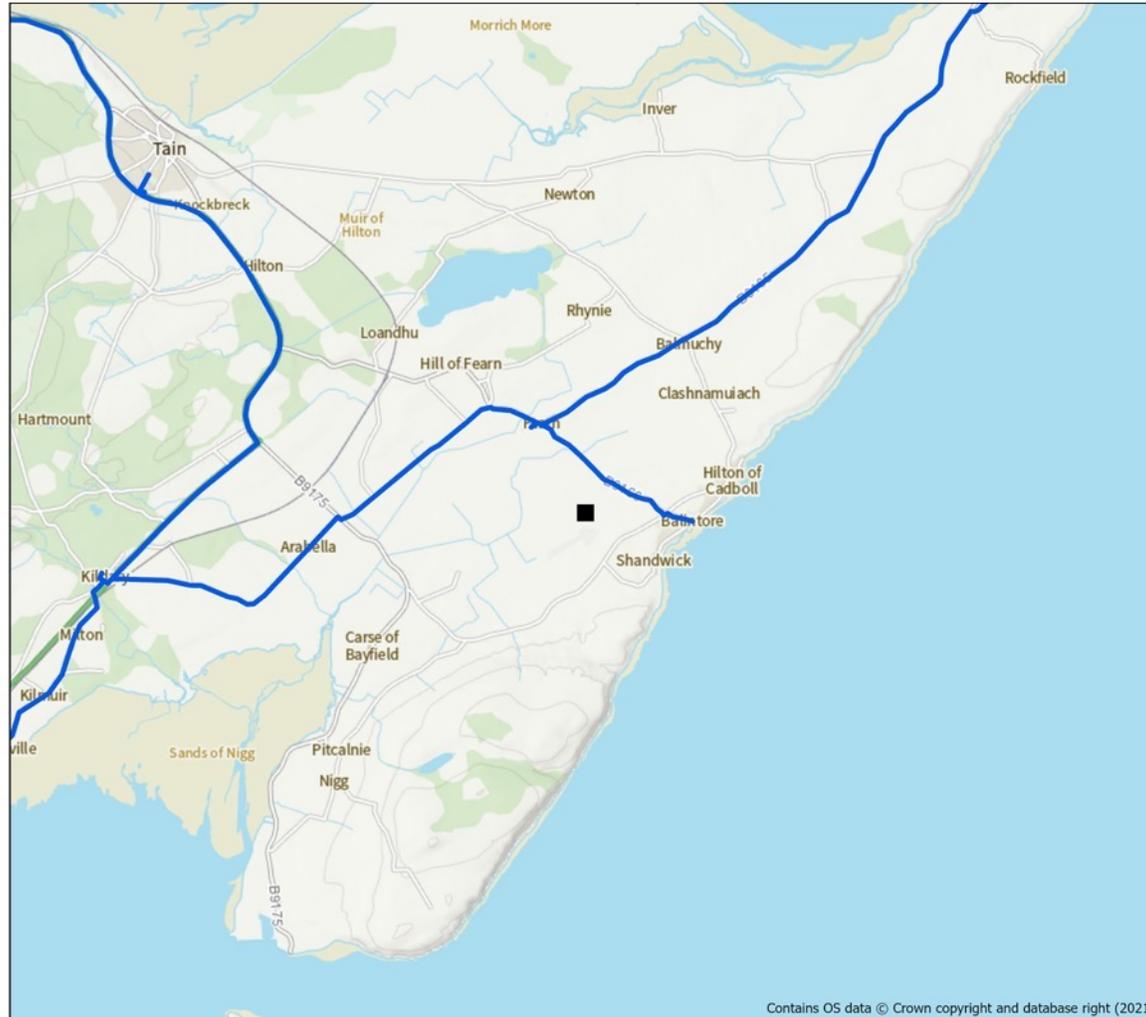
FIBRE



Fearn Airfield

Legend

- BT Fibre Routes (Estimated)
- Data Centre Sites

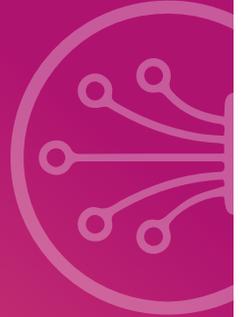


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Notes

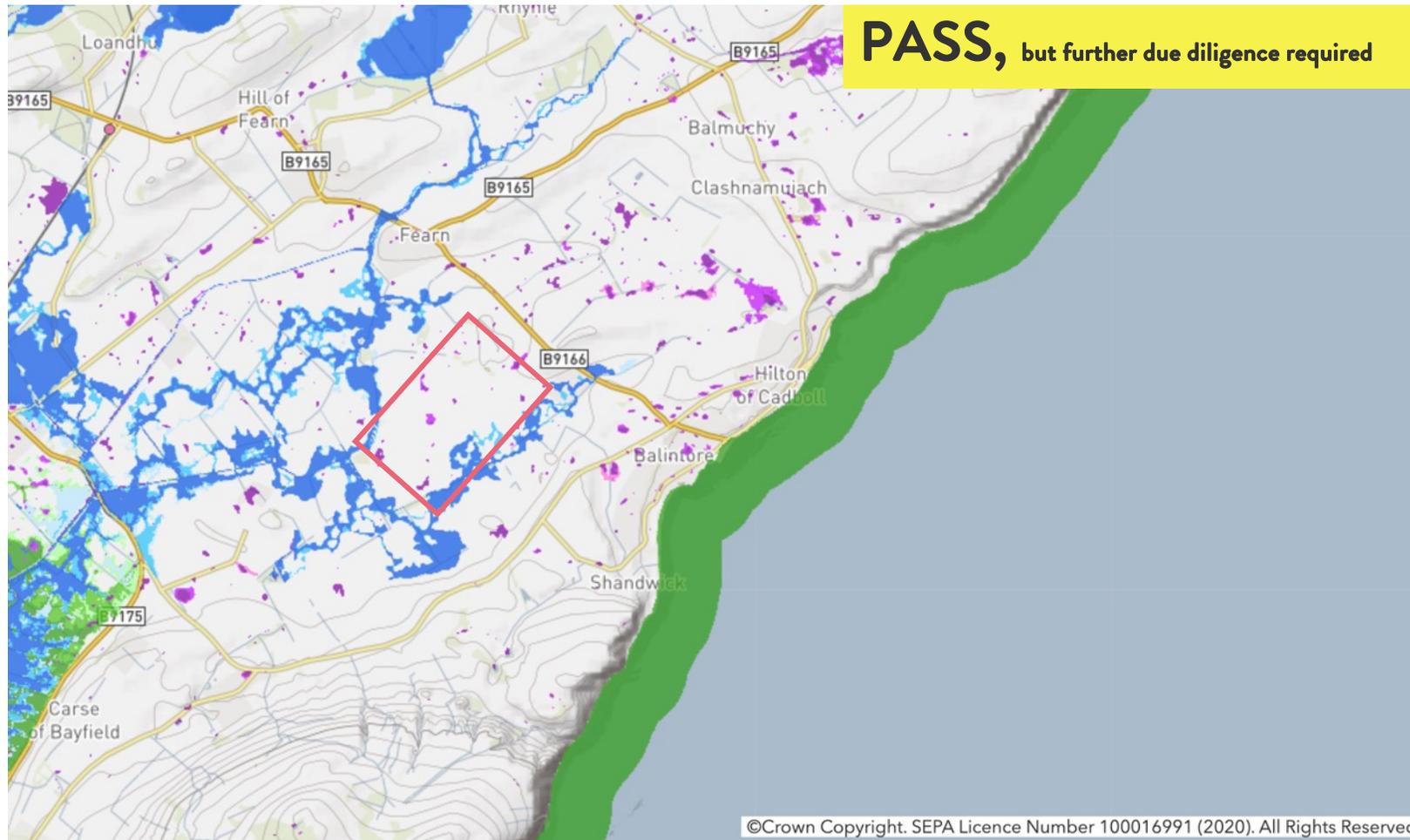
- Close to estimated Openreach fibre route

Note: Fibre routes are deduced from data available in the public domain



FEARN AIRFIELD

FLOOD RISK ASSESSMENT



Flood Maps

River Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

Each year this area has a 0.1% chance of flooding.

Coastal Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

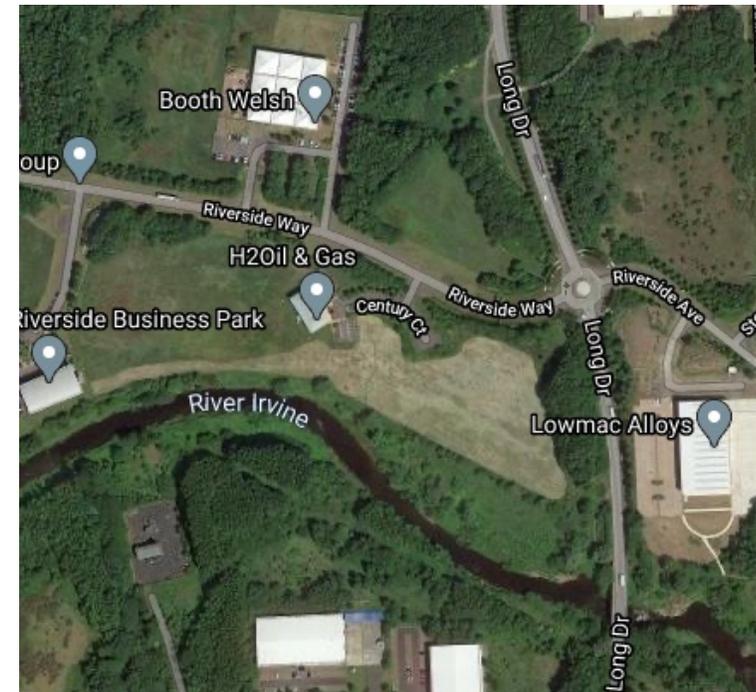
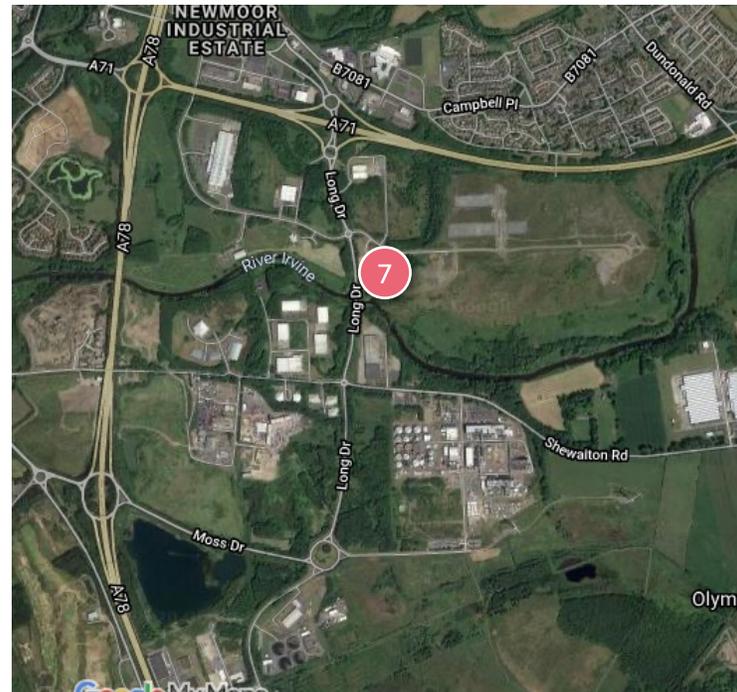
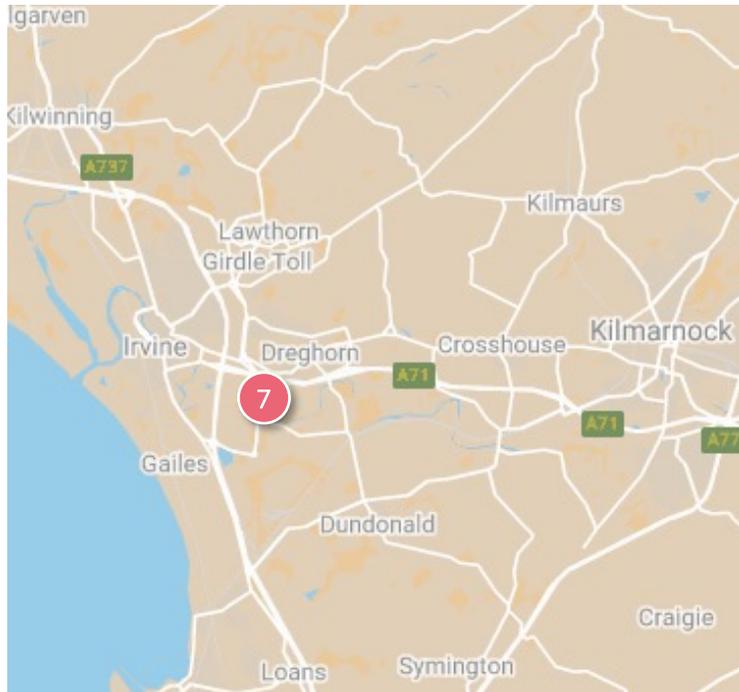
Each year this area has a 0.1% chance of flooding.

SHORTLIST
i3, IRVINE

#SCOTLAND|SNOW

i3, IRVINE OVERVIEW

Site Overview	A large business park with a mixture of greenfield and industrial units available for development, lease or purchase, located in Irvine.				
Scale: 222 Acres	Power: Multiple buildings/different power	Fibre: Openreach and Virgin Media in proximity	Renewables: TBC	Hazards: Minimal, although some areas sit within flood zones	Use: Hyperscale/Edge
TechRE Comments	The key advantage i3 offers is a quick to market option for data centres looking to serve the Ayrshire/Wider Glasgow area. On inspection there are a number of industrial units that could work for data centre use. The area offers a range of existing buildings and land plots, although its renewables strategy needs to be confirmed – a new windfarm is being built approx. 40km away from site in New Cumnock, which could offer over 100MW of power for example.				



i3, IRVINE

IMAGES



i3, IRVINE

IMAGES



i3, IRVINE FIBRE

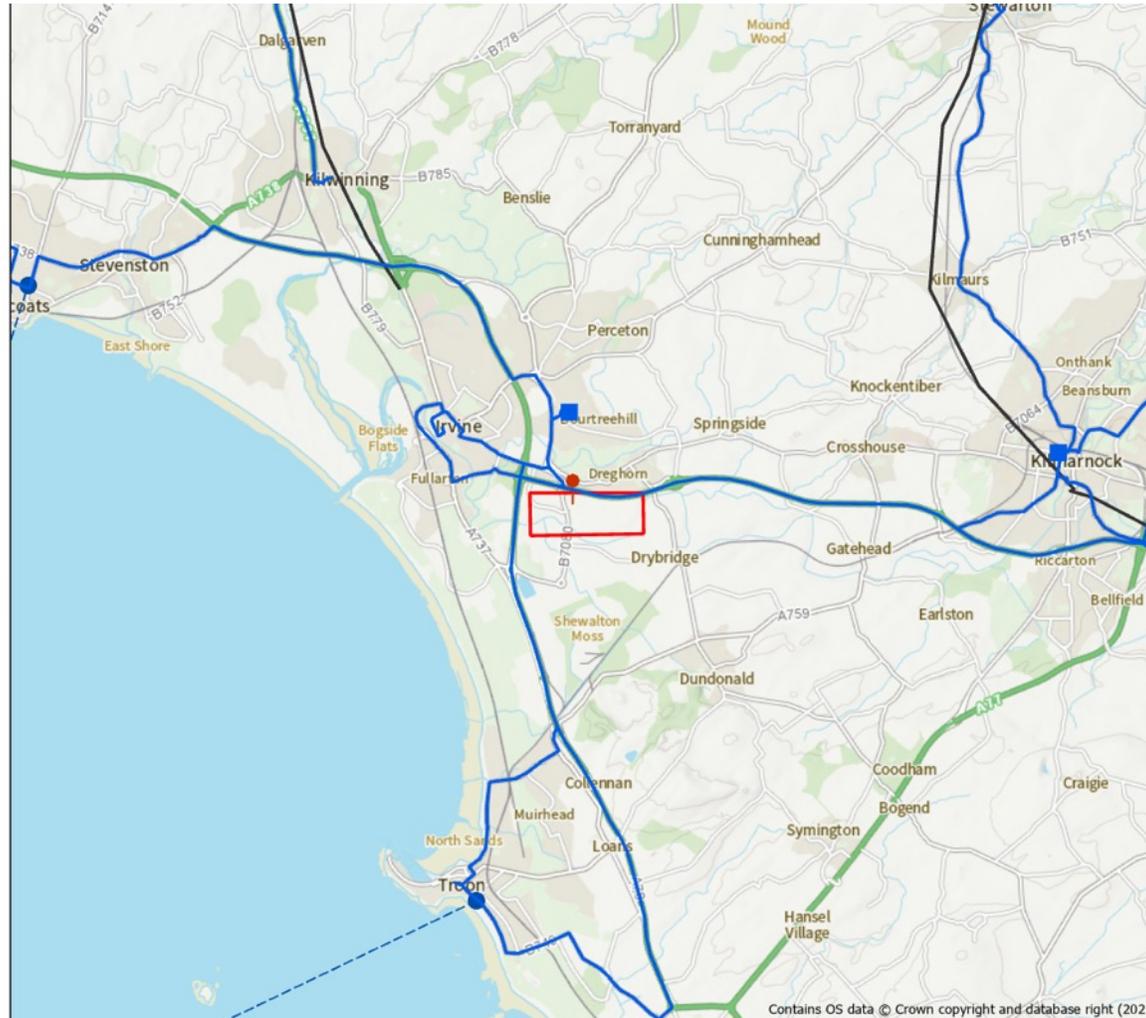


i3 Business Park

Legend

- Scotland Data Centre Site Shortlist
- Scotland Data Centre Site Shortlist
- BT Ethernet Nodes (Estimated)
- BT Fibre Routes (Estimated)
- Virgin Media Fibre Routes (Estimated)
- Sub-sea Telecom Terminals (Estimated)
- Sub-sea Telecom Cables (Estimated)

0 0.75 1.5 3 4.5 6
Kilometers



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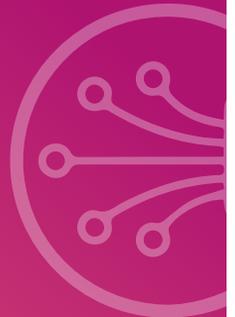
Notes

- Openreach and Virgin Media fibre in the vicinity

Nearby PoPs:

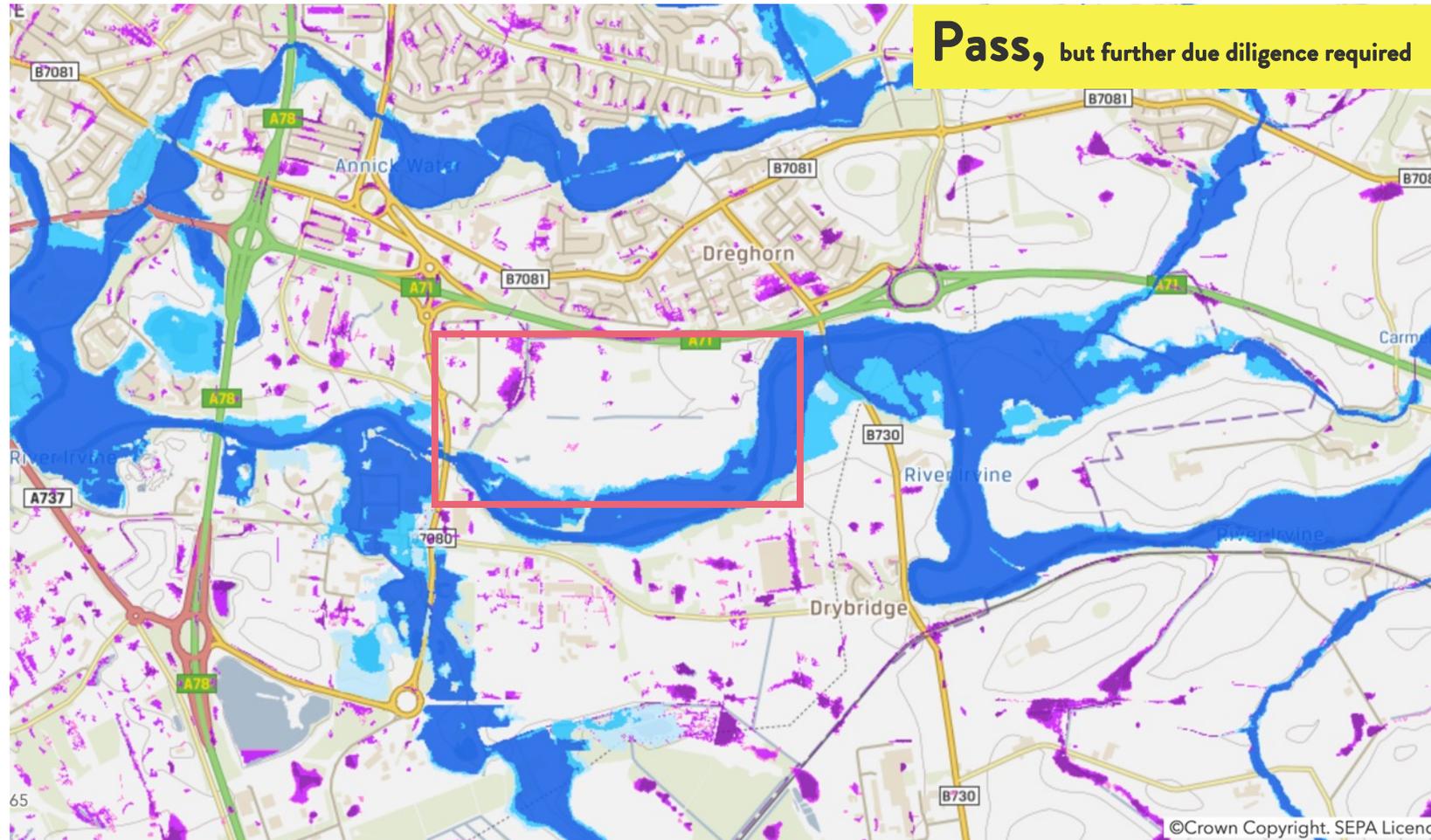
- BT OHP/Ethernet Node in Irvine

Note: Fibre routes are deduced from data available in the public domain.



i3, IRVINE

FLOOD RISK ASSESSMENT



Pass, but further due diligence required

Flood Maps

River Flooding

- High Likelihood**
Each year this area has a 10% chance of flooding.
- Medium Likelihood**
Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

- High Likelihood**
Each year this area has a 10% chance of flooding.
- Medium Likelihood**
Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
Each year this area has a 0.1% chance of flooding.

Coastal Flooding

- High Likelihood**
Each year this area has a 10% chance of flooding.
- Medium Likelihood**
Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
Each year this area has a 0.1% chance of flooding.

i3, IRVINE

FLIGHT PATH ASSESSMENT



SHORTLIST

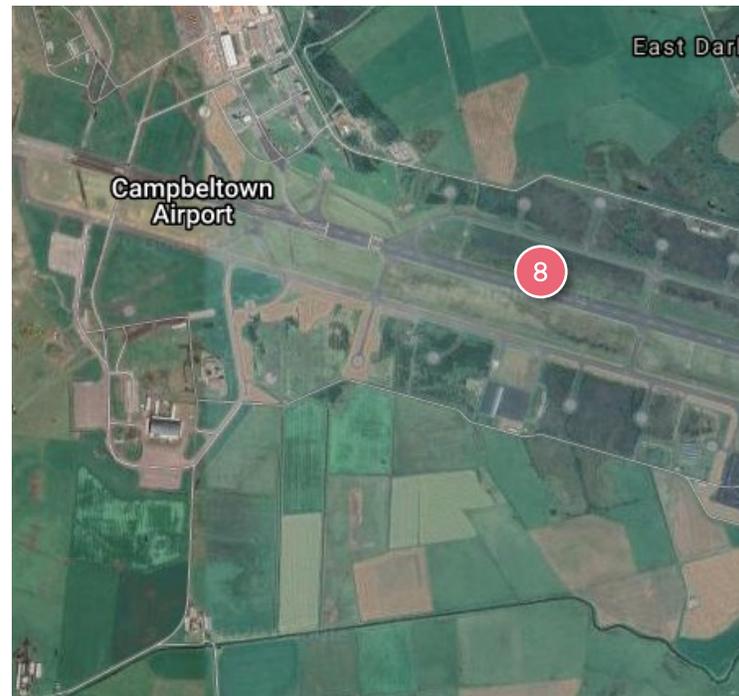
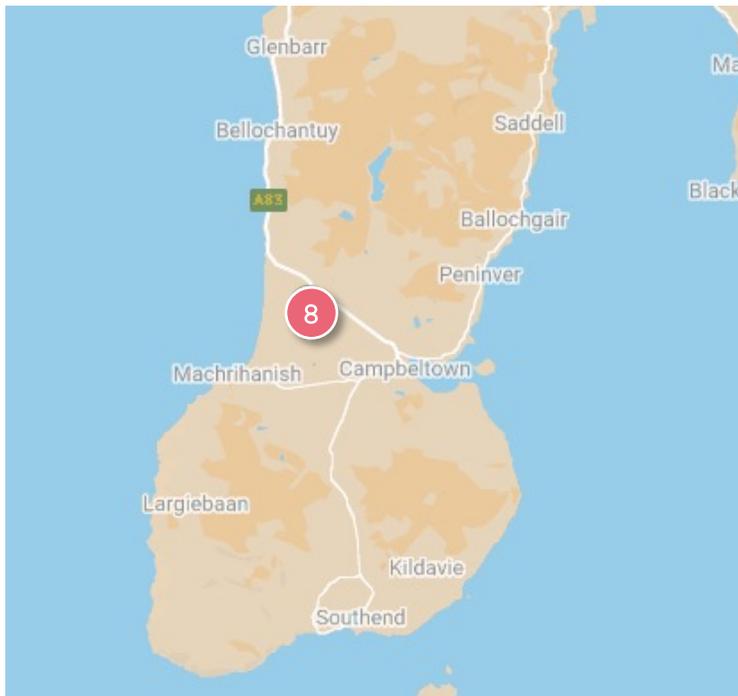
MACHRIHANISH

#SCOTLAND|SNOW

MACHRIHANISH

OVERVIEW

Site Overview	An ex-RAF base, Machrihanish currently hosts Campbeltown Airport to one section of the site, along with a large community-owned business park. The site has a mixture of industrial units, military grade bunkers and greenfield sites.				
Scale: 1,000 Acres	Power: Currently 4MW (but could be increased)	Fibre: Limited to Openreach	Renewables: Windfarm next door currently 18.7MW	Hazards: Nearby airport	Use: Hyperscale/Edge/Cable Landing Station
TechRE Comments	Machrihanish is of particular interest as a strategic data centre location for Scotland. Due to its proximity to Port Rush and Killala, it could offer an inexpensive new subsea connection to Ireland and the USA. Furthermore, Amazon is currently building a large wind farm adjacent and the site already has wayleaves to the beach to bring cables onto site. There is also a small solar farm on site with room for expansion (potentially 10-30MW). More terrestrial fibre is needed though.				



MACHRIHANISH

IMAGES



MACHRIHANISH FIBRE

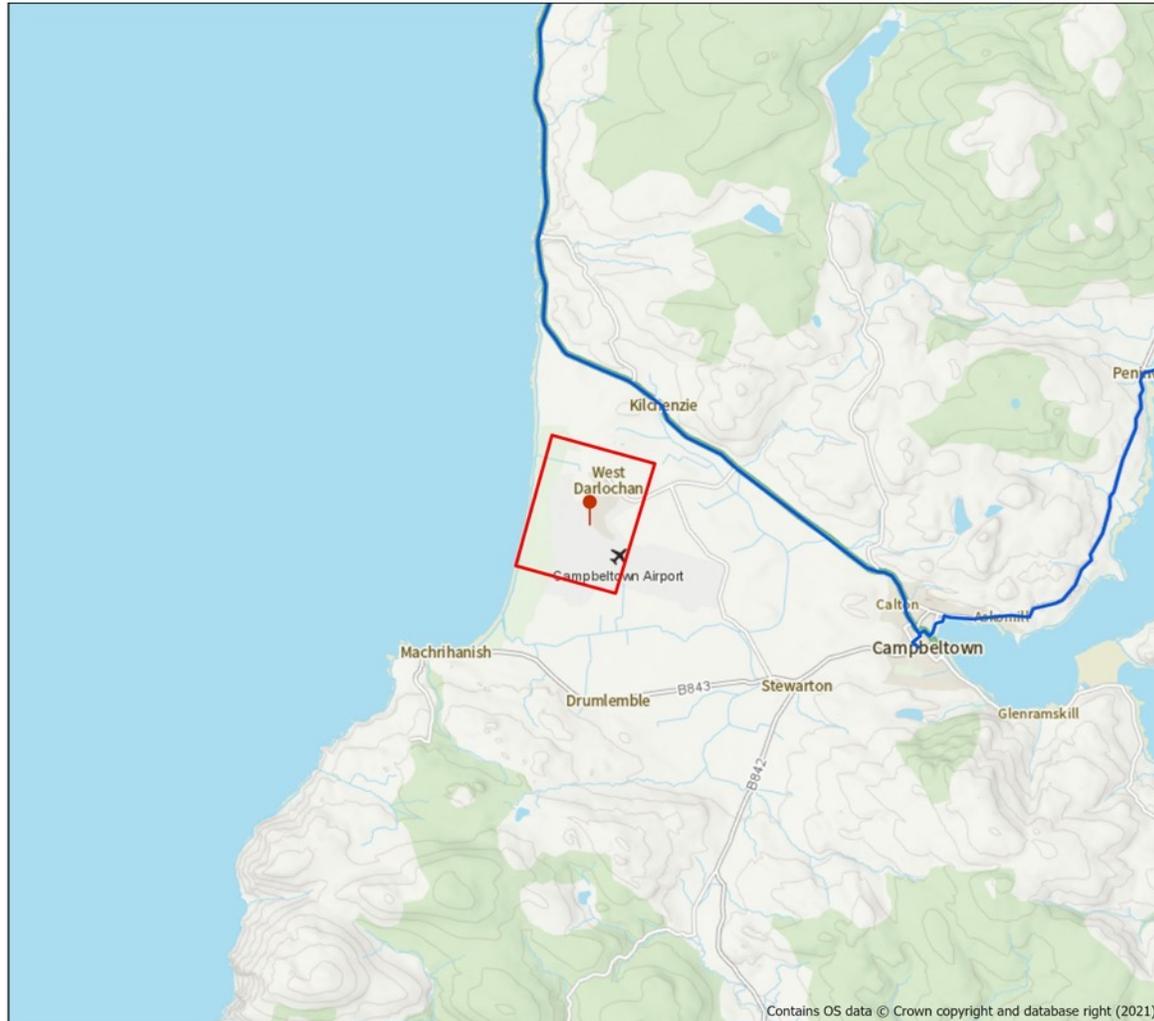


Machrihanish

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Fibre Routes (Estimated)

0 0.75 1.5 3 4.5 6
Kilometers



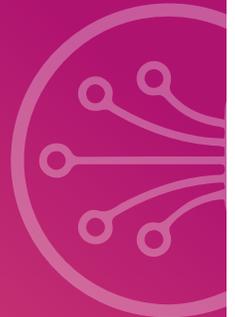
Contains OS data © Crown copyright and database right (2021)

Notes

- Openreach fibre in the vicinity

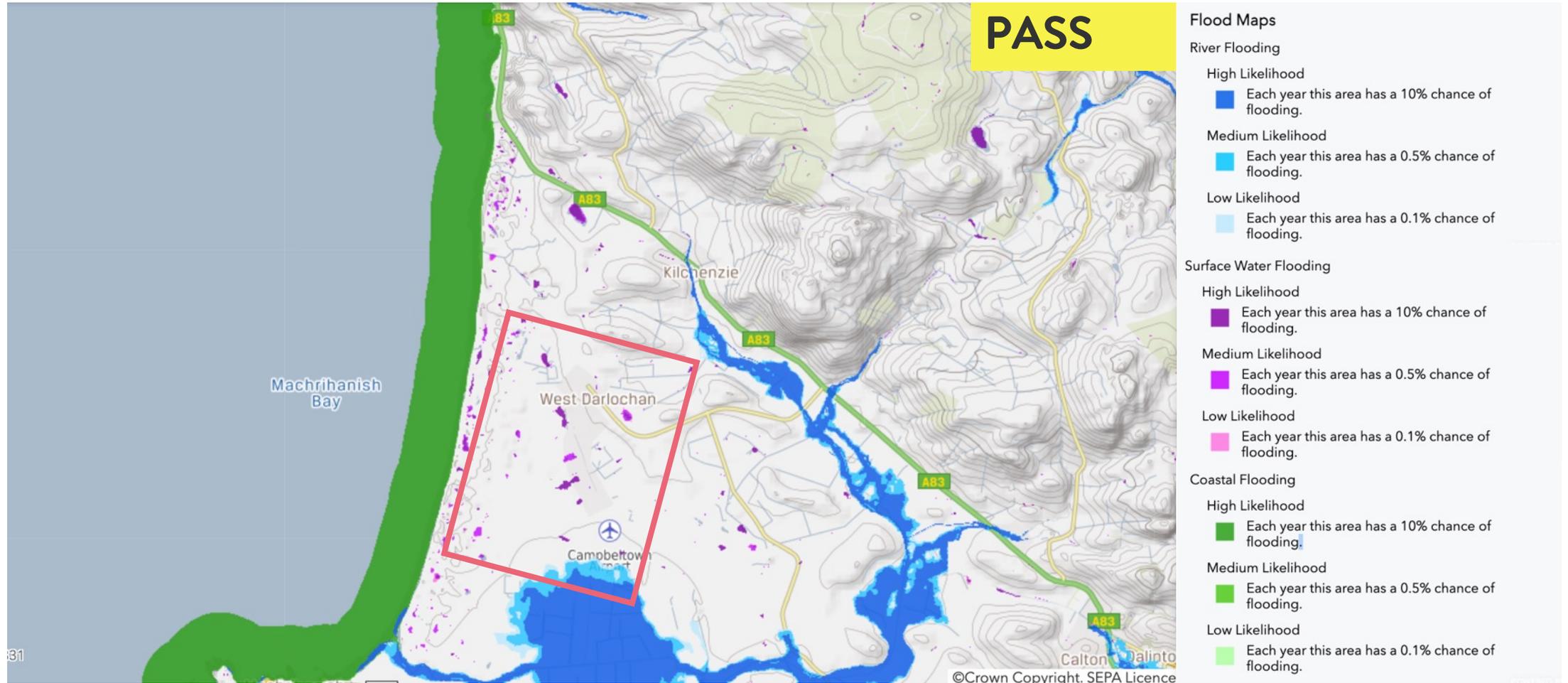
No known nearby PoPs

Note: Fibre routes are deduced from data available in the public domain.



MACHRIHANISH

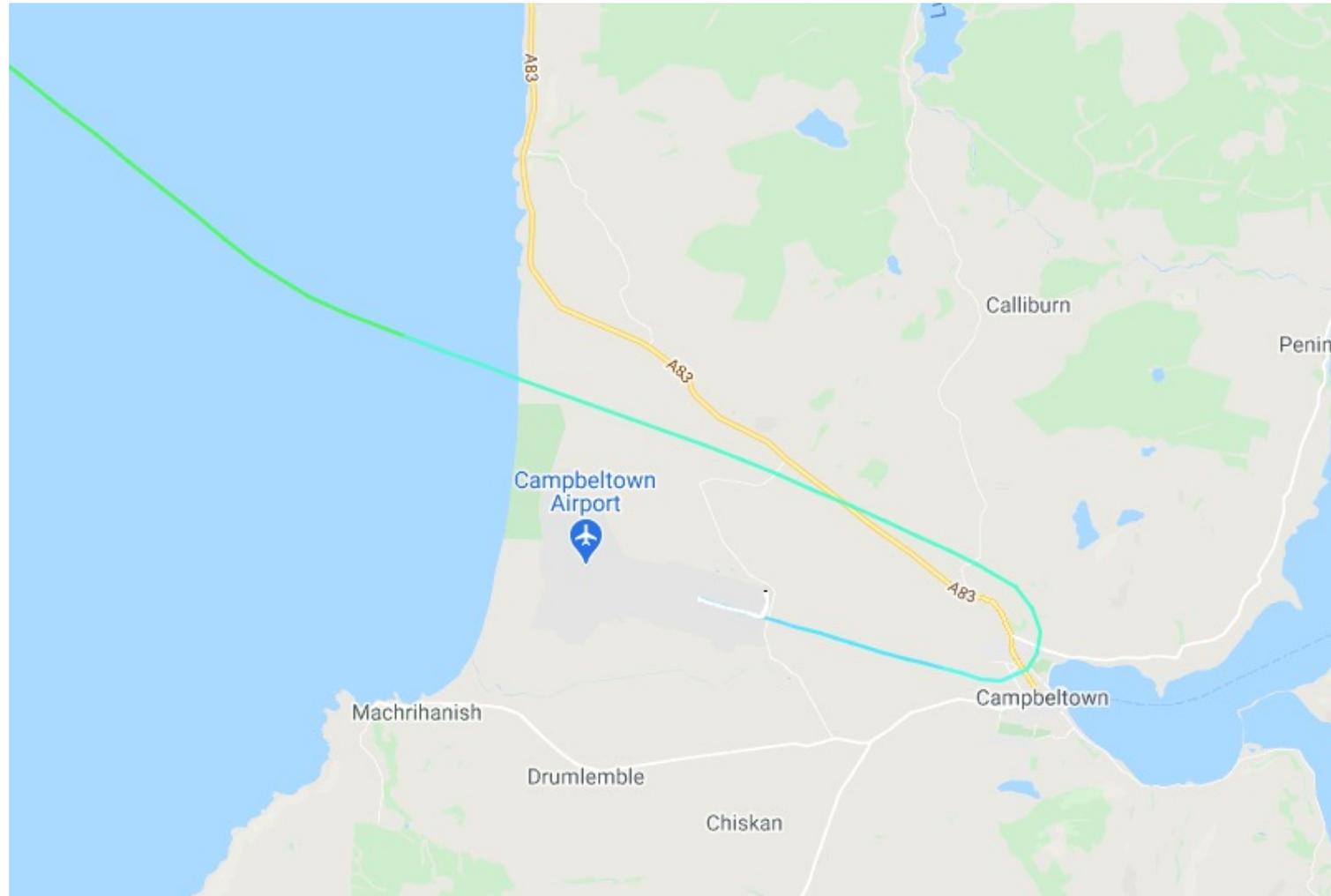
FLOOD RISK ASSESSMENT



*the site is still a pass, although we note that there are some flood zones to the South of the Campbeltown runway.

MACHRIHANISH

FLIGHT PATHS



A typical departure for Logan Air flight LM443, the only scheduled flight between Glasgow and Machrihanish. The flight is served by a light aircraft which only utilises a portion of the established runway.

Flight paths may vary, although flight data for this airport is difficult to report.



SHORTLIST

MEYGEN

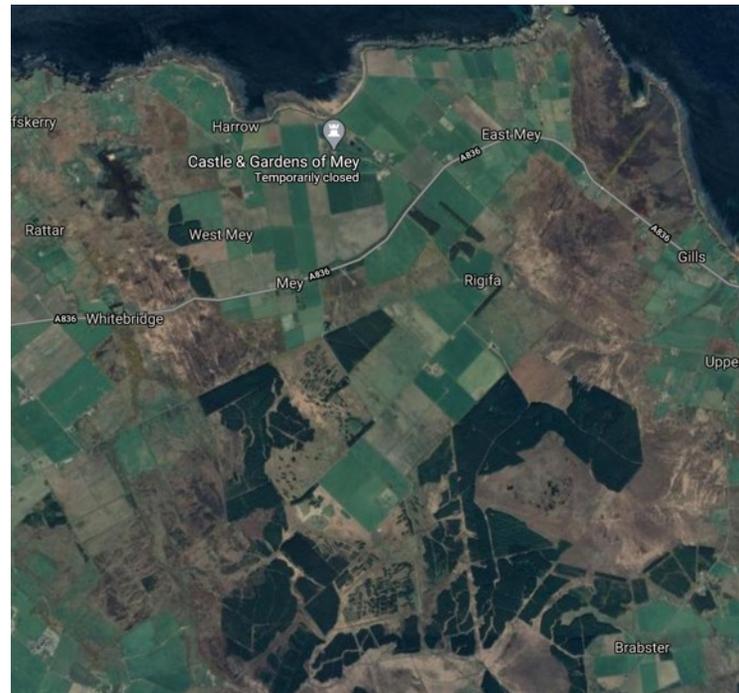
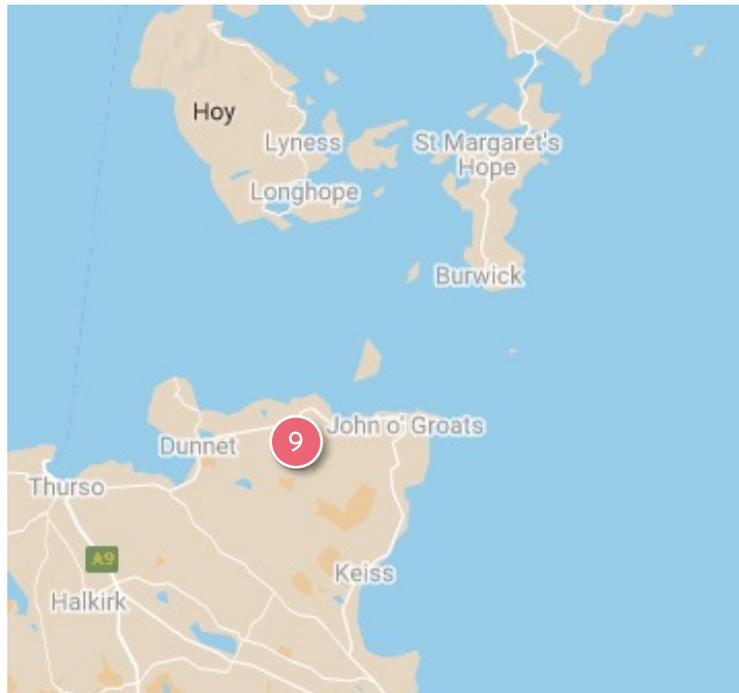
DATA CENTRE

#SCOTLAND|SNOW

MEYGEN DATA CENTRE

OVERVIEW

Site Overview	MeyGen data centre is a data centre development scheme promoted by Simec Atlantis. Currently a greenfield site, MeyGen data centre is being developed to utilise more reliable, predictable power from tidal generation.				
Scale: Approx. 20+ Acres	Power: 300 MW	Fibre: Openreach, more carriers in discussion	Renewables: Tidal, Wind	Hazards: None	Use: Hyperscale/Edge/Cable landing station
TechRE Comments	MeyGen's key strength is offering a vast amount of renewable power at a lower cost per kW. MeyGen is currently in talks for potentially two new subsea fibre cables which could make it the only internationally connected site in Scotland with access to North America without going via London.				



MEYGEN DATA CENTRE

IMAGES



MEYGEN DATA CENTRE

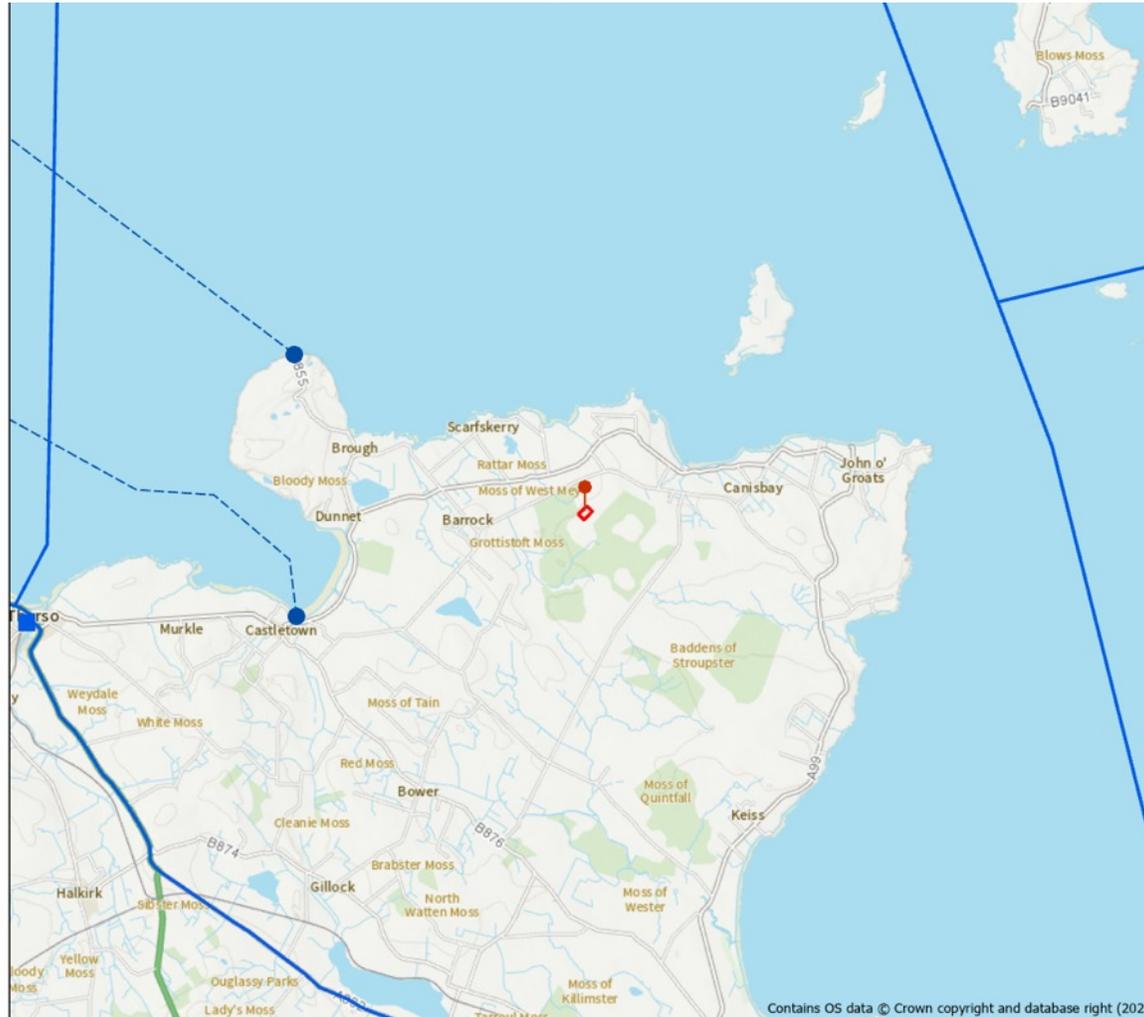
FIBRE



MeyGen

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Ethernet Nodes (Estimated)
-  BT Fibre Routes (Estimated)
-  Sub-sea Telecom Terminals (Estimated)
-  Sub-sea Telecom Cables (Estimated)



Notes

- Close to Farice-1 subsea route and expected subsea route to Orkney

Nearby PoPs:

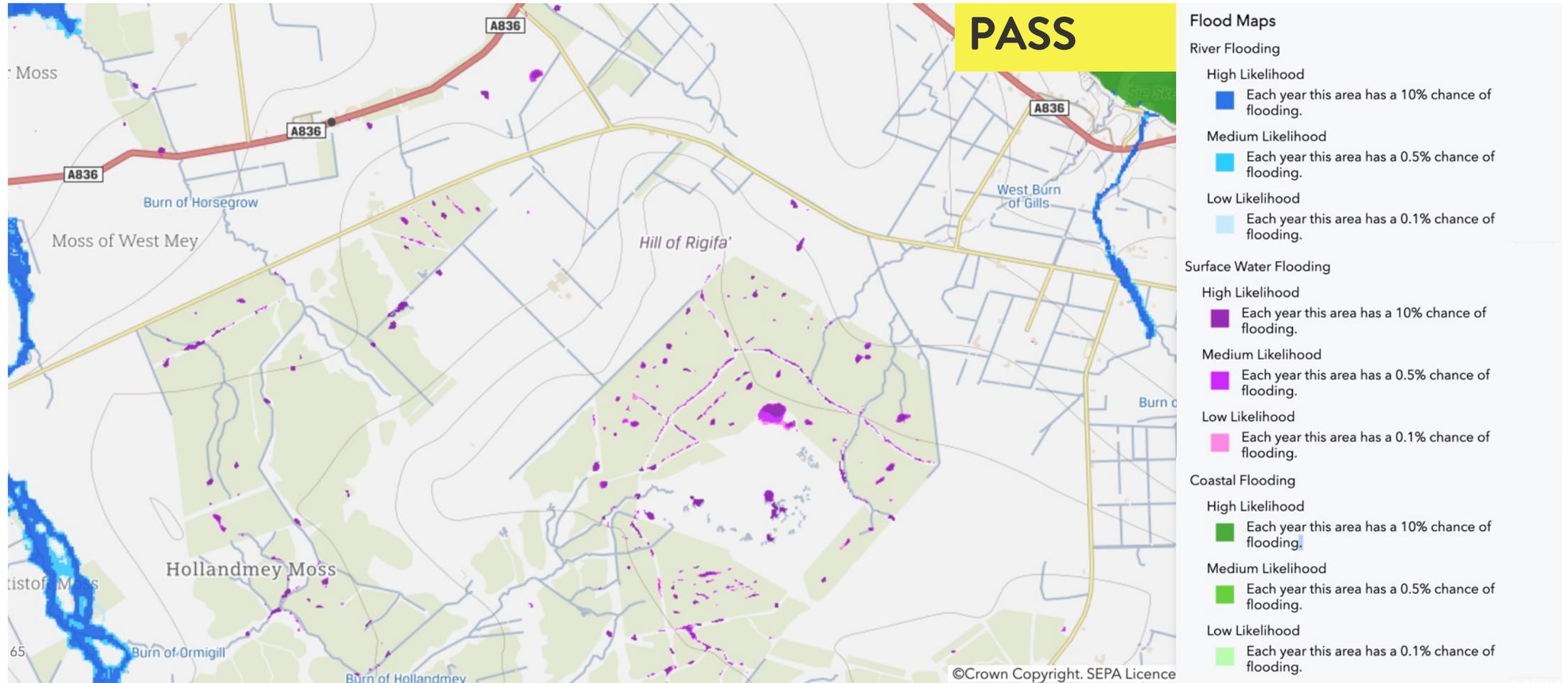
- BT OHP/Ethernet Node in Thurso

Note: Fibre routes are deduced from data available in the public domain.



MEYGEN DATA CENTRE

FLOOD RISK ASSESSMENT



SHORTLIST

MICHELIN SCOTLAND

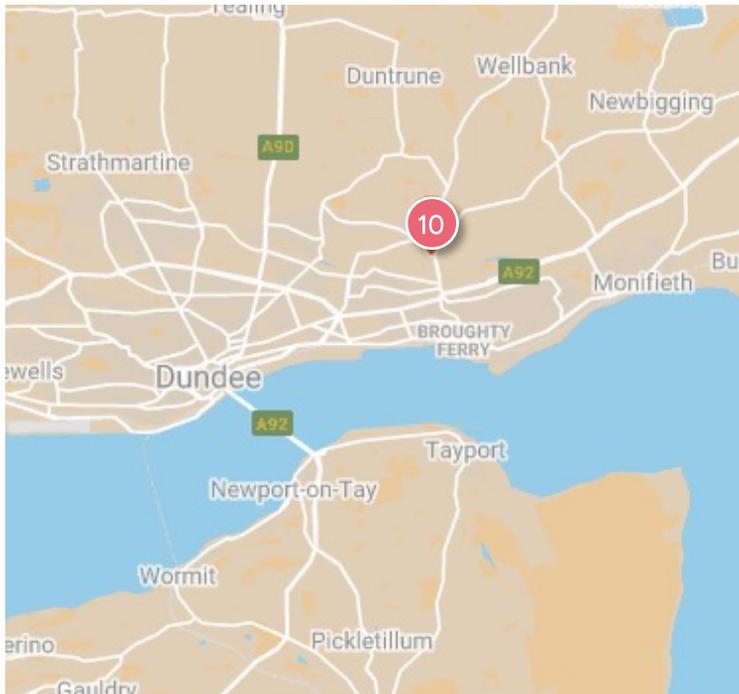
INNOVATION PARC

#SCOTLAND|SNOW

MICHELIN SCOTLAND INNOVATION PARC

OVERVIEW

Site Overview	The Michelin Innovation Parc is an ex – tyre factory owned by Michelin. The site has a mixture of large industrial units, neighbouring land and car parking.				
Scale: Approx. 90 Acres	Power: 10 MW sustainable electricity 7MW from steam	Fibre: Close to SSE and Openreach	Renewables: EfW + Wind	Hazards: Further due diligence required	Use: Hyperscale/Edge
TechRE Comments	We believe this would make for an excellent data centre site, offering speed to market with high quality industrial units, 10MW of sustainable energy from the neighbouring EfW plant and 4MW from the onsite wind turbines. Located within Dundee with a population of 150,000, the site could easily support DC requirements for the East Coast of Scotland. Dundee has also become a recent gaming / e-sports hub which adds to Dundee’s unique story plus a potential Freeport.				



MICHELIN SCOTLAND INNOVATION PARC

IMAGES



MICHELIN SCOTLAND INNOVATION PARC

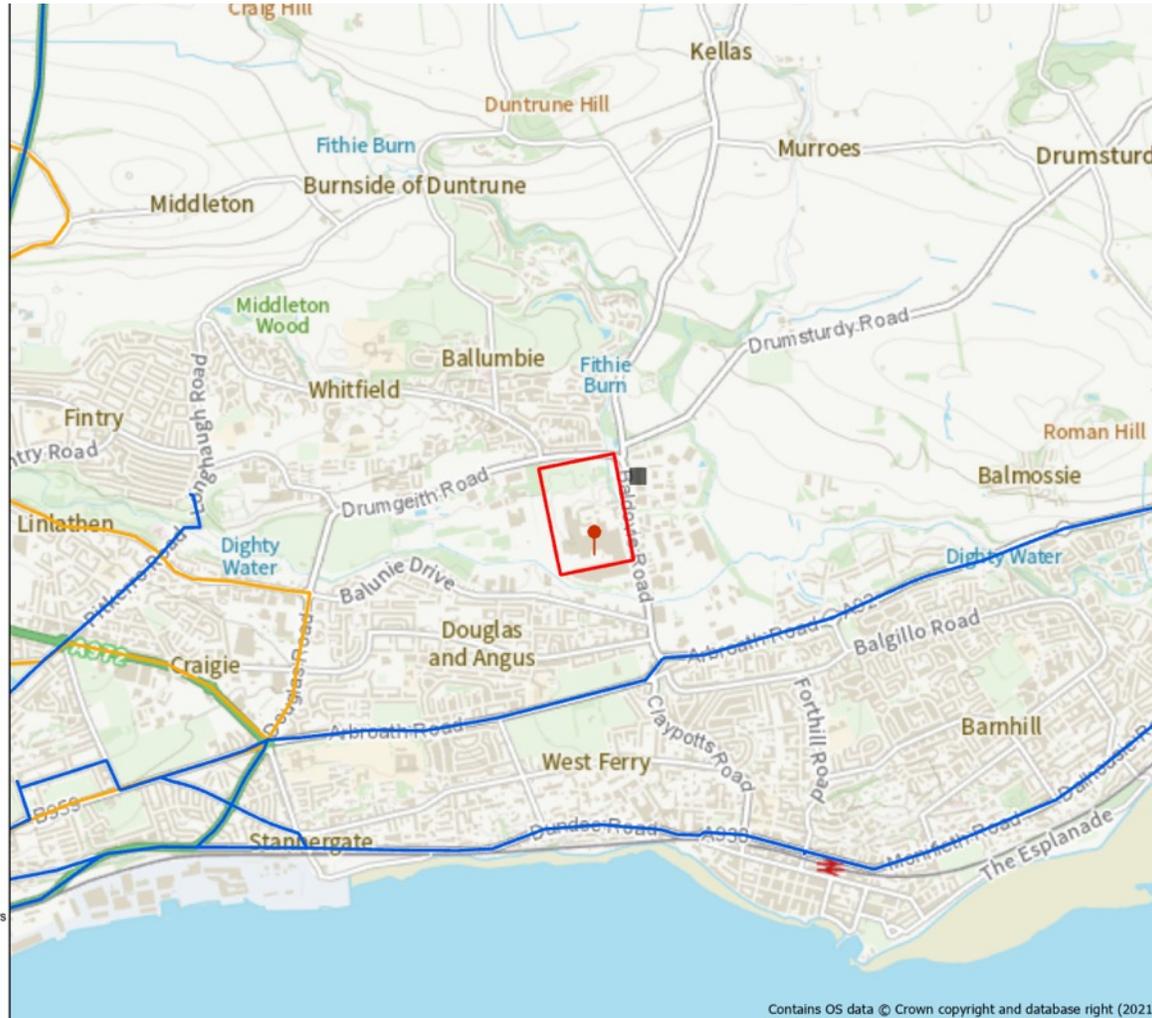
FIBRE



Michelin Innovation Parc

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  Virgin Media PoPs (Estimated)
-  BT Fibre Routes (Estimated)
-  SSE Fibre Routes (Estimated)



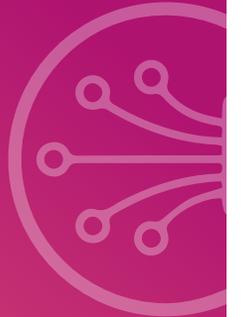
Notes

- SSE and Openreach fibre routes in the vicinity

Nearby PoPs:

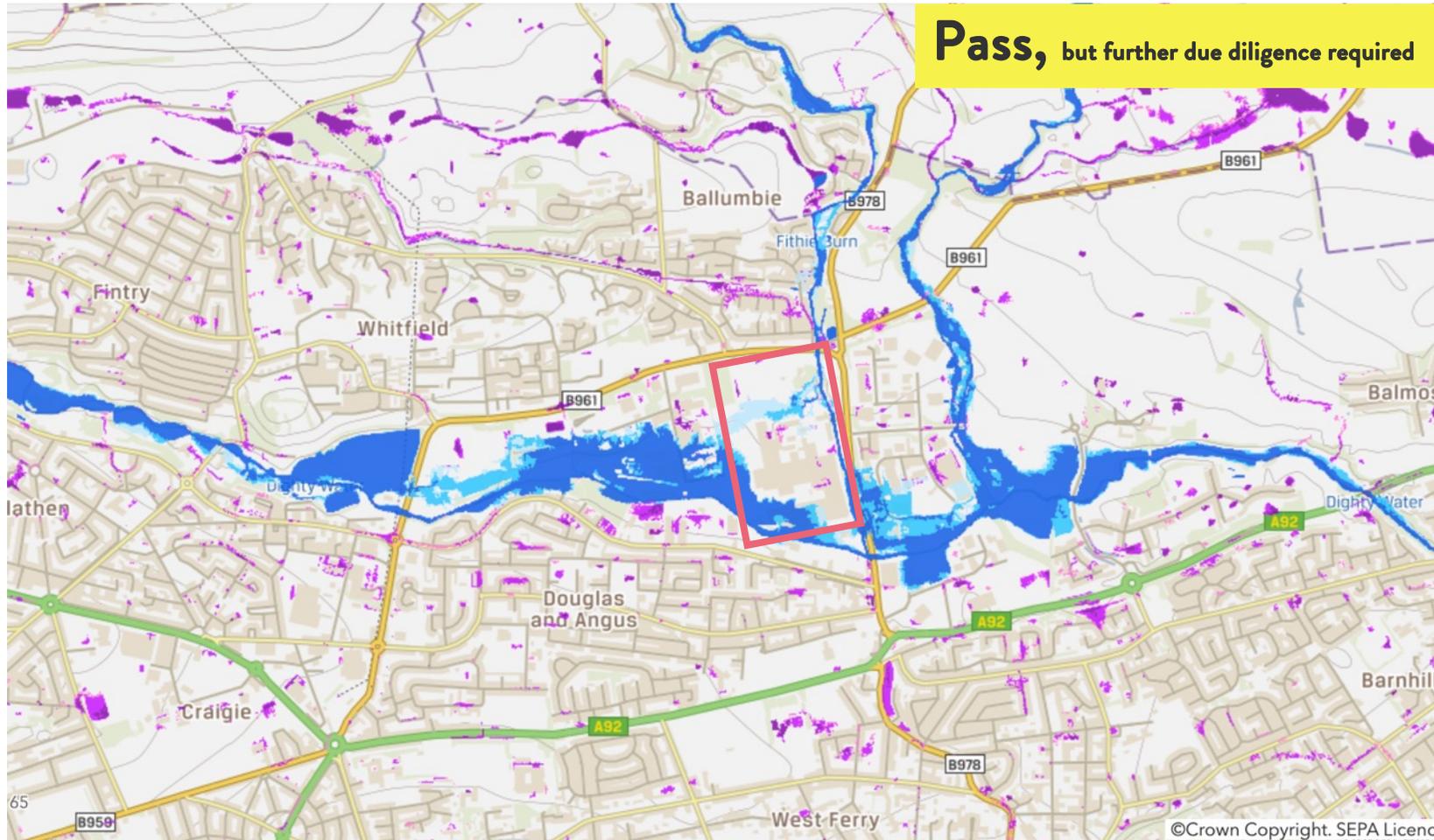
- Virgin Media
- BT OHP/Ethernet Node in Dundee

Note: Fibre routes are deduced from data available in the public domain.



MICHELIN SCOTLAND INNOVATION PARC

FLOOD RISK ASSESSMENT



Flood Maps

River Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

Each year this area has a 0.1% chance of flooding.

Coastal Flooding

High Likelihood

Each year this area has a 10% chance of flooding.

Medium Likelihood

Each year this area has a 0.5% chance of flooding.

Low Likelihood

Each year this area has a 0.1% chance of flooding.

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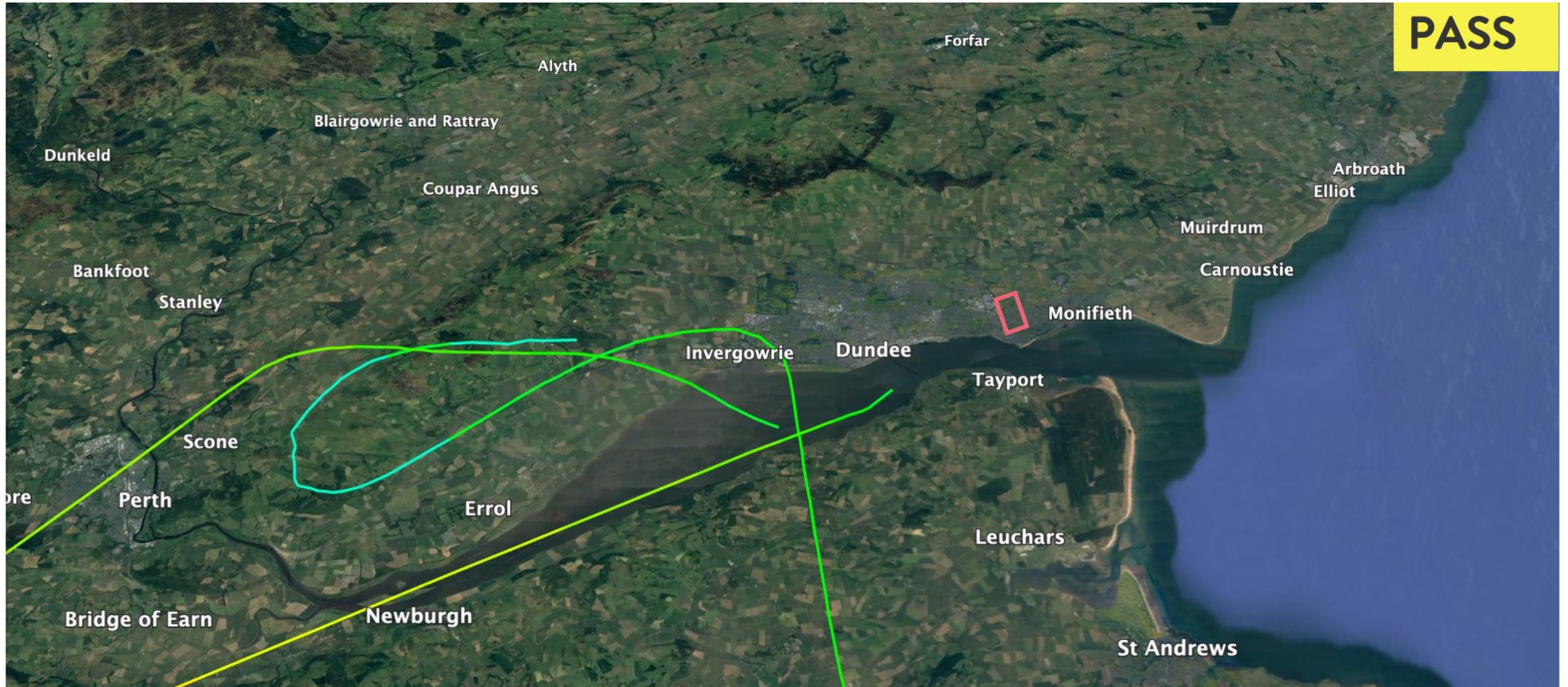
MICHELIN SCOTLAND INNOVATION PARC

POWER



MICHELIN SCOTLAND INNOVATION PARC

FLIGHT PATH ASSESSMENT



SHORTLIST

PEEL PORTS

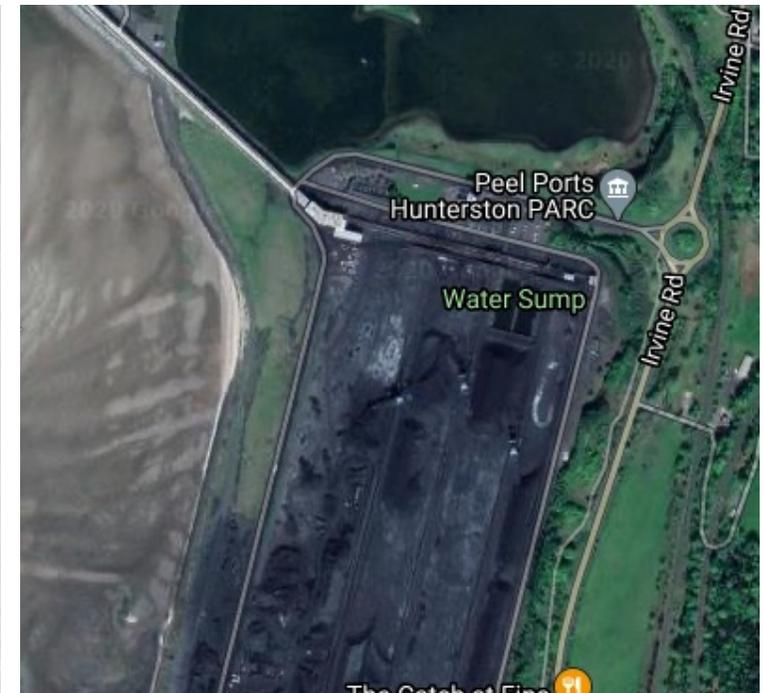
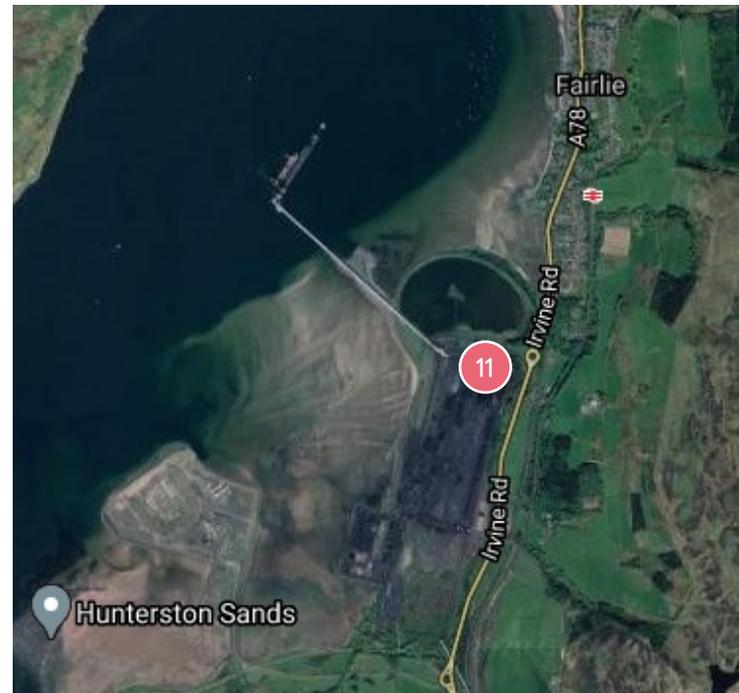
HUNTERSTON

#SCOTLAND|SNOW

PEEL PORTS HUNTERSTON

OVERVIEW

Site Overview	A deep water port previously used for transport and set down of coal which was delivered to the nearby coal-fired power station.				
Scale: 300 Acres	Power: 300MW consented	Fibre: Limited to Openreach	Renewables: EFW + future landing location for offshore wind dev.	Hazards: Comprehensive data sets available for the site	Use: Hyperscale/Edge
TechRE Comments	An interesting opportunity on the West Coast of Scotland, where an operator could look to support nearby Glasgow or could look to create a hyperscale renewables campus. Current plans for the site also include manufacturing for the wind farm sector and research into Agri-tech products. More terrestrial fibre needed though.				



PEEL PORTS HUNTERSTON

IMAGES



PEEL PORTS HUNTERSTON

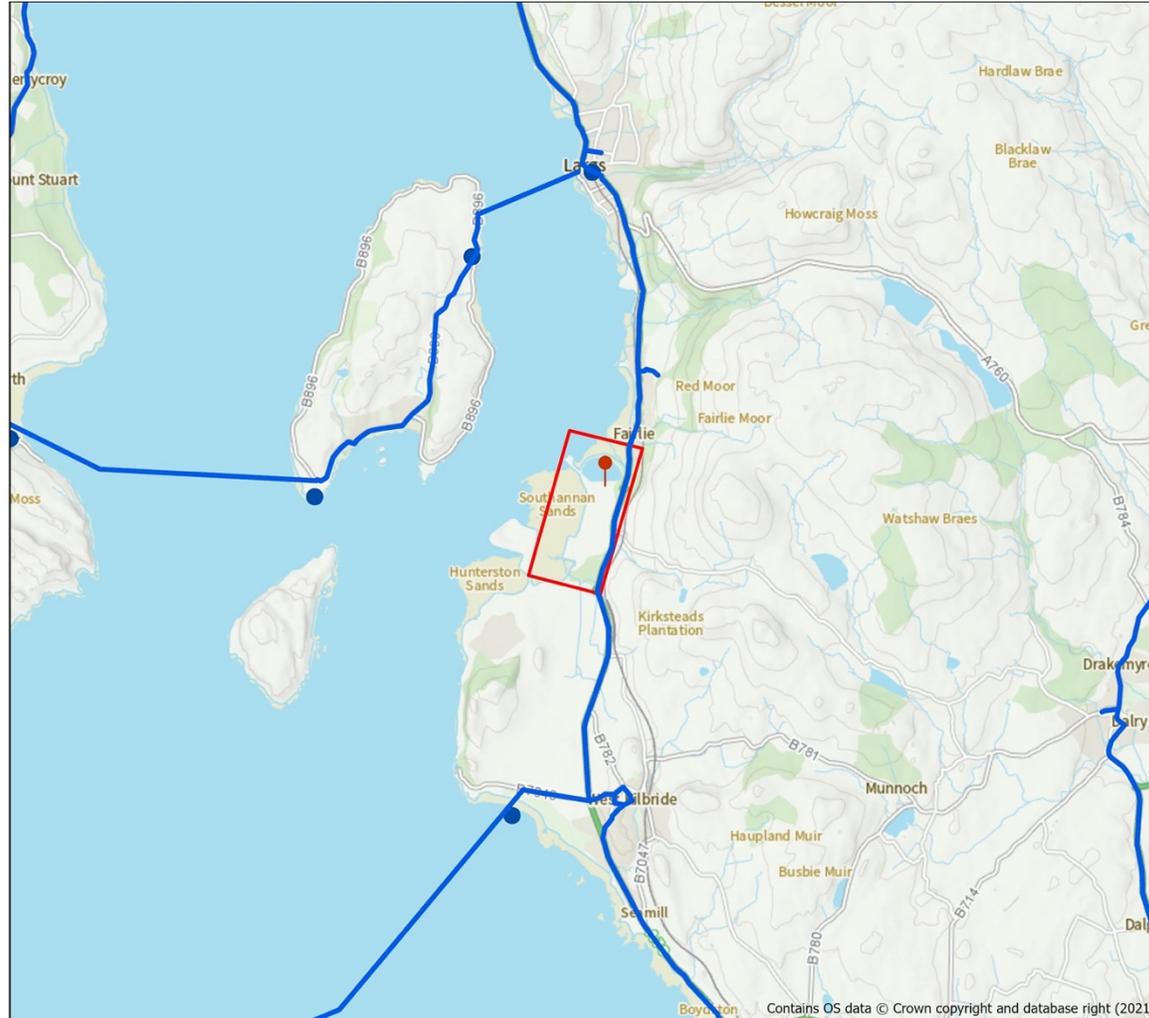
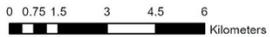
FIBRE



Peel Ports Hunterston

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  Sub-sea Telecom Terminals (Estimated)
-  BT Fibre Routes (Estimated)
-  Virgin Media Fibre Routes (Estimated)



Notes

- Openreach fibre in the vicinity and proposed Openreach subsea fibre route.

Nearby PoPs:

- BT OHP/Ethernet Nodes to the south in Ardrossan / Irvine

Note: Fibre routes are deduced from data available in the public domain.



PEEL PORTS HUNTERSTON

FLOOD RISK ASSESSMENT



Flood Maps

River Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

Coastal Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

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PEEL PORTS HUNTERSTON

FLIGHT PATH ASSESSMENT



SHORTLIST

PYRAMIDS

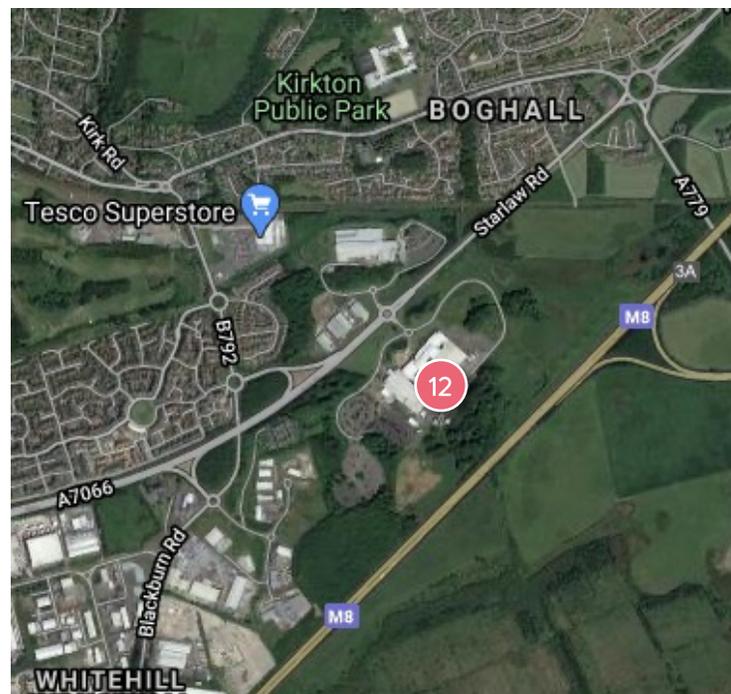
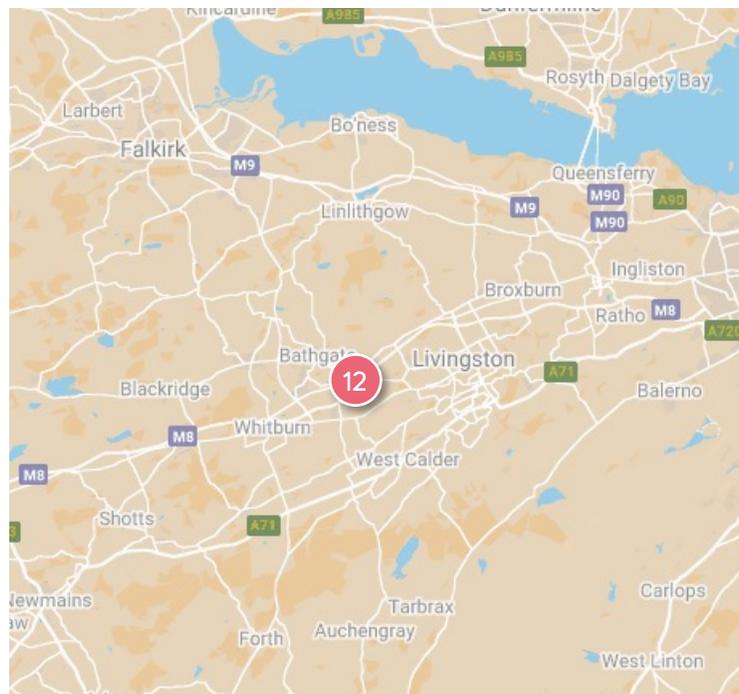
DATA CENTRE

#SCOTLAND|SNOW

PYRAMIDS DATA CENTRE

OVERVIEW

Site Overview	Pyramids is a former semi-conductor plant with large halls, office space and additional development potential on the land around the site.				
Scale: Approx. 100 Acres	Power: 100 MW	Fibre: Multiple carriers	Renewables: Wind	Hazards: None	Use: Hyperscale
TechRE Comments	Pyramid's key strength is that the building is built and ready for data centre fit out for hyperscale. This allows any potential hyperscale customer wishing to enter Scotland the fastest route to market. The site also includes renewable power and Tier One fibre carrier connectivity.				



PYRAMIDS DATA CENTRE

IMAGES



PYRAMIDS DATA CENTRE

FIBRE

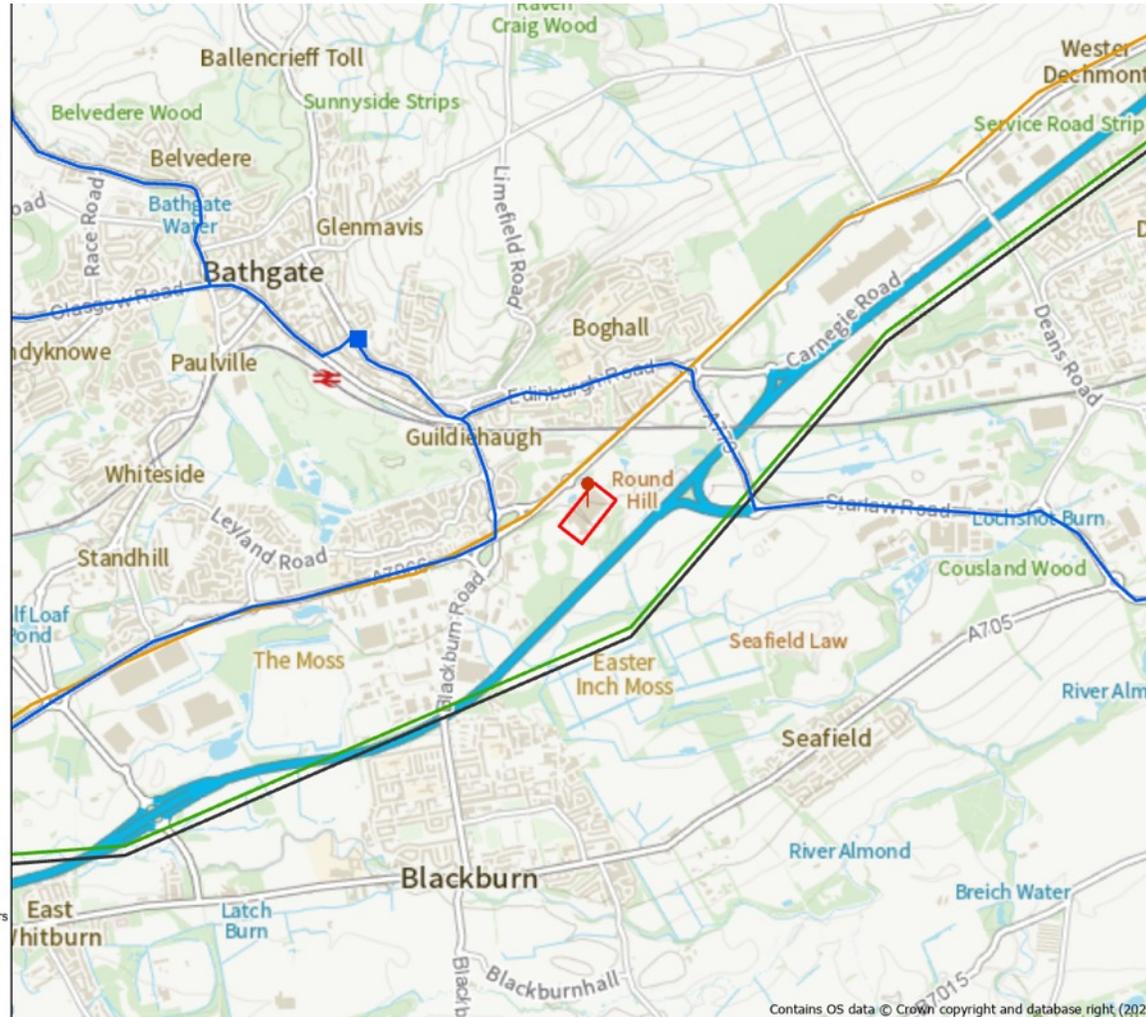


Pyramids Data Centre

Legend

- Scotland Data Centre Site Shortlist
- Scotland Data Centre Site Shortlist
- BT Ethernet Nodes (Estimated)
- BT Fibre Routes (Estimated)
- Virgin Media Fibre Routes (Estimated)
- SSE Fibre Routes (Estimated)
- Geo Fibre Routes (Estimated)

0 0.28 0.55 1.1 1.65 2.2 Kilometers



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Notes

Multiple Operators in the vicinity, including:

- Virgin
- SSE
- Geo
- BT/Openreach

Nearby PoPs:

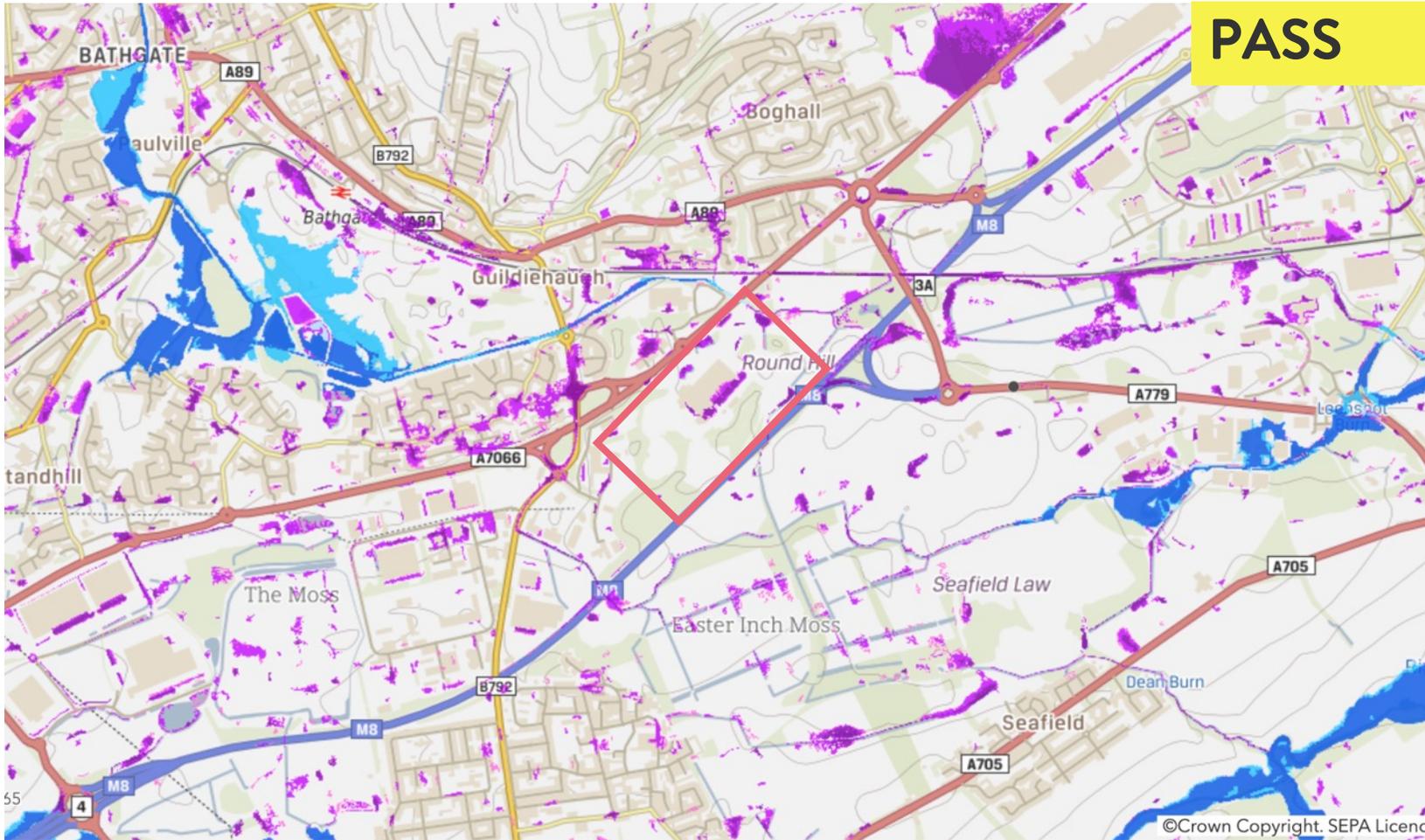
- BT OHP/Ethernet Node in Bathgate

Note: Fibre routes are deduced from data available in the public domain.



PYRAMIDS DATA CENTRE

FLOOD RISK ASSESSMENT



PASS

Flood Maps

River Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

Coastal Flooding

- High Likelihood**
■ Each year this area has a 10% chance of flooding.
- Medium Likelihood**
■ Each year this area has a 0.5% chance of flooding.
- Low Likelihood**
■ Each year this area has a 0.1% chance of flooding.

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PYRAMIDS DATA CENTRE

FLIGHT PATH ASSESSMENT



SHORTLIST

QUEENSWAY PARK

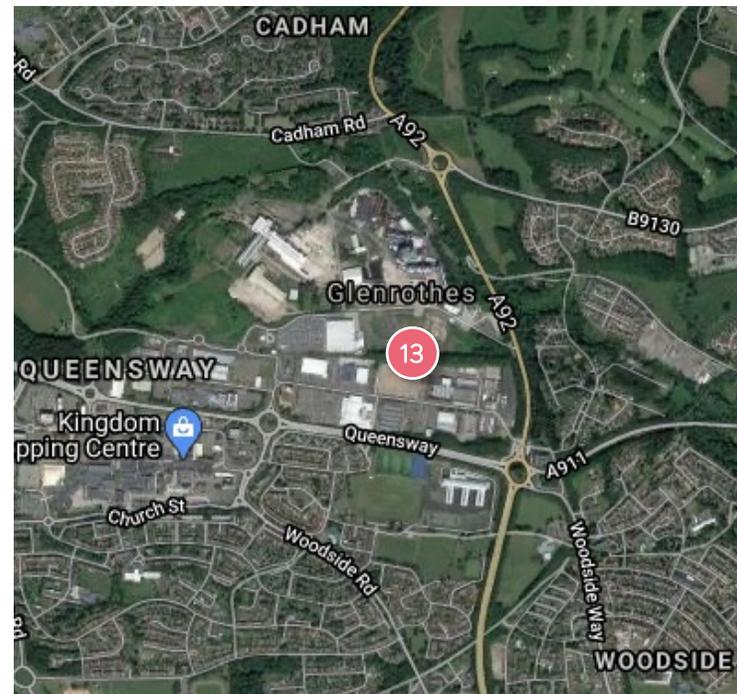
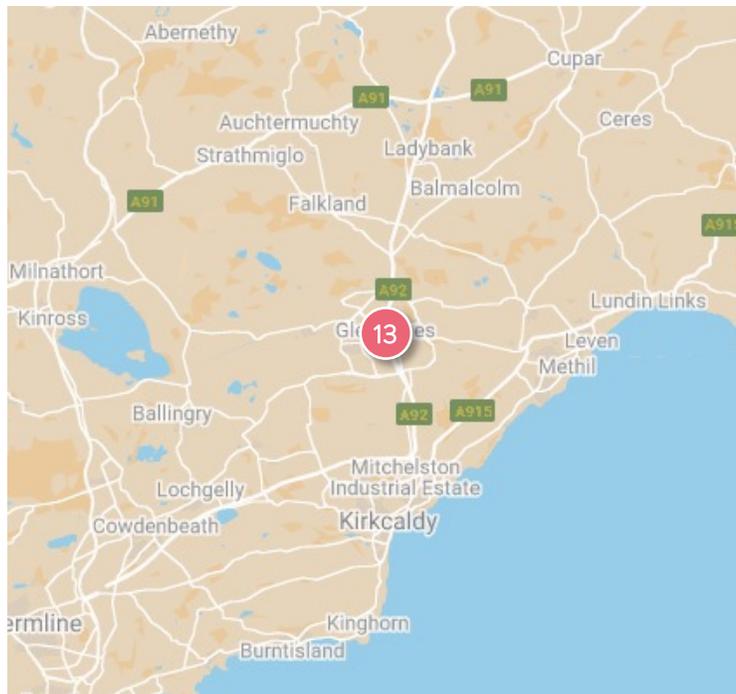
DATA CENTRES, GLENROTHES

#SCOTLAND|SNOW

QUEENSWAY PARK DATA CENTRES, GLENROTHES

OVERVIEW

Site Overview	A biomass powered data centre campus within 30 minutes drive of Edinburgh Airport with the intention to offer 9,500 sq m of technical space.				
Scale: 12 Acres	Power: 40 MW	Fibre: Openreach and Virgin Media in vicinity	Renewables: Biomass	Hazards: None observed	Use: Hyperscale/Edge
TechRE Comments	The campus is designed and thought out for modern data centre use. With an adjacent biomass plant delivering large scale power, good connectivity and a good location north of Edinburgh, Queensway Park Data Centres is another great data centre scheme in Scotland. Connectivity has been enhanced through agreement with Stellium data centre to connect with their new exchange in North Shields giving access to a new subsea cable connecting the NE to Ireland & Mainland Europe.				



QUEENSWAY PARK DATA CENTRES, GLENROTHES

IMAGES



The proposed purpose built buildings.



QUEENSWAY PARK DATA CENTRES, GLENROTHES

FIBRE

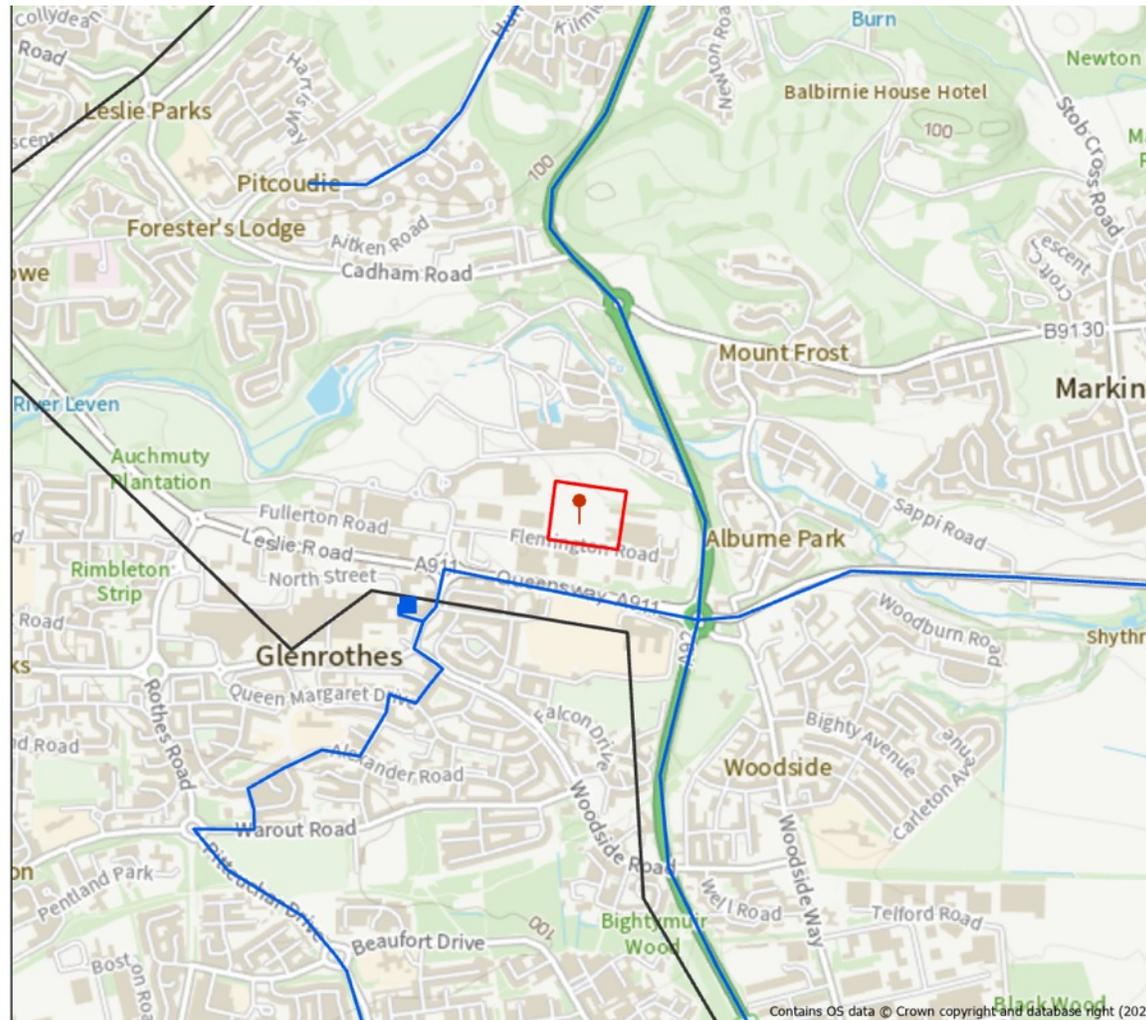


Queensway Park Data Centre

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Ethernet Nodes (Estimated)
-  BT Fibre Routes (Estimated)
-  Virgin Media Fibre Routes (Estimated)
-  Level 3 Fibre Routes (Estimated)

0 0.130.25 0.5 0.75 1
Kilometers



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Notes

- Openreach fibre and Virgin Media fibre expected in the vicinity

Nearby PoPs:

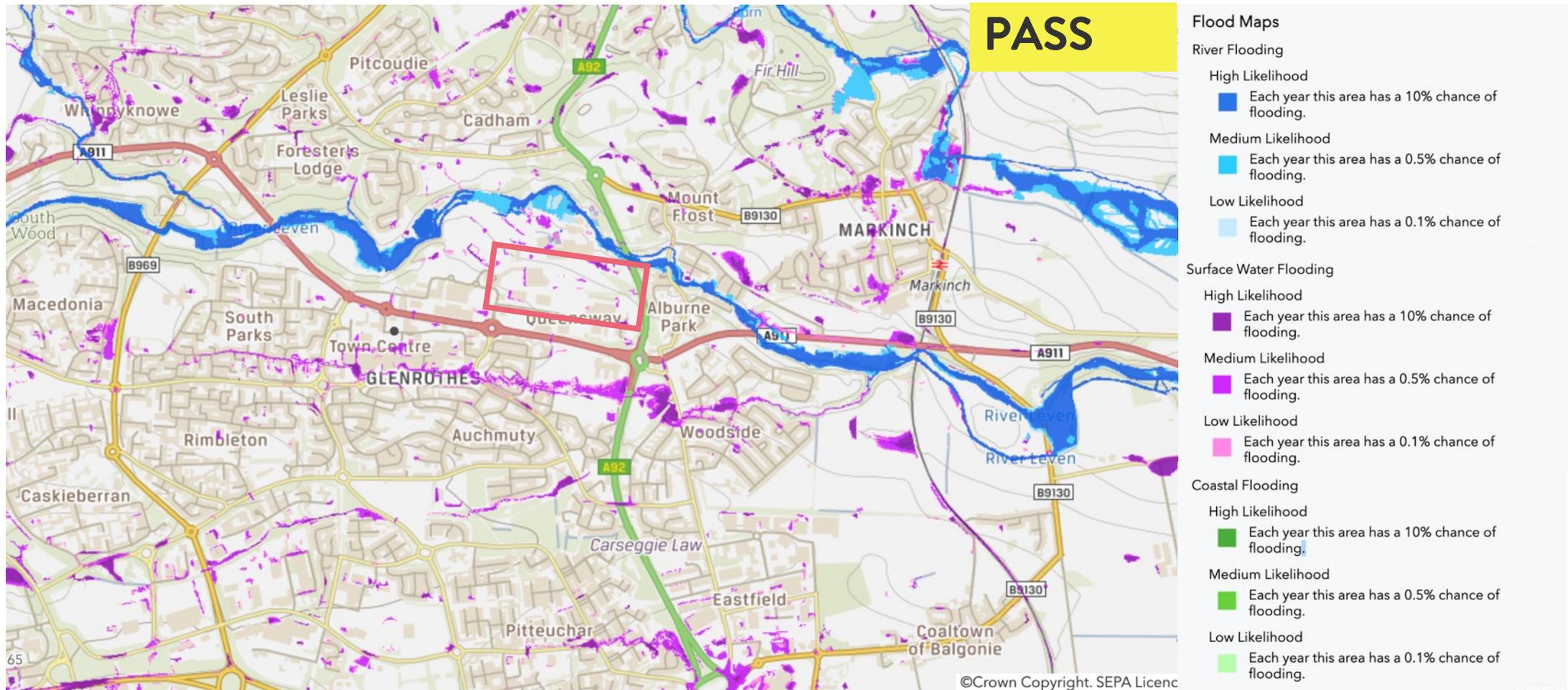
- Virgin Media PoP and BT OHP/Ethernet Node in Glenrothes

Note: Fibre routes are deduced from data available in the public domain.



QUEENSWAY PARK DATA CENTRES, GLENROTHES

FLOOD RISK ASSESSMENT



* As part of site remediation completed in 2019, significant investment was made in a new surface water drainage network and sustainable urban drainage system (SUDS) reducing the level of any flood risk.

SHORTLIST

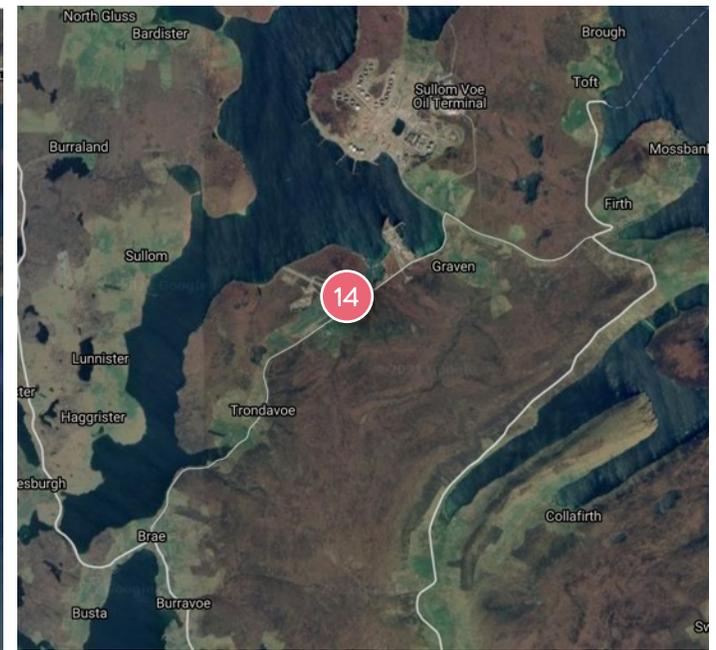
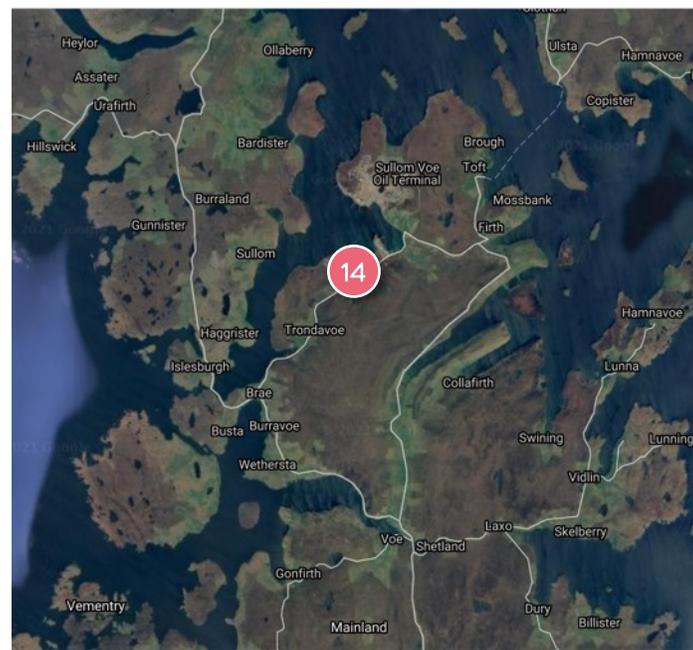
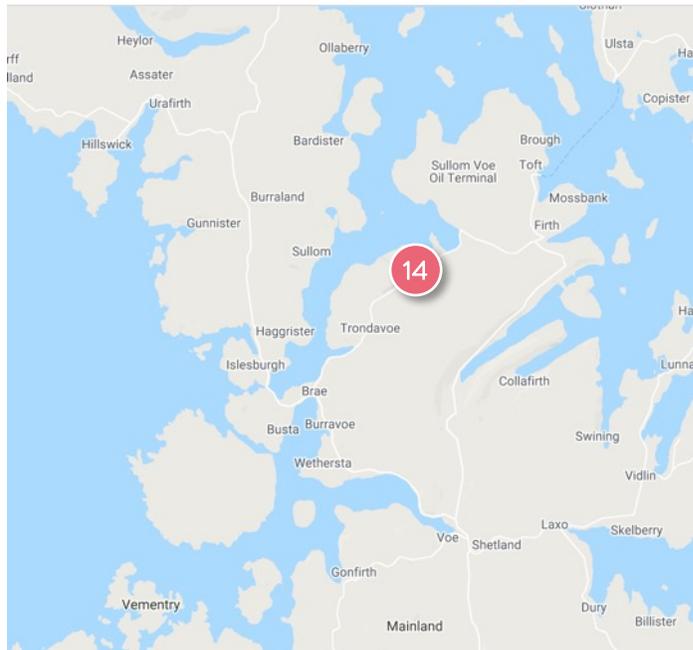
SCATSTA AIRPORT

#SCOTLAND|SNOW

SCATSTA AIRPORT

OVERVIEW

Site Overview	Scatsca Airport is a decommissioned airport next to Sullom Voe oil terminal which closed in June 2020. It lies north of Viking onshore wind farm (433MW) and south of the future Orion renewables project (providing 400-600MW)				
Scale: 123 acres	Power: Some infrastructure with plenty of green potential	Connectivity: Some terrestrial fibre available	Renewables: Wind and tidal power projects	Hazards: Sullom Voe Oil Terminal >3km away	Use: Hyperscale / Cable Landing Station
TechRE Comments	This site offers easy data centre development with compatible industrial planning zoning. International connectivity via Shefa and Faroes cables. Sullom Voe oil terminal (Upper Tier COMAH site) is slowly being decommissioned so is therefore considered less of a hazard.				



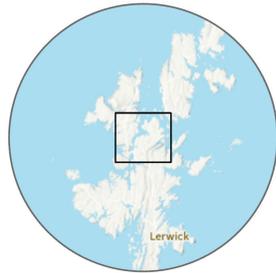
SCATSTA AIRPORT

IMAGES



SCATSTA AIRPORT

FIBRE

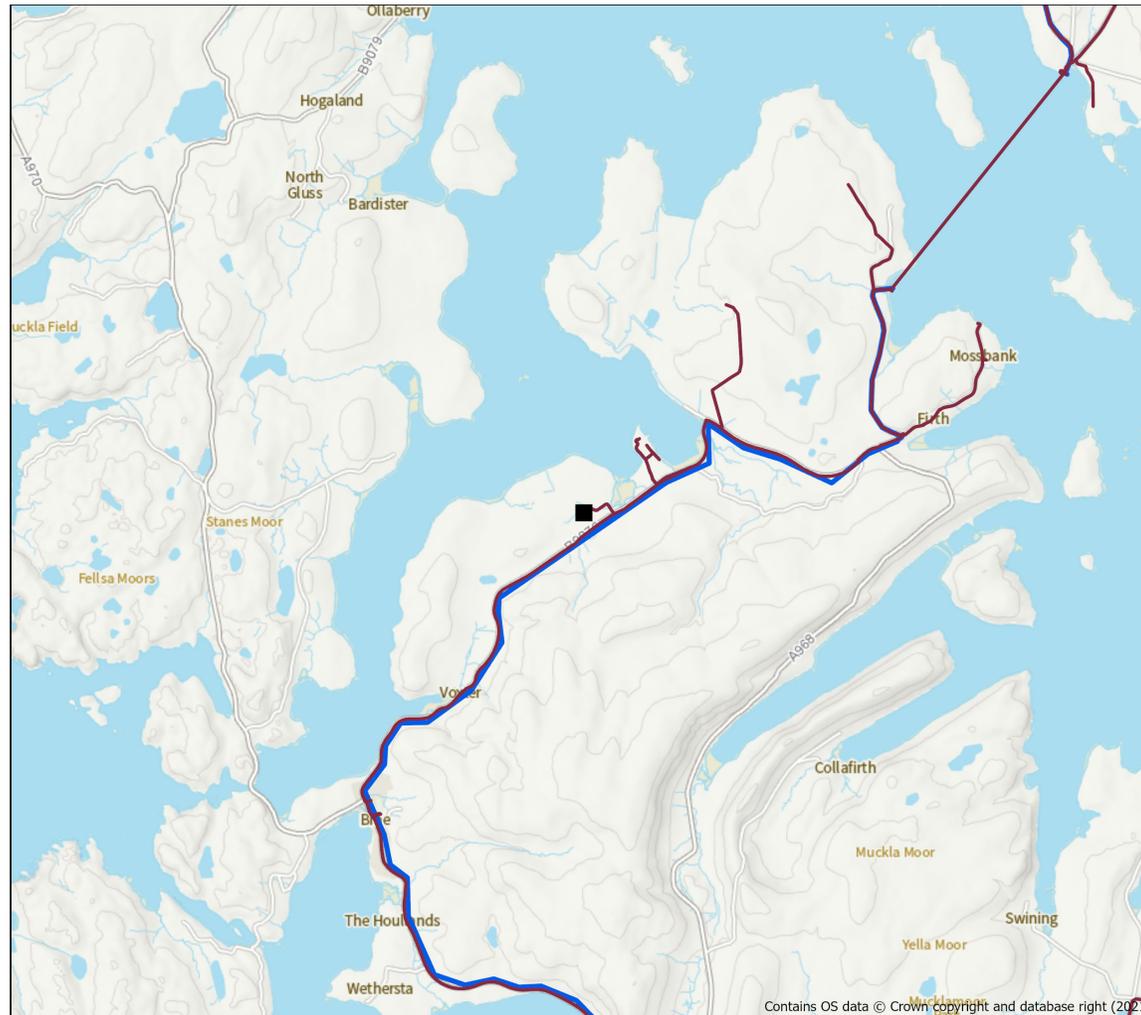


Scatsta Airport

Legend

- BT Fibre Routes (Estimated)
- Shetland Telecom Duct/Fibre Routes
- Data Centre Sites

0 0.75 1.5 3 4.5 6 Kilometers

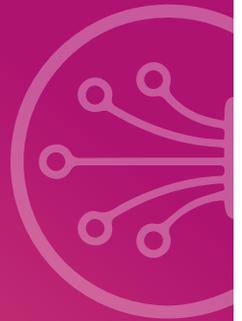


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Notes

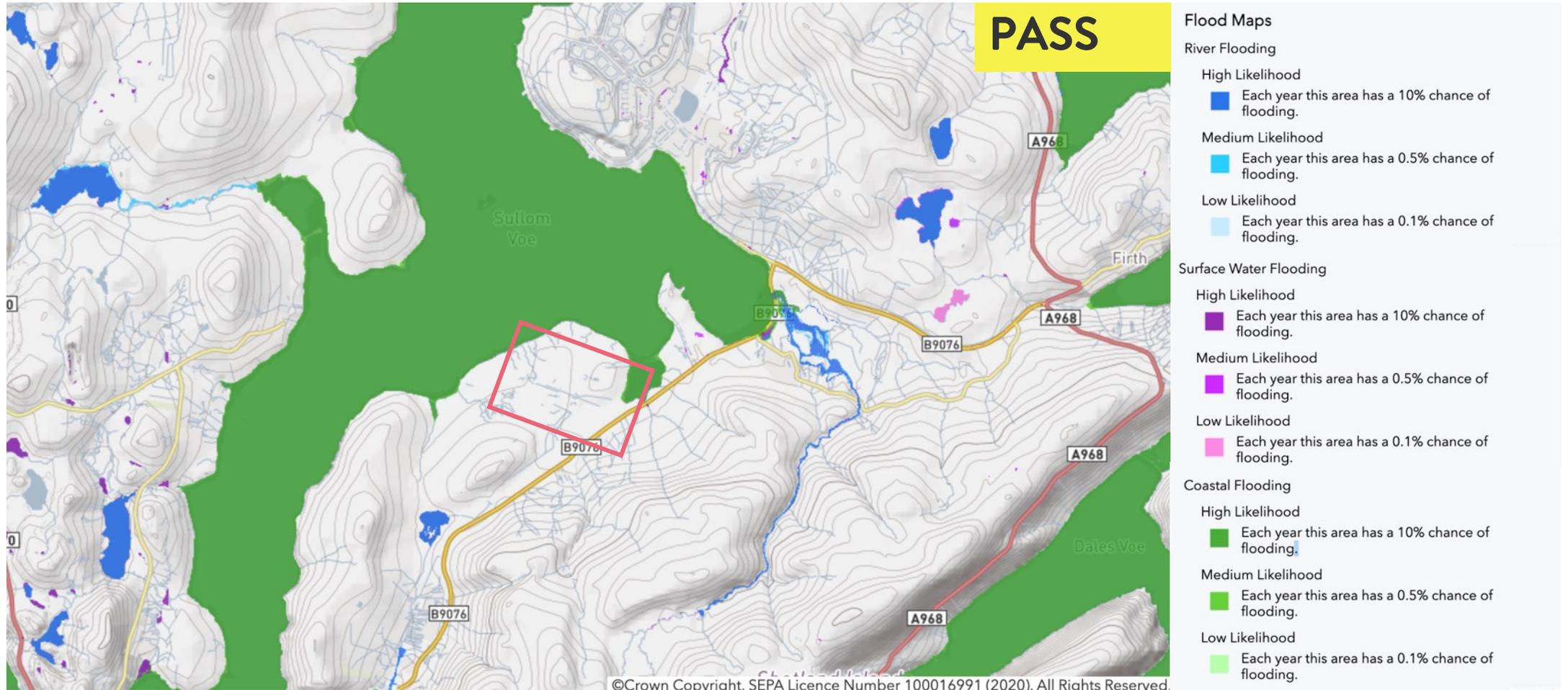
- Shetland Telecom fibre/duct to the site
- Close to estimated Openreach fibre route

Note: Fibre routes are deduced from data available in the public domain



SCATSTA AIRPORT

FLOOD RISK ASSESSMENT



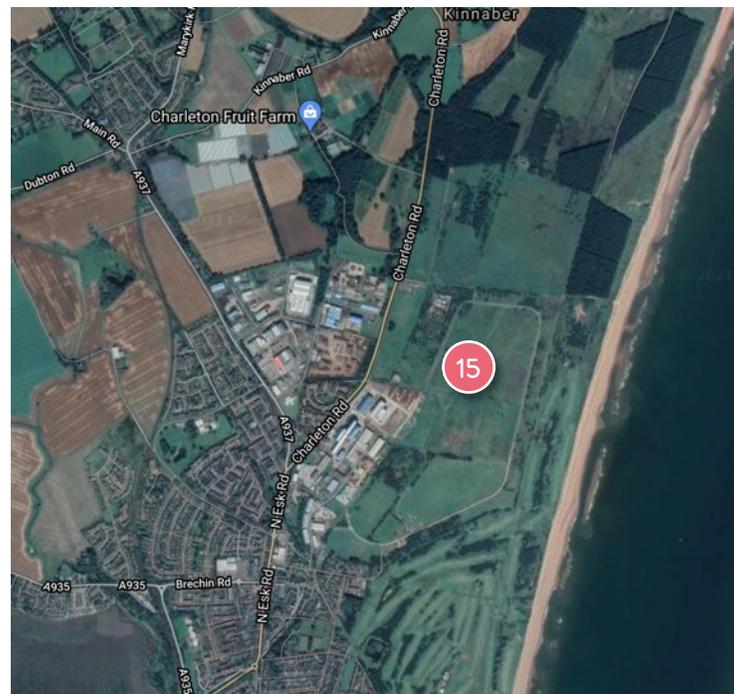
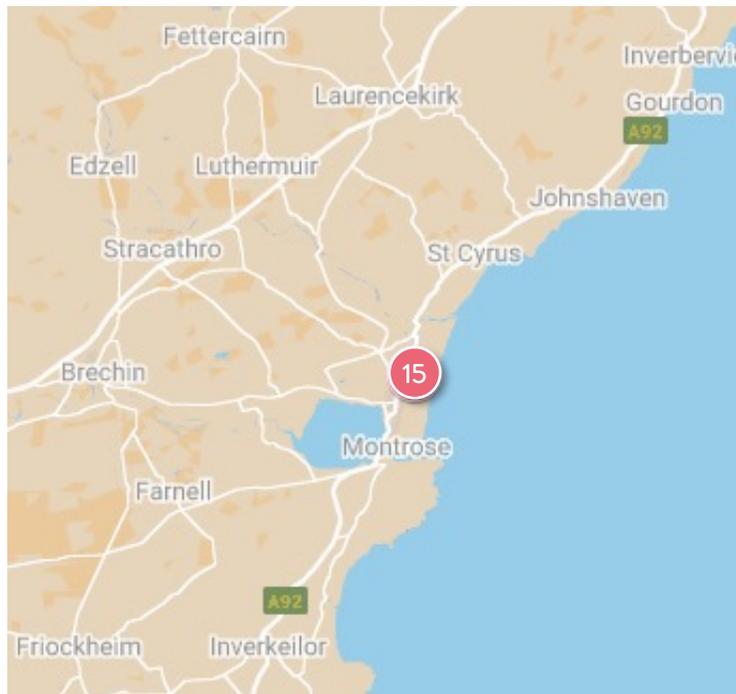
SHORTLIST
ZERO FOUR

#SCOTLAND|SNOW

ZERO FOUR

OVERVIEW

Site Overview	Currently a greenfield site, Zero Four is a planned business park in Montrose which is entirely renewables lead.				
Scale: 123 Acres	Power: 1.5 GW coming soon	Fibre: Limited to Openreach	Renewables: Offshore Wind	Hazards: None	Use: Hyperscale/Edge
TechRE Comments	Montrose is of particular interest due to SSE's Seagreen windfarm lying 27km off the coast. SSE have already announced the town will be the commercial base for Scotland's largest windfarms and Zero Four will offer the office space and heliport to support the windfarm. More terrestrial fibre will be needed to develop the site.				



ZERO FOUR IMAGES



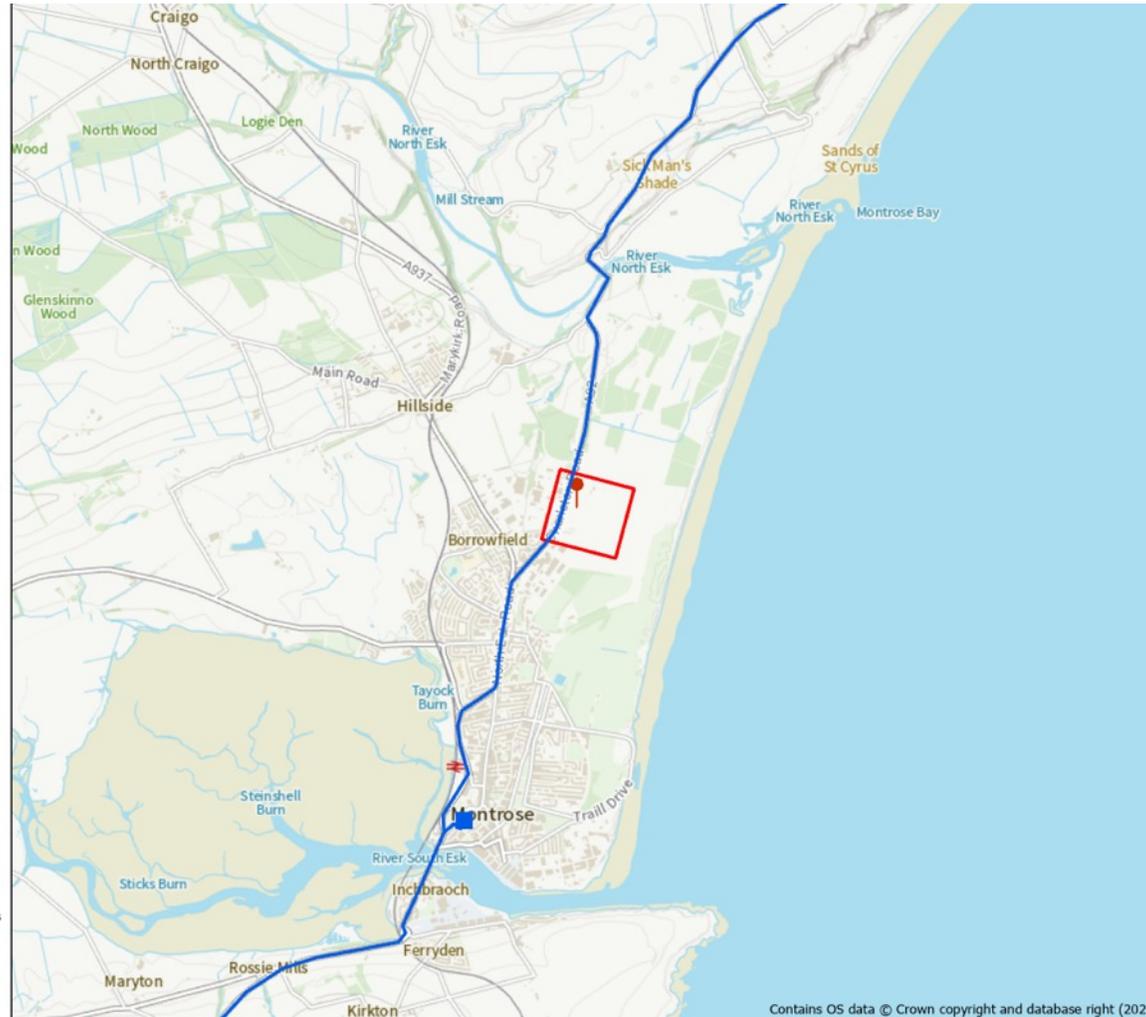
ZERO FOUR FIBRE



Zero Four

Legend

-  Scotland Data Centre Site Shortlist
-  Scotland Data Centre Site Shortlist
-  BT Ethernet Nodes (Estimated)
-  BT Fibre Routes (Estimated)



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Notes

- Openreach fibre route in the vicinity

Nearby PoPs:

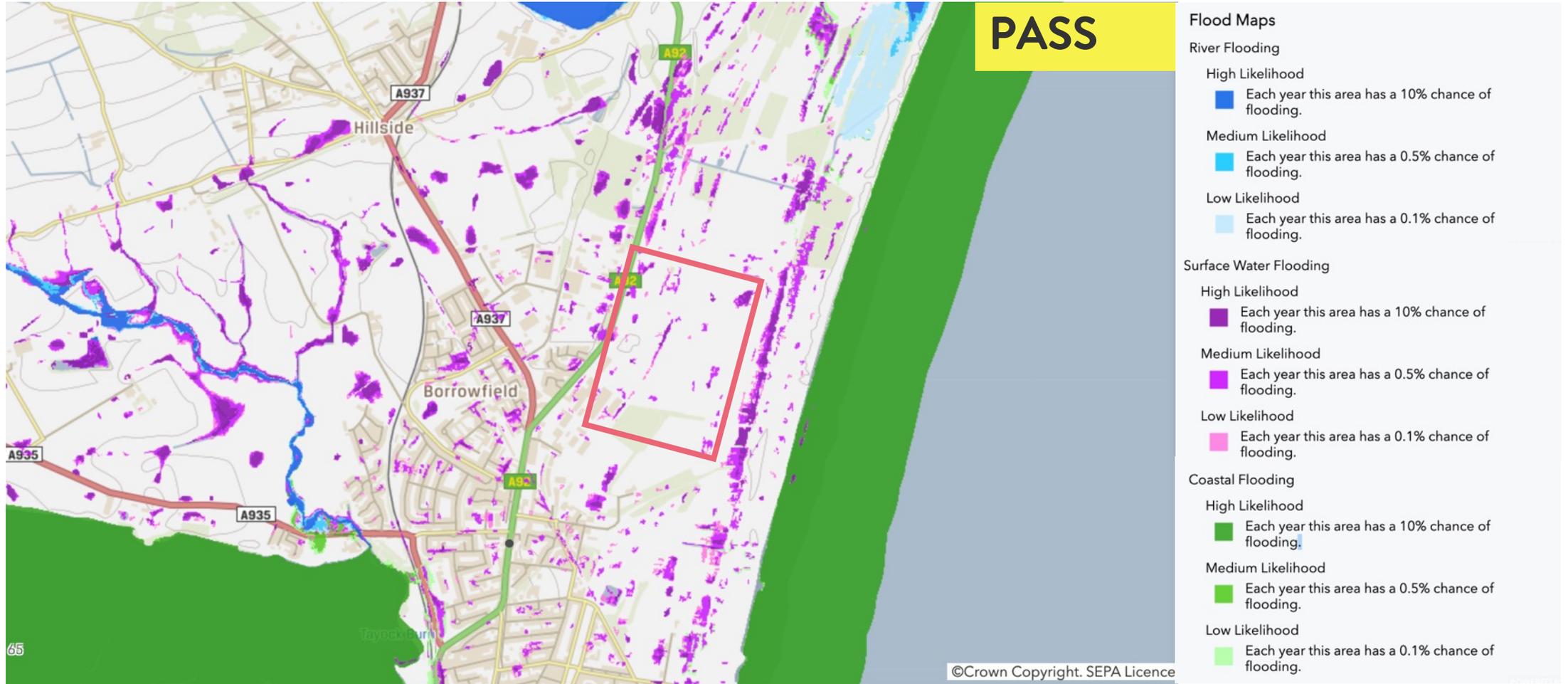
- BT OHP/Ethernet Node in Montrose

Note: Fibre routes are deduced from data available in the public domain.

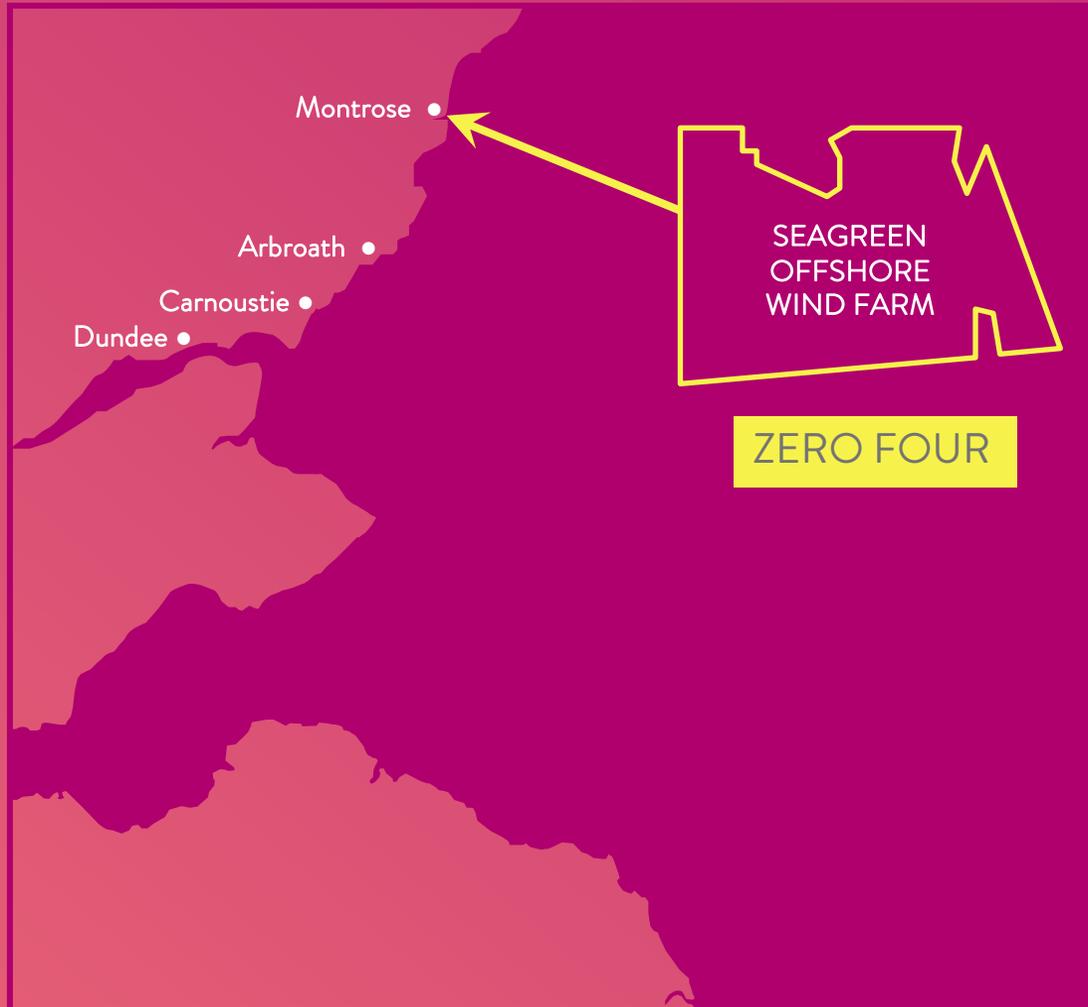


ZERO FOUR

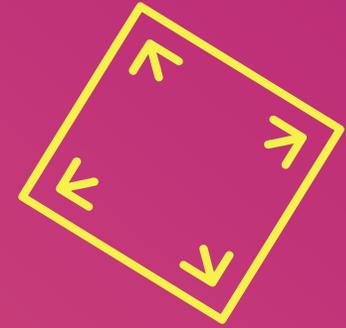
FLOOD RISK ASSESSMENT



ZERO FOUR POWER



POTENTIAL
CAPACITY
UP TO **1.5GW**



DISTANCE
FROM SHORE

27KM APPROX.

FROM ANGUS COASTLINE
AT ITS NEAREST POINT



NEXT STEPS

FOLLOW UP

Future Updates and Marketing Campaigns

- The sites listed in the report for data centre development are not considered exhaustive. We do hope that the document stimulates interest in the sector and as a result, we expect other opportunities to emerge.
- Equally, the information shown and the status of assessments made in the report should not be viewed as definitive. Upgrades in fibre connectivity are continuously planned. Likewise, future opportunities are opening up which we expect to facilitate growing access to significant renewable energy supply.
- The industry itself is evolving quickly. Demand from sub-sectors in the market are anticipated to grow, particularly from edge computing that will create further requirements for finding suitable sites to support technological advancements in fields such as artificial intelligence, Internet of Things (IOT) and autonomous driving.
- The context of this report is therefore important. Given the above, it should be regarded as part of an on-going industry enabler which highlights opportunities throughout Scotland. Future revisions of this report are planned.
- Key next steps that are recommended involve adopting wide ranging promotional initiatives to support the proposition of Scotland as an attractive data centre location. These include further stakeholder engagement and co-ordination with infrastructure providers to help meet this objective.

DISCLAIMER

- All information, analysis and recommendations made in this report by TechRE are made in good faith and represent TechRE's professional judgement on the basis of information obtained during the course of the assignment. However no statement made by TechRE may be deemed in any circumstances to be a representation, undertaking or warranty and TechRE cannot accept any liability should such statements prove to be inaccurate or based on incorrect premises.
- In particular, data centre operators and other interested parties need to undertake their own site investigations and risk assessments to satisfy themselves of a suitability or otherwise, of a specific location. All sites contained in this report should be subject to further due diligence to verify conditions and current status.
- In terms of fibre mapping FarrPoint Ltd has produced the information contained herein for Scottish Future Trust. Fibre routes are deduced from data available in the public domain and are indicative. The ownership, use and disclosure of this information are subject to the Terms and Conditions contained in the contract between FarrPoint Ltd and Scottish Future Trust, under which it was prepared.
- Should interested parties wish to know more on the background of each of the selected sites or undertake further assessments, please do not hesitate to contact TechRE using the contact information provided overleaf.

CONTACT INFORMATION

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