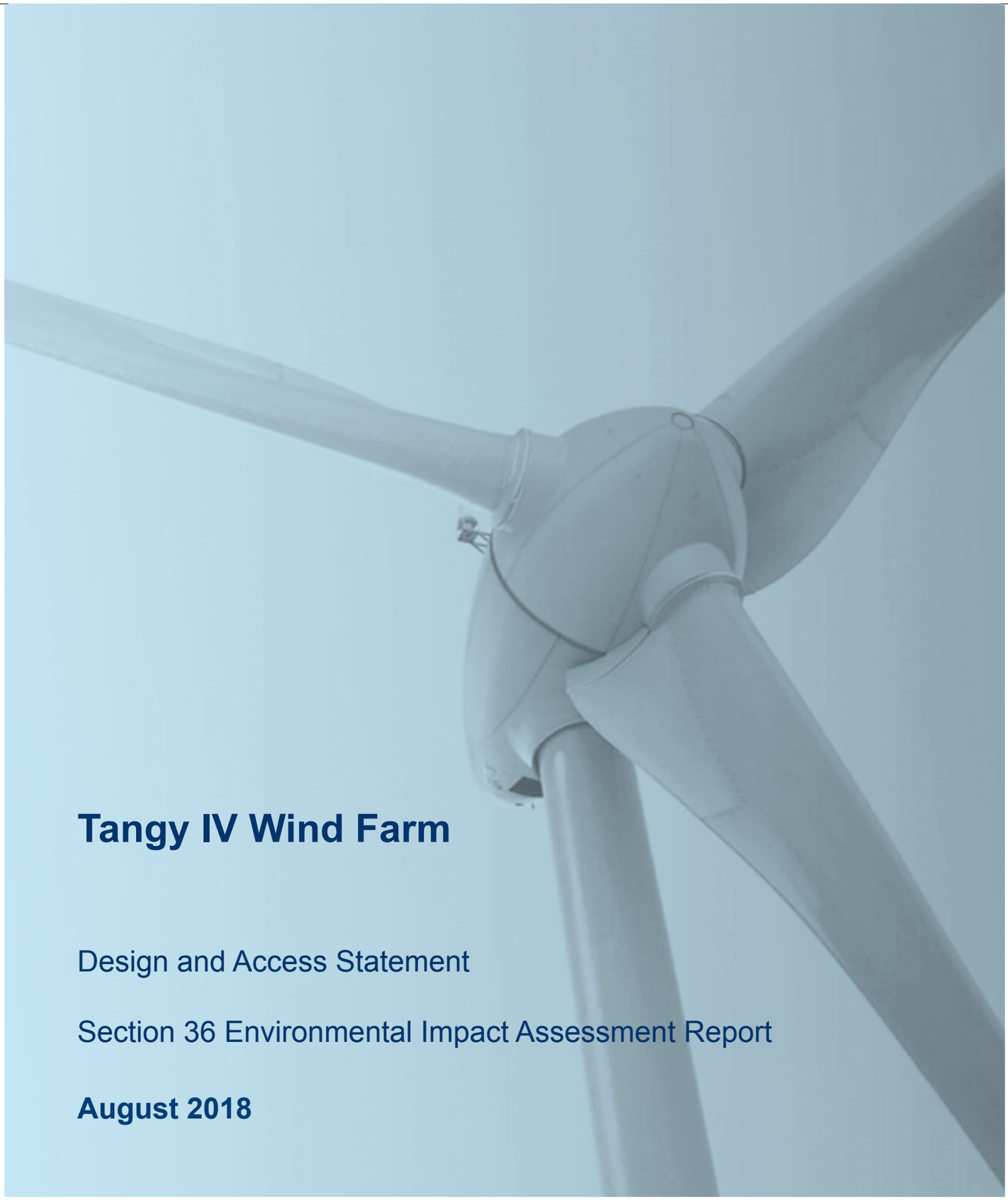


Tangy IV Wind Farm

Design and Access Statement

Section 36 Environmental Impact Assessment Report

August 2018

DESIGN AND ACCESS STATEMENT

1. INTRODUCTION

1.1.1 SSE Generation Ltd ('the applicant'), holder of a generation licence, is proposing to construct and operate a wind farm comprising 16 wind turbines, with a generating capacity greater than 50 MW[1], along with associated infrastructure and ancillary development at a site located approximately 3 km north km north of Kilchenzie, Kintyre, Scotland. This Design and Access Statement is submitted by the applicant and has been prepared on behalf of the applicant, by SSE Renewables Developments (UK) Limited (SSE Renewables).

1.1.2 An application for consent is being made under section 36 of the Electricity Act 1989 to the Scottish Ministers, along with a request for a direction that planning permission be deemed to be granted under section 57(2) of the Town and Country Planning (Scotland) Act 1997 as amended. Owing to the scale and nature of the proposed wind farm, this application is accompanied by an Environmental Impact Assessment Report, prepared in accordance with the relevant provisions of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 and Electricity Works (Environmental Impact Assessment (Scotland) Regulations 2017, referred to together as 'the EIA Regulations'.

1.1.3 The Town and Country Planning (Development Management Procedure (Scotland) Regulations 2008[2] require applications for 'major' development to be supported by a Design and Access Statement. There is no statutory requirement for applications for consent under the Electricity Act 1989 to be support by a Design and Access Statement, however the applicant has opted to provide one as a good practice measure.

1.1.4 The purpose of the Design and Access Statement is to explain the design principles and concepts that have been applied. In line with the Scottish Government guidance[3] the statement does not extend to the consideration of internal aspects of individual buildings.

[1] Based on currently available turbines, the maximum rated output of the proposed development would be up to 80 MW. The final choice and rated output of the turbine selected would be dependent on commercial options available at the time of construction, but would be within the maximum dimensional envelope set out in the EIA Report, Chapter 5: Description of Development.

[2] Town and Country Planning (Development Management Procedure)(Scotland) Regulations 2008, (SSI 2008/432)

[3] Scottish Planning Series Circular 4 2009: Development Management Procedures (URL: http://www.gov.scot/Publications/2009/07/03153034/6)

2. POLICY CONSIDERATIONS

2.1.1 The Scottish Planning Policy (SPP)[4] requires planning authorities to define a spatial framework identifying those areas that are likely to be most appropriate for onshore wind farms. The spatial frameworks must be based on the following criteria:

- Group 1: Areas where wind farms will not be acceptable:
  - National Parks and National Scenic Areas.
- Group 2: Areas of significant protection:
  - Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.
  - Group 2 areas include World Heritage Sites; Natura 2000 and Ramsar sites; Sites of Special Scientific Interest; National Nature Reserves; Sites identified in the Inventory of Gardens and Designed Landscapes; Sites identified in the Inventory of Historic Battlefields; areas of wild land as shown on the 2014 SNH map of wild land areas; carbon rich soils, deep peat and priority peatland habitat; and an area not exceeding 2km around cities, towns and villages identified on the local development plan.
- Group 3: Areas with potential for wind farm development:
  - Beyond groups 1 and 2, wind farms are likely to be acceptable, subject to detailed consideration against identified policy criteria.

2.1.2 At a local level, the key policy provided within the following documents:

- Argyll and Bute Local Development Plan, Adopted March 2015[5];
- Argyll and Bute Local Development Plan Supplementary Guidance[6], Adopted December 2016; and
- Argyll and Bute Landscape Wind Energy Capacity Study (2017).

2.1.3 Whilst there are a number of policies within the LDP relevant to the proposed development, it is the section of the Supplementary Guidance concerning renewable energy that is of most relevance to the design process. The spatial framework for wind energy development, provided as Figure 1 to the Supplementary Guidance, shows that the site is mainly located within a Group 3 area (areas where wind farms are likely to be acceptable). The site does not lie within any 'group 1' areas, or within any national and international designations for ecology, ornithology, cultural heritage or wild land. The site does contain areas identified by the SNH Carbon and Peatland Map (2016) for carbon rich soil and deep peat. As such, the majority of the site lies within a group 3 area, with potential for wind farm development, subject to the detailed consideration of policy criteria. It is acknowledged that development on or adjacent to areas of priority peatland habitat and the Tangy Loch SSSI (outside of the site) require the applicant to demonstrate that any significant effects on the qualities of these features can be substantially overcome. For the avoidance of doubt, the EIA Report does not identify any significant effects on either of these features.

2.1.4 The Argyll and Bute Landscape Wind Energy Capacity Study is a technical study which provides information on the sensitivity of the various landscape character areas in Argyll and Bute to accommodate four different typologies of wind turbines. The Argyll and Bute Landscape Wind Energy Capacity Study[7] identifies the consented Tangy III Wind Farm as part of the baseline for assessing landscape sensitivity. The site is within the Upland Forest Moor Mosaic landscape

[4] The Scottish Government (2014) Scottish Planning Policy, The Scottish Government, Edinburgh, June 2014 - URL: http://www.gov.scot/Publications/2014/06/5823/6

[5] Argyll and Bute Council, Adopted March 2015, Argyll and Bute Council Local Development Plan

[6] Argyll and Bute Council, Adopted December 2016, Argyll and Bute Council Local Development Plan – Supplementary Guidance

[7] Carol Anderson Landscape Associates (2017) Argyll and Bute Landscape Wind Energy Capacity Study

character type, which is identified in the study as being of high-medium sensitivity for turbines >80 m in height, and as having '*very limited*' scope of turbines > 130 m in height.

2.1.5 This DAS does not make any judgements regarding the acceptability of the proposed development in relation to policy. A separate Planning Statement is provided which presents a review of compliance with the material planning considerations.

3. SITE SELECTION AND CONSIDERATION OF ALTERNATIVES

3.1 Approach to Site Selection

3.1.1 The proposed development is one proposal within a wider programme of development by the applicant. Site selection factors taken into account during identification of sites by the applicant include a range of criteria, such as wind speed, access to grid connection, landscape and recreational designations, site topography, ecological sensitivities, ornithological interests, noise and water features.

3.1.2 At Tangy, the site benefits from the presence of an existing local turbine tower manufacturing factory, upgraded harbour facilities, and an existing operational wind farm with exceptional wind resource, and associated infrastructure.

3.1.3 As the existing Tangy I and Tangy II turbines are approaching the end of their operational life, there is also the opportunity to increase the efficiency of the current wind farm through replacement of the existing turbines. Turbine technology has significantly advanced since Tangy I and Tangy II became operational, with early turbine models having been superseded by much more efficient machines. In addition, since the original development of Tangy I and Tangy II there is now an opportunity to extend the site into neighbouring landownerships.

3.1.4 The proposed development is designed to utilise the important resource at Tangy of a high wind speed over coastal moorland, combined with the benefits of using an existing wind farm site and associated existing infrastructure.

3.2 Alternative Technologies Considered

3.2.1 The site was identified as being suitable for repowering through a formal site selection process by the applicant. A wind farm is considered to be the most suitable renewable energy technology for the Tangy site due to its location, the wind resource available and the presence of the existing Tangy I and II Wind Farm.

3.3 Design Strategy and Design Evolution

Overview of Approach

3.3.1 The purpose of a wind farm is to harness the energy of the wind and convert this to electricity. The process of turbine siting is a balance between maximising energy yield and minimising potential for negative environmental effects.

3.3.2 Changes made as a consequence of the design process are considered 'embedded' mitigation. The design of the wind farm layout is a vital part of the EIA process, as it is the stage where the biggest contribution can be made to prevent or mitigate potential effects.

3.3.3 The submitted design for Tangy IV is the same final 16 turbine layout as proposed for Tangy III in the Tangy III ES (2014). The Tangy III layout was developed through a series of iterations, informed by the baseline environmental surveys, technical considerations and consultations to ensure that it is appropriate for the site. The Tangy IV layout has been informed by updated baseline environmental surveys, however no changes to the turbine layout were deemed necessary by the applicant from those selected as part of the Tangy III EIA process[8].

Design Evolution

3.3.4 Figures 1a-c summarise the six iterations of the Tangy III Wind Farm design evolution. The following paragraphs summarise the key design changes.

[8] Minor changes to the track layout and temporary construction compound are proposed.

3.3.5 The Tangy III Wind Farm was redeveloped from August 2012 to August 2018. A range of alternative turbine layouts, heights and densities were considered. Following an appraisal of environmental constraints and opportunities, along with an evaluation of technical and economic factors, a planning application[9] was made in 2015 for a wind farm with a generation capacity less than 50 MW, comprising 16 turbines at 125 m tip height.

3.3.6 Tangy III Wind Farm was granted planning permission in June 2015. While the Tangy III ES (2014) assessed a 16 turbine scheme, consent was granted for a 15 turbine scheme (with Turbine 8 removed). In addition, the Tangy III ES (2014) was based on the forestry on the site being clear felled. Following the consent, agreement was reached with Forestry Commission Scotland to clear fell the existing forestry on the site and replant to a key hole design.

3.3.7 Subsequently the applicant applied to vary[10] the conditions of the consent for the Tangy III wind farm in April 2018, increasing the tip height by 5 m to 130 m. Argyll and Bute Council granted planning permission for the 15 turbines at 130 m tip height in August 2018.

3.3.8 The proposed Tangy IV development has now been optimised using currently available technology so as to realise the potential generation capacity from the exceptional wind resource available at the site. The applicant is now seeking to increase the tip height to 149.9 m, thus increasing the generation capacity to more than 50 MW, with potential to deliver more than four times the current energy generation than the existing site. As a result, the applicant is now applying for consent under s36 of the Electricity Act 1989. The proposed post-consent changes include:

- turbine 8 is reintroduced, resulting a total of 16 turbines;
- maximum wind turbine tip height is increased from 125 m to up to, but not exceeding 149.9 m; and
- indicative wind turbine rotor diameter increased from 105m to approximately 130m.

3.3.9 Following further assessment of turbine 8 (T8), review of previous consultation feedback and previous comments from the Argyll and Bute Council planning committee in support of including T8, it was determined that there was no significant benefit to the removal of T8 with respect to reducing environmental effects, therefore the decision was made to include it in the scope of this EIA Report and application.

3.3.10 Figures 2, 3 and 4 illustrate the difference between the previously consented 125 m turbines (consented June 2015) and the proposed 149.9 m turbines. For comparative purposes, the figures show the baseline panorama (showing the existing Tangy I and Tangy II Wind Farm), with a wireline of the Tangy I and Tangy II Wind Farm, a wireline of 2014 EIA Layout (i.e. the 16 turbine layout at 125 m tip height) and a wireline of the proposed development (i.e. a 16 turbine layout at 149.9 m tip height) (Sheet 2), and a photomontage of the proposed development (Sheet 3).

3.3.11 In addition, the post consent changes include some minor changes to track alignment and the relocation of a temporary construction compound. All other aspects of the proposed development, such as turbine locations, hardstanding's and access track layout remain unchanged from the ES (2014), Figure 1c.

Ornithological Considerations

3.3.12 MacArthur Green commenced ornithological surveys in April 2012 and two full years of ornithological data were collected with surveys finishing in March 2014. These surveys indicated a number of important bird species were present at or around the proposed development, with the most important being Greenland white-fronted goose due to its association with the nearby Kintyre Goose Roosts SPA. Hen harrier, merlin, herring gull and greylag geese were also recorded a number of times and usually within particular areas. Other important species that were recorded

[9] Under the Town and Country Planning (Scotland) Act 1997, as amended

[10] under section 42 of the Town and Country Planning (Scotland) Act 1997 as amended

but only very rarely were peregrine and short-eared owl. Curlew and oystercatcher were the only notable wader species to breed within the study area.

3.3.13 Ornithological considerations have informed the design from a very early stage in the project development. For instance, due to the presence of an established Greenland white-fronted goose flight path to the east of the proposed development to their main roosting location at Lussa Loch (north-east of the site), an eastern limit was placed on the extent of the proposed development in order to maintain a buffer distance between the site and the goose flight path (so that the flight path is not obstructed by any wind turbines) and thereby limit any potential effects. Furthermore, the removal of three potential turbines on the western extent of the proposed development has also meant an area of concentrated raptor and gull activity has been avoided.

Landscape and Visual Considerations

3.3.14 Landscape and visual considerations have driven the layout design from an early stage. Project landscape architects ASH have worked closely with the applicant and statutory consultees to shape the design of the proposed development.

3.3.15 Early landscape and visual considerations included site analysis, comparison of turbine scale and geometry, identification of sensitive viewpoints, landscapes and potential receptors and the review of local and national guidance documents. This led to advice which then shaped the description of the proposed development which was included in the scoping report.

3.3.16 Following receipt of the scoping opinion for the Tangy IV Wind Farm, additional consultation was undertaken to discuss landscape and visual matters with ABC and SNH. Comments from all consultees have been taken into consideration in developing the layout design (see EIA Report Chapter 7).

Other Environmental Considerations

3.3.17 Potential environmental constraints were identified through an initial desk-based analysis of the site using a Geographical Information System (GIS) to map any environmental designations. Additional constraints were identified as part of the EIA process through desk based assessment, consultation and site surveys.

3.3.18 GIS mapping has been used to define the application boundary which has taken into account environmental designations. There is no development proposed within areas designated for ecological protection at international, national or local scale. Local designations (or non-designated sites of local value) which were identified within or in the vicinity of the application boundary include cultural heritage features.

Terrestrial Habitats

3.3.19 As a design principle, ecologically sensitive areas have been avoided as far as practicable, and loss of habitat has been minimised by careful design of the access track layout and utilisation of existing access tracks where possible. This has been informed by detailed surveys, specifically Phase 1 Habitat survey and NVC survey. The survey data were used to determine sensitivity classification of terrestrial habitats in accordance with guidance from SEPA and SNH. This included consideration of habitats consistent with those on Annex 1 of the European Union Council Directive 92/43/EEC (EC Habitats Directive), UKBAP priority habitats and habitats which are considered by SEPA to be Groundwater Dependent Terrestrial Ecosystems (GWDTEs). Further details can be found in EIA Report Chapter 10 (Ecology and Nature Conservation).

Watercourses

3.3.20 The minimisation of watercourse crossings and avoidance where possible of works in close proximity to watercourses was a key objective of the site layout. Accordingly, all known watercourses as shown on 1:10,000 OS mapping were identified (and confirmed where possible during site survey), and a 50m 'buffer' applied. Although this is more than would generally be

necessary as a means of pollution control, it ensures the layout does not unnecessarily encroach on sensitive habitats adjacent to watercourses and provides the maximum practicable buffer whilst allowing some degree of flexibility for micrositing (i.e. without encroaching on the watercourses). Further details on the assessment on potential effects on watercourses can be found in EIA Report Chapter 12 (Surface Water).

Cultural Heritage

3.3.21 Cultural heritage features were included in the GIS analysis, with files sourced from the National Monuments Record of Scotland (NMRS), Scottish Sites and Monuments Record (SMR) and West of Scotland Archaeology Service (WOSAS). In addition, 1st edition OS maps, pre-1850s maps from the National Library of Scotland and aerial photographs from the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) were checked. Further details can be found in EIA Report Chapter 13 (Cultural Heritage and Archaeology).

Noise

3.3.22 The noise environment in the area surrounding the site is characterised by 'natural' sources, such as wind disturbed vegetation, birds, animals, water flow noise and also from the existing Tangy I and II Wind Farm. Road traffic noise from the A83 also contributes to baseline background noise at residential properties within the vicinity of the site (refer to EIA Report Chapter 14: Noise).

3.3.23 Potential noise impacts of the proposed development have been a consideration since the initial design stages, and the proposed layout has been developed to ensure compliance with acceptable limits for wind turbine operational noise as defined in ETSU-R-97.

Technical Considerations

Distance from Public Roads

3.3.24 A typical safety set back from public roads is 1.5 times the height of the proposed turbine (224.85 m). The nearest turbine to a public road is at a distance of approximately 1.2 km.

Spacing

3.3.25 Spacing of turbines is a key consideration during wind farm layout development; turbines are generally arranged at a minimum distance apart to limit the effect of wake turbulence which can lead to increased fatigue loads. In order to minimise these fatigue loads, turbine spacing is normally bigger along the prevailing wind direction than across it. The minimum spacing varies from site to site and between turbine models (depending on manufacturer guidance). The spacing chosen at this site is based on modelling assumptions and is designed to maximise the energy yield from the wind farm while keeping fatigue loads within the turbines' design envelope. The proposed turbine spacing for the proposed development remains unchanged from the consented Tangy III Wind Farm.

Wind Capture

3.3.26 Wind capture (i.e. the ability to harness energy from wind) is affected by various issues such as wind speed, the prevailing wind direction, and local topography. A range of computer software analyses were undertaken to optimise the design of the proposed development where possible to ensure that the selected turbine locations maximise the opportunity to harness wind energy.

Ground Conditions

3.3.27 The suitability of ground conditions was considered during development of the site layout, with areas of peat and steep gradients identified. Peat depth was determined through four phases of preliminary site Ground Investigation (GI) including peat probing. Five phases of peat probing were undertaken to inform the design development:

- Phase 1 in September 2013, based on the scoping layout.
- Phase 2 in November 2013 based on the post-scoping layout A.

- Phase 3 in March 2014 based on the post-scoping layout B.
- Phase 4 in June 2014 to capture final design refinements.
- Phase 5 Additional peat probing was undertaken in March 2018 (to recent guidance) to determine final location of the temporary construction compound, turbine positions and refined access to T8 and T10.

3.3.28 A series of peat probes were taken across the site, particularly along potential access tracks routes, at proposed turbine locations and potential compound and substation locations. The majority of the site is recorded to have peat depths of 0 - 0.5m as shown on Figure 1.6 of Appendix 11.1: Peat Stability Risk Assessment (PSRA). The calculated mean peat depth across the recorded deposits is 0.55 m, with a maximum recorded peat depth of approximately 3.6 m in a deep pocket of peat recorded on the north-eastern boundary of the study area. The proposed development has been designed to avoid/minimise interaction with peat as far as practicable. As described above, the principal design changes that have been made to avoid interaction with areas of deep peat are the relocation of access tracks and other project infrastructure (e.g. construction compound).

3.3.29 Where wind farm infrastructure is proposed in areas where peat is present, data have been augmented by the peat probing. The results of the desk-based assessment, GI and gradient analysis informed a peat stability assessment and enabled the site layout to be refined to avoid, where possible, known areas of high risk using a risk matrix. Figures 1a-c illustrates the evolving turbine design, access track layout and other site infrastructure layout. Appropriate mitigation measures have been developed to reduce peat slide risk. Details on the assessment of peat stability are contained in EIA Report Chapter 11 (Geology, Soils and Peat) and Appendix 11.1 (Peat Stability Risk Assessment (PSRA)).

3.3.30 The access track layout was developed to be technically feasible for use by both construction and operation vehicles, taking into consideration the existing environmental constraints, and using available mapping data to ensure that gradients were less than 1:11. As noted previously, a primary design requirement was to use as much of the existing infrastructure as possible to maximise synergies with other land uses and to avoid or reduce environmental effects.

4. CONSULTATION ACTIVITIES

4.1.1 There is no statutory requirement for pre-application consultation made under Section 36 of the Electricity Act 1989, however, as a responsible developer, SSE follows good practice in undertaking pre-application consultation activities to inform the EIA process. A Pre-Application Consultation Report (PACR) has been prepared by Ramboll on behalf of the applicant.

4.2 Scoping

4.2.1 A request for a scoping opinion was submitted on behalf of SSE Generation Ltd dated 28th April 2017, in accordance with Regulation 7 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 to the Energy Consents Unit. At that stage the proposed development was referred to as the Modified Tangy III Wind Farm. The scoping report issued with the request for a scoping opinion provided an outline description of the proposed development and the site location, set out the perceived likely environmental effects that could result from a wind farm development at this site, and the assessment process by which these issues would be evaluated.

4.2.2 SSE Generation Ltd. received the scoping opinion from the Energy Consents Unit on behalf of the Scottish Ministers on 16th October 2017. A register of consultation responses provided in the scoping opinion, along with how the EIA Report has responded to the issues raised is provided in EIA Report Appendix 7.1.

4.2.3 Following submission of the request for a scoping opinion, specific consultees were re-contacted to agree the level of assessment, survey area and survey timings as well as the preferred method of presenting information. Further details on consultations are included within specific chapters and within the technical appendices where relevant.

4.2.4 Pre-application meetings were held with representatives of Scottish Government (Energy Consents Unit), Argyll and Bute Council and Scottish Natural Heritage.

4.3 Public Consultation

4.3.1 Public consultation is a key element of the environmental assessment process, and as part of the wider consultation process. Public exhibitions were held as follows:

- Tayinloan Village Hall – Monday 6th August 2018;
- Machrihanish Village Hall – Tuesday 7th August 2018; and
- Campbeltown Town Hall, Tuesday 7 August 2018.

4.3.2 The public exhibition provided information regarding the proposed development to local residents. The event was advertised in the local press and Community councils, local councillors, MSPs and MPs were advised in advance of these exhibitions in writing. Local community councils consulted included:

- Campbeltown Community Council;
- East Kintyre Community Council;
- Southend Community Council;
- The Laggan Community Council; and
- West Kintyre Community Council.

4.3.3 The information available included plans of the proposed site layout, information boards explaining the key potential environmental effects, along with an explanation of the consenting process and the current stage to project is within that process as well as a Zone of Theoretical Visibility (ZTV) plan to illustrate theoretical turbine visibility within 35 km. Representatives of SSE Renewables and a landscape architect from ASH Design + Assessment were also available to provide additional information and answer queries. The exhibition boards and information leaflet were made

available on the applicant's website (www.sse.com/tangy-repower). The exhibition material and adverts are also contained in the PACR.

5. ACCESS

5.1.1 A summary of vehicular access to the site is provided below, with full details of the assessment of effects on the local road network provided in EIA Report Chapter 15 (Access, Traffic and Transport).

5.1.2 The construction and operations access to the site would be from the A83 to the south of the site and connects to Campbeltown and the B842 and B843 roads. It is envisaged that the turbine components would be delivered to the port facilities at Campbeltown and transported to the site via the A83. The B843 provides access to Machrihanish and to CS Wind UK, where turbine towers could be transported to the site.

5.1.3 Timber haulage from site will use the route from the A83 at Kilchenzie, temporarily upgraded as required, detailed in Chapter 15, (Access Traffic and Transport). Traffic accessing the site from the north via the A83, will continue southbound past Westport and Low Ballevain and turn left at Kilchenzie to access the site via the upgraded route. Most onward timber transport will be by sea utilising the timber handling facilities at Campbeltown harbour.

5.1.4 In accordance with section 6(1)(g) of the Land Reform Act 2003, general public access rights are removed throughout the construction working area for health and safety reasons.

6. SUMMARY

6.1.1 This document provides an overview of the design process undertaken by the applicant while preparing the application for the proposed development. This document summarises the relevant local development plan policy considerations, the design approach, consultation activities and the final design solution.

6.1.2 The careful placement of the proposed turbines within the site boundary has facilitated effective mitigation of the majority of potentially significant effects through the design process. There has been no change in the position of proposed turbines from the consented Tangy III Wind Farm, with the exception of the reintroduction of Turbine 8. The only change in the physical characteristics of the proposed development from the consented development is to increase the turbine tip height and some minor changes to the track layout and a temporary construction compound location. Further information on the residual effects is presented in the EIA Report.

Pre-Scoping Layout - Extension Only (August 2012)

Pre-Scoping Layout - Extension & Repower 1 (March 2013)

Pre-Scoping Layout - Extension & Repower 2 (March 2013)

Pre-Scoping Layout - Extension & Repower 3 (April 2013)

Key

- Site Boundary
- Proposed Turbine
- Existing Turbine

Scale 1:30,000 @ A3

0 0.5 1 Km

N

Figure 1a

Design Iteration

Tangy IV Wind Farm
Design and Access Statement

Pre-Scoping Layout - Extension Only (August 2012)

Pre-Scoping Layout - Extension & Repower 1 (March 2013)

Pre-Scoping Layout - Extension & Repower 2 (March 2013)

Pre-Scoping Layout - Extension & Repower 3 (April 2013)

sse

RAMBOLL

Key

- Site Boundary
- Proposed Turbine
- Existing Turbine
- Permanent Met Mast
- New Access Tracks
- Exisitng Forestry Track to BP C
- Existing Access Track
- Cut Access Track
- Floated Access Track
- Proposed Construction Compound
- Proposed Laydown Area
- Proposed Operations Building
- Proposed Substation
- Borrow Pit - Working Area
- Borrow Pit - Search Area

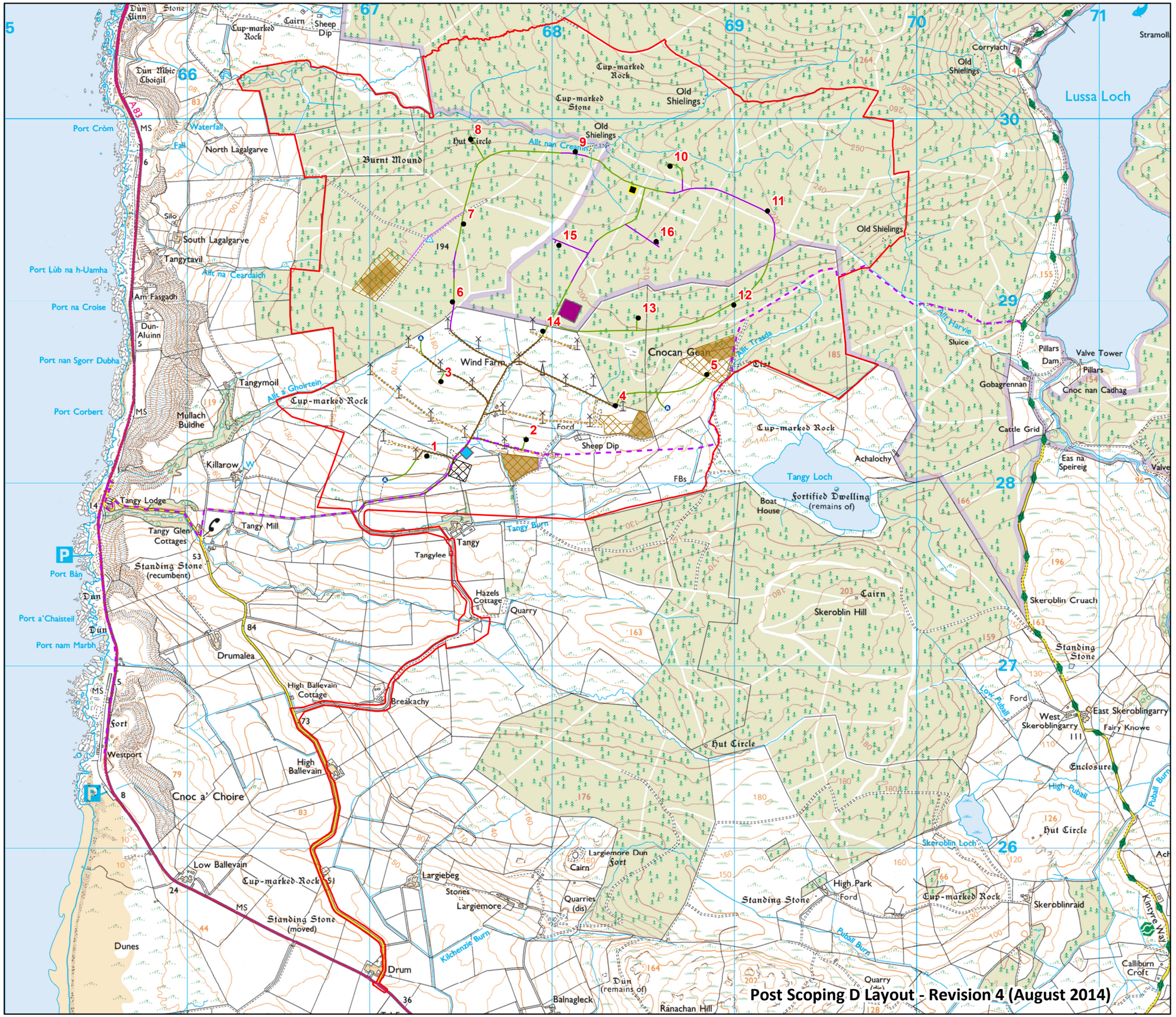
Scale 1:30,000 @ A3

0 0.5 1 Km

N

Figure 1b
Design Iteration

Tangy IV Wind Farm
Design and Access Statement



sse

RAMBOLL

Key

- Site Boundary
- Turbine
- Permanent Met Mast
- Substation
- New Cut Track
- New Float Track
- Existing Track for Construction Only
- Existing Track to be Reinstated
- Existing Track to be Reused
- Potential Re-routing of Kintyre Way
- Borrow Pit - Search Area
- Borrow Pit Working Area
- Proposed Construction Compound
- Proposed Operations Building
- Proposed Laydown Area

Scale 1:20,000 @ A3

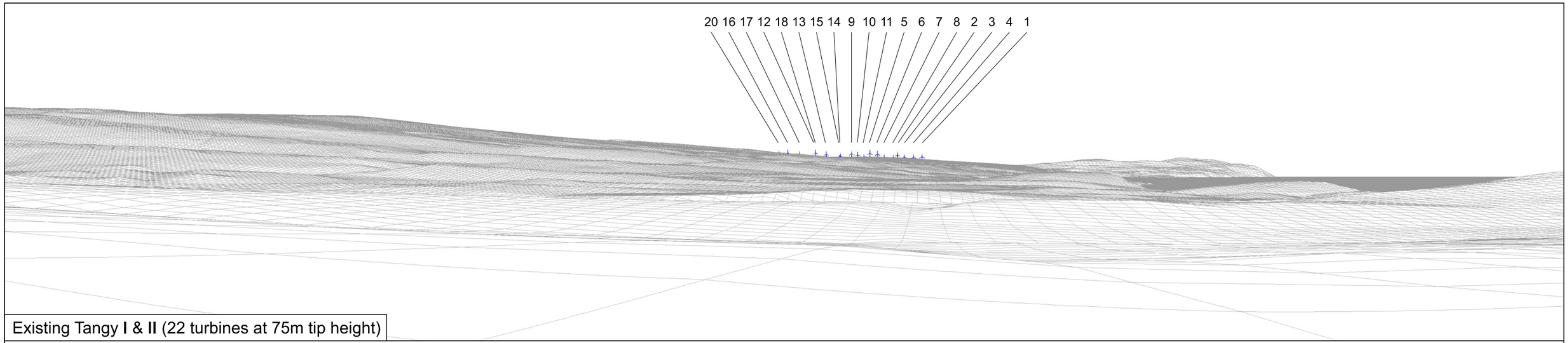
0 0.5 1 Km

N

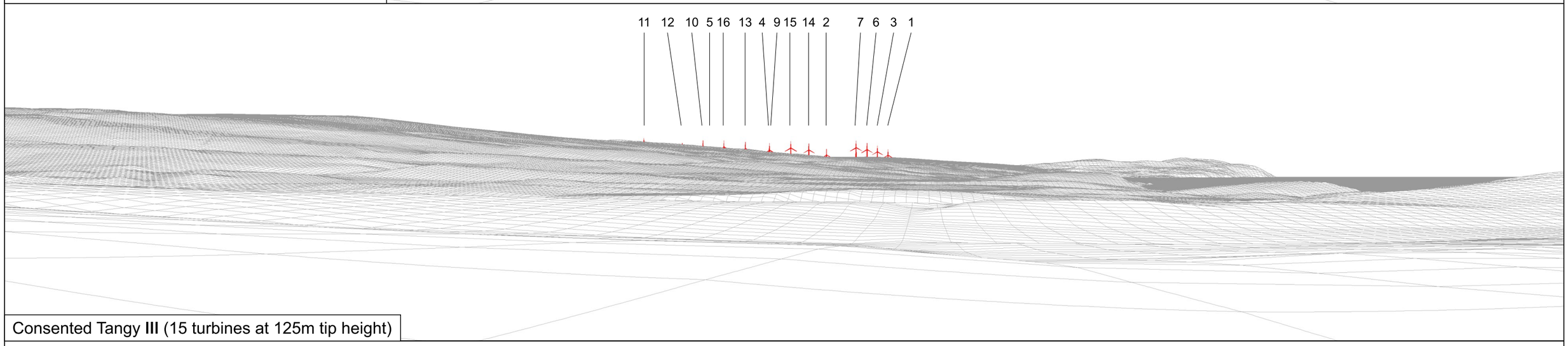
Figure 1c

Design Iteration

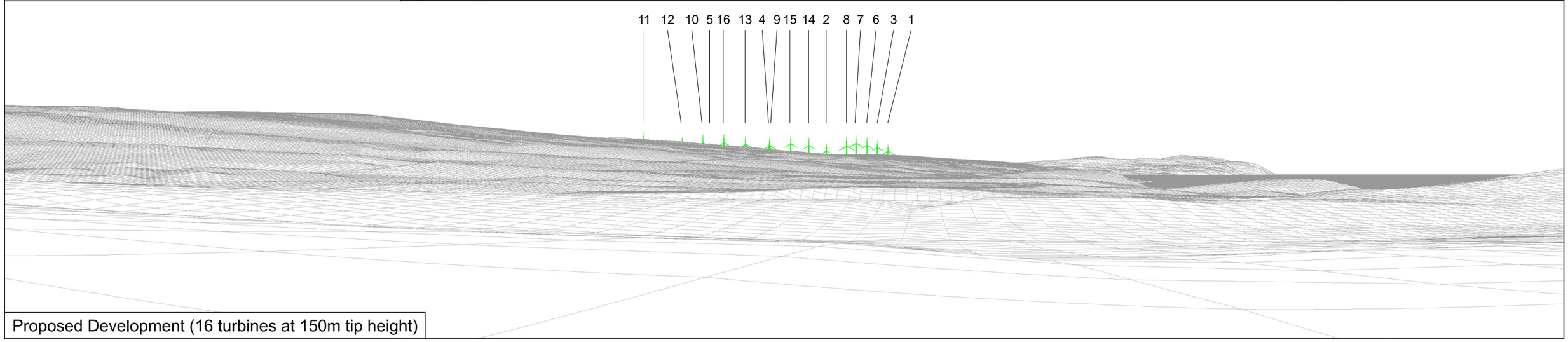
Tangy IV Wind Farm
Design and Access Statement



Existing Tangy **I** & **II** (22 turbines at 75m tip height)



Consented Tangy **III** (15 turbines at 125m tip height)



Proposed Development (16 turbines at 150m tip height)

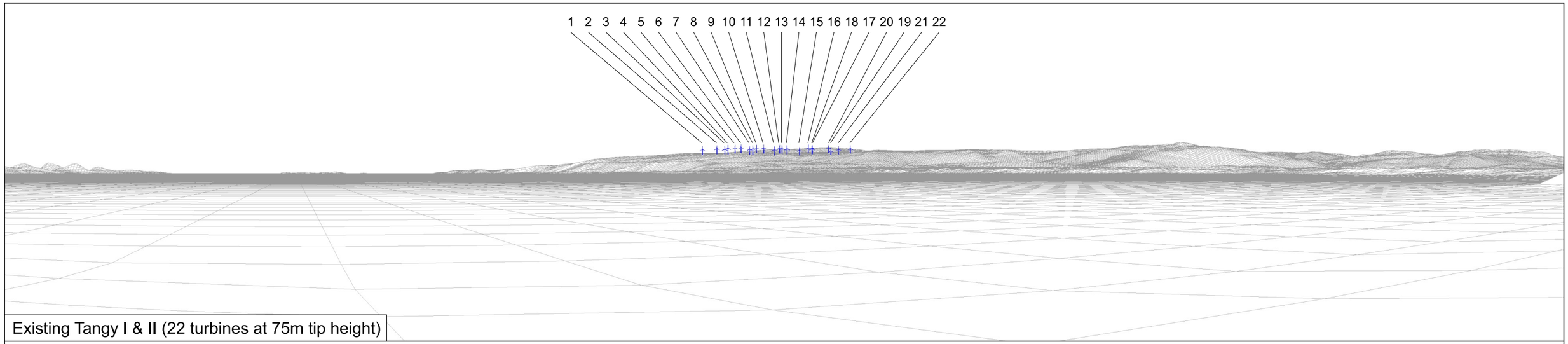
Tangy IV Wind Farm

Figure 2 Comparative Wireline, VP2: Glenbarr War Memorial

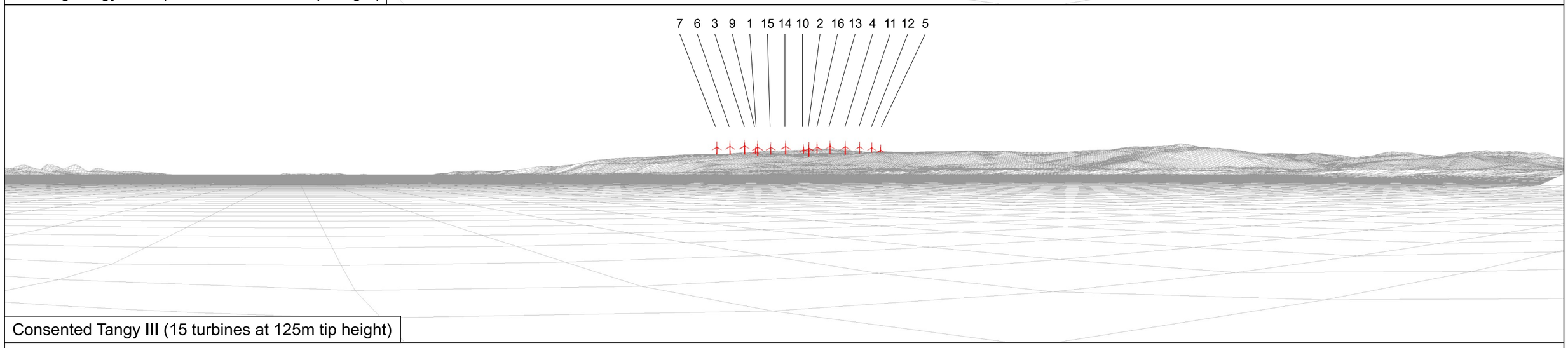
Drawing No. - 117037-D-DS2
Revision - 1.0.0
Date - 21.08.2018

OS reference:	167006 E 637068 N	Horizontal field of view:	90° (cylindrical projection)
Ground level:	68.73 m AOD	Viewing distance:	200 mm
Direction of view:	172.06°		
Nearest existing turbine:	8.2 km		
Nearest consented Tangy **III** turbine:	7.3 km		
Nearest proposed turbine:	7.2 km		

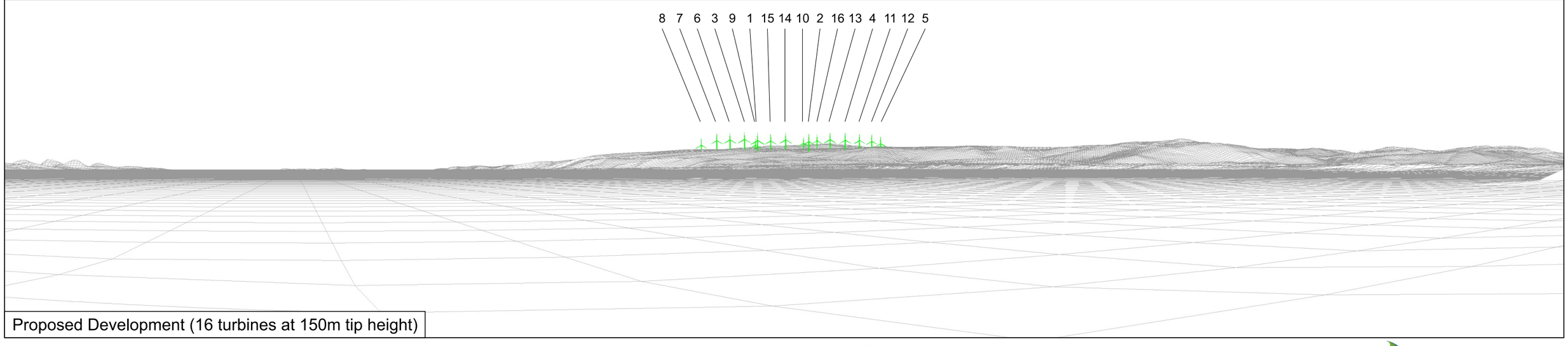
sse ash



Existing Tangy **I** & **II** (22 turbines at 75m tip height)



Consented Tangy **III** (15 turbines at 125m tip height)



Proposed Development (16 turbines at 150m tip height)

Tangy IV Wind Farm

Figure 3 Comparative Wireline, VP6: Machrihanish Little Scone

Drawing No. - 117037-D-DS3
Revision - 1.0.0
Date - 21.08.2018

OS reference:	163578 E 620717 N	Horizontal field of view:	90° (cylindrical projection)
Ground level:	1.9 m AOD	Viewing distance:	200 mm
Direction of view:	28.24°		
Nearest existing turbine:	8.3 km		
Nearest consented Tangy **III** turbine:	8.3 km		
Nearest proposed turbine:	8.3 km		

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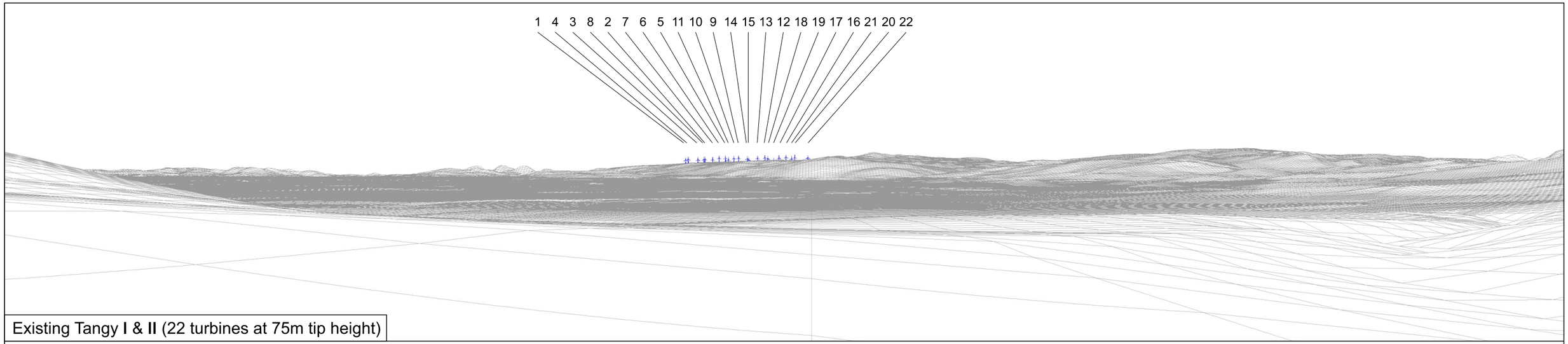
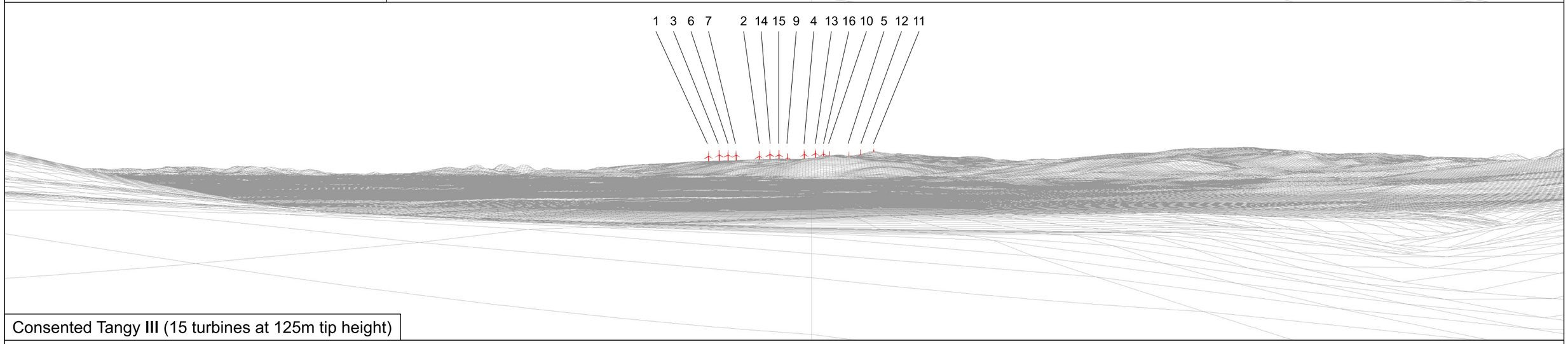
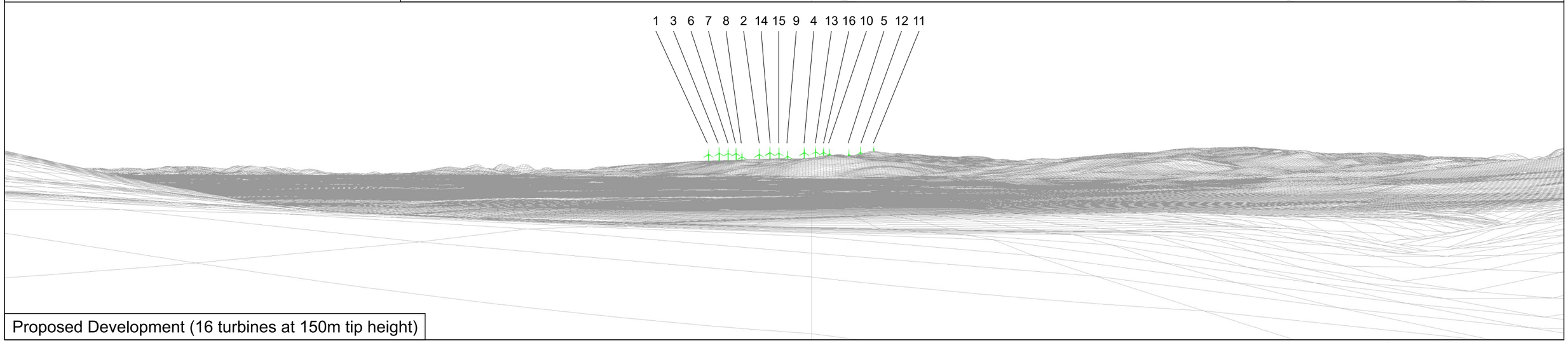


Existing Tangy **I** & **II** (22 turbines at 75m tip height)



Consented Tangy **III** (15 turbines at 125m tip height)



Proposed Development (16 turbines at 150m tip height)

Tangy IV Wind Farm

Figure 4 Comparative Wireline, VP8: Southend Road

Drawing No. - 117037-D-DS4
Revision - 1.0.0
Date - 21.08.2018

OS reference:	168430 E 617436 N	Horizontal field of view:	90° (cylindrical projection)
Ground level:	55.7 m AOD	Viewing distance:	200 mm
Direction of view:	358.44°		
Nearest existing turbine:	10.7 km		
Nearest consented Tangy **III** turbine:	10.7 km		
Nearest proposed turbine:	10.7 km		

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