

Appendix 10.2 Detailed Settings Assessment

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Appendix 10.2 Non-Significant Operational Effects

Introduction

All designated assets located within the ZTV have been subject to detailed setting assessment. Additionally, all designated assets within the 10 km study area were reviewed against the information known about their contextual characteristic (see Appendix 10.1) and against mapping information to identify any assets where views of the Proposed Development in views towards of the asset may significantly impact on their settings. A total of 35 Scheduled Monuments, 244 Listed Buildings, two Conservation Areas and one Inventory Garden and Designed Landscape (IGDL) were subject to detailed setting assessment. Setting assessment site visits were undertaken in October 2019. The Scheduled Monuments that lie on Damsay, Gairsay and Hellier Holm were not visited as these islands are not served by Orkney's public ferry service. Potential effects upon the settings of these assets were instead assessed from vantage points on the Bay of Firth, Rendall, the Head of Work and Shapinsay. The potential for effects upon the setting of the Heart of Neolithic Orkney World Heritage Site (HONO WHS) and non-WHS Scheduled Monuments within its buffer zone were also considered and site visits undertaken.

A summary of the findings of the settings assessment is presented in Table 1. A summary discussion for each of the assets subject to detailed assessment is provided within this Appendix and has been informed by ZTV modelling, photomontages and wireframes (Figures 10.11 – 10.23) as appropriate.

This assessment has predicted the potential for **moderate** effects upon the settings of three Scheduled Monuments; the Cuween Hill chambered cairn (Site 22), the Wideford Hill chambered cairn (Site 218) and the Quanterness chambered cairn (Site 506). Moderate effects are considered significant in EIA terms and the predicted effects upon the settings of these monuments have therefore been discussed in detail in Section 10.9 of Chapter 10 and will not therefore be addressed here. This appendix addresses predicted **minor/moderate, minor, negligible** and **none** on the remaining designated assets. Effects at this level are not considered significant in EIA terms.

The potential for cumulative operational effects upon designated assets where non-significant indirect effects have been predicted for the Proposed Development alone have been considered in Section 10.12 of Chapter 10 and fall outwith the scope of this appendix.

Table 1: Summary of settings assessment

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
2	Knowe of Lyron, Scheduled Monument	6	6.10	Mound with an improved field and spread considerably. Sports pitch to the immediate west, visibility will be across a modern landscape containing modern houses, although topographical context still apparent	Medium	Low	Minor
3	Seven Knowes, Mounds, Scheduled Monument	6	6.98	Mounds visible but spread within an improved field. Three small wind turbines (c.25m to blade tip) on the ridge of the hill behind them. Visibility will be across a modern landscape containing modern houses, although topographical context still apparent	Medium	Low	Minor
4	Black Knowe, Mound 470m N of Lower Cottascarth, Scheduled Monument	6	7.05	Although the mound is still conspicuous when approached from the south-west, it is crossed by boundaries and is surmounted by a gate which compromises its character. Although the turbines will be visible they will appear on the landform behind the water and therefore the mounds crucial relationship with the distant water will not be affected	Medium	Low	Minor
22	Cuween Hill, Chambered Cairn, Scheduled Monument	6	4.36	The Proposed Development will be clearly visible on the Quanterness peninsula when viewed from the chamber entrance, however it will not directly interfere with views of either the Wideford Hill chambered cairn or the tree shielded Quanterness one. The Proposed Development will intervene in views of the Bay of Firth and the Wide Firth when viewed from the cairn, although the distance of separation will diminish the effect of the turbines to a degree.	High	Medium	Moderate
23	Burness Broch and Chapel, 200m South	6	2.48	Mound conspicuous but slightly amorphous and the plan and form of the underlying asset is hard to detect	Medium	Medium	Minor/ Moderate

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
	of, Scheduled Monument			on the surface. Critical setting relationship is with the sea, behind which the Proposed Development will appear			
27	North Wald, mounds and burnt mounds 350m NNE of, Scheduled Monument	6	4.52	The Bay of Isbister forms the core setting of these monuments	Medium	Low	Minor
28	The Hillock Broch, Finstown, Scheduled Monument	6	4.58	This broch is truncated by a road and surmounted by a pillbox. Although the Proposed Development will be clearly visible, the broch's core setting relationship is with the Bay of Firth and this will not be directly affected.	Medium	Medium	Minor/ Moderate
29	Finstown Mill, Category B Listed Building	6	5.14	Mill is a functional structure, with an acquired aesthetic the setting of which relates primarily to the watercourse, and its secondary setting the valley within which it is situated. Views of the Proposed Development will be outwith this.	Low	Low	Negligible
30	Burness House, Category B Listed Building	6	2.72	House is vacant, ruined and in poor condition. Visibility will be across farmyard.	Medium	Low	Minor
41	Cursetter, Old Manse of Firth, Category B Listed Building	6	2.99	House orientated NW SE away from the Proposed Development and will be at least partially shielded by tree belt and farm steading.	Low	Low	Negligible
47	Barnhouse Stone, World Heritage Monument & Scheduled Monument	0	9.50	WHS Monument, No Visibility	High	None	None

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
48	Rennibister, Souterrain, Scheduled Monument	6	1.46	Buried monument, Property in Care located within a farm steading, modern access via the roof. Visibility of the Proposed Development from the steading will be partially impeded by the steading.	Low	Low	Negligible
49	Qouyer, mound 480m NNW of, Scheduled Monument	3	9.15	Within WHS buffer. Mound appears to have been reduced and is set within a wide-open landscape	Medium	Marginal	Negligible
50	Ingashowe, broch 300m NE of Finstown, Scheduled Monument	6	1.93	Monument affected by coastal erosion and its principal setting relates to the sea although it is conspicuous when viewed from the road to the south	Medium	Medium	Minor/ Moderate
51	Damsay, St. Mary's Chapel, Scheduled Monument	6	1.70	Monument is located on an uninhabited island and it has been reduced to a mound. It has also been affected by coastal erosion. Core setting is the island, with the sea beyond as a secondary setting.	Medium	Medium	Minor/ Moderate
57	Ness, mound 300m NW of Grimston, Scheduled Monument	1	10.15	Within WHS Buffer. Crossed by field boundaries and survives only to a height of 0.9m.	Medium	Marginal	Negligible
61	Ness of Borray, Broch, Scheduled Monument	6	7.31	Located on the southern tip of Gairsay and there is no information on its condition in the scheduling documentation. Setting relates to the sea. The Proposed Development will be visible but distant.	Medium	Low	Minor
62	Langskaill, Viking Houses, Scheduled Monument	6	8.16	Located on the west coast of Gairsay and there is no information on its condition in the scheduling documentation. Setting relates to the sea. The Proposed Development will be visible but distant.	Medium	Low	Minor

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
63	Varme Dale, mounds 470m ESE of Gorm, Scheduled Monument	6	4.84	Prehistoric burial mound set within a wide-open setting.	Medium	Low	Minor
64	Knowes of Euro, mounds 340m SW of Appietown, Gorseness, Scheduled Monument	6	4.88	Prehistoric burial mound set within a wide-open setting.	Medium	Low	Minor
65	West Puldrite, two mounds 280 NNW of Scheduled Monument	6	4.46	Prehistoric burial mound set within a wide-open setting.	Medium	Low	Minor
66	Sandyhall, mounds S of, Scheduled Monument	6	5.62	Prehistoric burial mound set within a wide-open setting.	Medium	Low	Minor
217	Bishop's Palace, Kirkwall, Scheduled Monument	6	3.84	Some visibility from the upper portions of the monument although its core setting relates to the surrounding townscape	High	Low	Minor/ Moderate
218	Widford Hill, Chambered Cairn, Scheduled Monument.	3	1.30	Two turbines, plus the blade of a third will be visible. Crucial relationship with Cuween will be unaffected whilst Quanterness is concealed from this vantage point.	High	Medium	Moderate
219	Earl's Palace, Kirkwall, Scheduled Monument	6	3.89	Some visibility from the upper portions of the monument although its core setting relates to the surrounding townscape	High	Low	Minor/Moderate

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
220	Hillock of Garth, Cairn 990m S of Garth, Scheduled Monument	6	4.58	Primary setting north-west towards Inganess Bay	High	Marginal	Minor
221	Pickaquoy, burnt mound & settlement, Scheduled Monument	2	3.00	Asset within Kirkwall urban area, immediately adjacent to a housing estate which could potentially block visibility.	Low	Marginal	Neutral
231	18 Clay Loan, Kirkwall, Category C Listed Building	6	c.4.00	Clay loan runs at right angles to Wideford Hill. No visibility predicted.	Low	None	None
232	4 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
233	8 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
234	26 Wellington Street, Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
235	2 High Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
236	20 High Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
237	Bignold Park Pavilion, Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape and any visibility will be from the rear	Medium	Marginal	Negligible
238	Glaitness House, Glaitness Road, Kirkwall, Category C Listed Building	5	3.61	Visibility will be partially blocked by the intervening townscape.	Medium	Marginal	Negligible
239	7 Nicholson Street Kirkwall, Category C Listed Building	6	c.4.00	Nicholson St. angled at a right angle away from the Proposed Development and it is likely that any visibility will be blocked by the intervening townscape.	Low	None	None
241	Kirkwall, Watergate, Colwyn. Category B Listed Building	6	c.4.00	Some visibility will be possible however it will fall beyond the asset's townscape context	Medium	Marginal	Negligible
244	6 Wellington Street Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
245	6 High Street Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
259	3 Wellington Street, Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
260	22 High Street Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
261	24 High Street Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
262	54 Clay Loan, Kirkwall, Category B Listed Building	6	c.4.00	Clay Loan runs at a right angle to Wideford Hill. No visibility predicted.	Low	None	None
264	Tankerness House Museum, Kirkwall, Category A Listed Building	6	3.75	Any visibility from the front of the house will be blocked by the surrounding townscape. Visibility from the gardens to the rear unlikely but cannot be discounted hence finding of marginal magnitude.	High	Marginal	Minor
271	18 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
272	Kirkwall, Ayre Road, Grainbank, Stable and Byre, Category B Listed Building	3	2.66	House has views facing west to Wideford Hill and some visibility of the Proposed Development is likely although the intervening housing estate, Grainepark, will intervene and impede visibility. The house itself lies just outside the ZTV although there is a potential for views from the upper floor.	Medium	Marginal	Negligible
283	20 Clay Loan, Kirkwall, Category C Listed Building	6	c.4.00	Clay Loan runs at a right angle to Wideford Hill. No visibility predicted.	Low	None	None
287	12 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
289	Highland Park Distillery, Holme Road, Kirkwall, Category B Listed Building	6	5.03	Visibility from the top of the complex although lower down it will be impeded by later distillery structures on the opposite side of Holm Road	Medium	Marginal	Negligible
290	1 Nicholson Street Kirkwall, Category C Listed Building	6	c.4.00	Nicholson St. angled at a right angle away from the Proposed Development and it is likely that any visibility will be blocked by the intervening townscape.	Low	None	None
296	6 Old Scapa Road Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
297	Kirkwall, St. Magnus Cathedral & Graveyard, Category A Listed Building	6	c.3.8	Visibility from the tower and also possibly from the kirkyard although any visibility from the kirkyard will be at worst very limited and the asset's core relationship with its surrounding townscape is therefore unlikely to be affected.	High	Low	Minor/Moderate
306	14-16 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
307	18 High Street Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
319	2-4 Wellington Street, Kirkwall	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
320	30 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
321	34 Wellington Street, Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked by intervening townscape.	Low	None	None
322	Kirkwall, Ayre Road, Grainbank, Ancillary Range Abutting to the North, Category B Listed Building	2	2.66	Has views facing west to Wideford Hill and some visibility of the Proposed Development is likely although the intervening housing estate, Grainepark, will intervene and impede visibility.	Medium	Marginal	Negligible
324	8 Old Scapa Road Kirkwall, Category B Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
339	34 High Street Kirkwall, Category C Listed Building	6	c.4.00	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Low	None	None
340	6 Nicholson Street, Kirkwall, Category B Listed Building	6	c.4.00	Nicholson St. angled at a right angle away from the Proposed Development and it is likely that any visibility will be blocked by the intervening townscape.	Low	None	None
341	Bignold Park Road, Madras Villa, Kirkwall, Category C Listed Building	6	c.4.00	Some visibility will be possible however it will fall beyond the asset's townscape context	Medium	Marginal	Negligible
367	The Ayre Hotel, Harbour Street,	6	3.44	Hotel faces north and any views of the Proposed Development to the west will be oblique and most	Medium	Marginal	Negligible

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
	Category B Listed Building			probably impeded by the intervening townscape. Setting relates primarily to the sea view			
378	Kirkwall Conservation Area. Contains two Category A Listed Buildings and 197 Category B & C Listed Building records (Sites 264 & 297).	6	3.50	Densely developed historic townscape opening up onto the waterfront. Includes the initial suburban development on the higher ground to the east.	High	Marginal	Minor
379	Stones of Stenness, World Heritage Monument & Scheduled Monument	0	10.05	WHS Monument, No Visibility	High	None	None
380	Maeshowe, World Heritage Monument & Scheduled Monument	0	8.86	WHS Monument, No Visibility	High	None	None
381	Grain Earth House, Kirkwall, Scheduled Monument	6	2.87	Buried monument within industrial estate, modern access.	Low	Marginal	Neutral
439-441	Berstane Road, Papdale House (inc. doocot), Category B Listed Building	6	4.35	House aligned north-east to south-west away from the wind farm to the west. Student residence buildings have been built within the grounds of the house including adjacent to the walled garden. Any visibility will be impeded and across the modern Kirkwall townscape	Medium	Marginal	Negligible
455-7	Former Ayre Mills, Ayre Road, Kirkwall.	>6	3.07	Former industrial buildings which front to the north-east away from the Proposed Development.	Low	Marginal	Neutral

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
	Category C Listed Building						
467	Harbour Street, Former Fish Processing Plant	6	3.5	Adjacent to the Ayre Hotel and appears to now be part of the hotel. Setting primarily relates to the seafront, however some possibility of views from upper floor windows	Low	Marginal	Neutral
503	Car Ness Battery, Car Ness, Scheduled Monument	6	4.18	Military installation, its setting relates primarily to the sea lanes to the north and west which will not be affected.	High	Marginal	Minor
504	Sweyn's Castle, burnt mound ESE of Skelbist Gairsay, Scheduled Monument	6	8.40	Located on the coast of Gairsay.	Medium	Marginal	Negligible
505	Skelbist, Chambered cairn 460m NE of, Scheduled Monument	6	8.88	Located on the coast of Gairsay.	High	Marginal	Minor
506	Quanerness, chambered cairn and Prehistoric house 50m NW of, Scheduled Monument	6	0.68	Modern post-1970's tree belt severely impedes key setting relationship with the coast during the winter months and could potentially block it over the summer. This tree belt will also impede, but not block, views of the turbines during the winter months.	With Trees: Medium	Low	Minor
					Without Trees: High	Medium	Moderate
507	Helliar Holm, chambered cairn, Scheduled Monument	6	6.08	On an uninhabited island but forming a conspicuous landmark when viewed from the mainland and Shapinsay. Aligned north-west to south-east so visibility of the Proposed Development to the west will be oblique.	High	Low	Minor/ Moderate

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
508	Hall of Rendall, settlement 275m NE of and St. Thomas's Kirk, Scheduled Monument	3	7.02	Substantial mound the setting of which relates primarily to the coast to the east	Medium	Marginal	Negligible
509	Bay of Meil, Chapel 250m W of Holland, Scheduled monument	4	5.7	Grass covered remains of possible chapel up to 1m high. Setting relates primarily to the bay beside which its sits and the east coast of Orkney Mainland.	Medium	Marginal	Negligible
510	Head of Work, Long Cairn, Scheduled Monument	6	5.82	Stands on a promontory which defines the eastern approach to Kirkwall from the sea.	High	Low	Minor/ Moderate
511	Hillock of Howe, Broch, Scheduled Monument	6	8.91	Clear visibility although Hellier Holm landform will appear in front	Medium	Marginal	Negligible
513	Knowe of Dishero, broch 200m SSW of the Old Manse, Gorseness, Scheduled Monument	6	6.01	Chapel severely ruined although the kirkyard is maintained. Visibility of the Proposed Development will be over Gorseness.	Medium	Marginal	Negligible
514	South Aittit, church 185m NE of, Scheduled Monument	6	5.77	Chapel severely ruined although the kirkyard is maintained. Visibility of the Proposed Development will be over Gorseness.	Medium	Marginal	Negligible
516	Balfour Castle, Shapinsay, Category A Listed Building	6	5.56	Castle fronts the coast to the south. Visibility will be to the west of modern Kirkwall	High	Low	Minor/ Moderate

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
537	Eastbank Hospital, East Road, Kirkwall, Category C Listed Building	6	4.14	Listed House within modern hospital complex. Fronts west so visibility is anticipated however these views will be across the wider Kirkwall townscape.	Medium	Marginal	Negligible
539	Voresheed, Kirkwall, Category C Listed Building	6	4.25	Visibility likely to be blocked at least at ground floor level by intervening townscape and vegetation.	Low	Marginal	Negligible
540	Park Cottage, Berstane Road, Kirkwall, Category C Listed Building	6	4.7	Visibility likely to be blocked at least at ground floor level by intervening townscape.	Medium	Marginal	Negligible
541	Akranes, East Road, Kirkwall	6	4.18	Aligned north-east south-west so any visibility will be oblique and across existing townscape.	Low	Marginal	Negligible
559	Balfour Castle IGDL	0-6	4.65	Provides the setting for the castle and similarly fronts the sea.	High	Low	Minor/ Moderate
560	Balfour Village Conservation Area (contains 18 Listed Buildings)	0-6	5.85	Only the northern part of the CA lies within the ZTV and the houses front east in the away from the proposed development. Any visibility from the rear of the buildings will in all probability be blocked by intervening tree cover.	High	None	None
561	Brodgar Rural Conservation Area	0-6	10.97	Designated Area covers core of WHS buffer zone	High	Marginal	Minor
565	Binscarth House, Category B Listed Building	6	5.80	House fronts westwards across the Bay of Firth from an elevated position to the west of Finstown, the view being channelled by the valley above which it stands	High	Marginal	Minor

Site No	Name and Designation	No of turbines theoretically visible (ZTV)	Distance to nearest turbine (km)	Main Factors Affecting Setting	Relative Sensitivity	Magnitude of Impact	Level of Operational Effect
566	Ring of Brodgar, World Heritage Monument & Scheduled Monument	0	11.23	ZTV suggests that a single turbine could potentially be visible from the northern part of the WHS. However, wireframe evidence suggests that no turbines will be detectable and consequently no effect is predicted.	High	None	None
567	Wasbister, burial mounds and settlement, Scheduled Monument	4-6	11.66	Included in order to assess potential visibility from HONO WHS buffer zone. Wireframe suggests that six blades will be visible, two possibly from hub height	High	Marginal	Minor
568	Bookan, chambered cairn, Scheduled Monument	6	11.97	Included in order to assess potential visibility from HONO WHS buffer zone. Wireframe suggests that six turbines will be visible, four from below hub height.	High	Marginal	Minor
569	Ring of Bookan, chambered cairn	6	12.30	Included in order to assess potential visibility from HONO WHS buffer zone. Wireframe suggests that six turbines will be visible, four from below hub height.	High	Marginal	Minor

Minor to Moderate Effects

Minor/ moderate effects are predicted upon the settings of two Scheduled funerary monuments; the Helliar Holm chambered cairn (Site 507) and the Head of Work long cairn (Site 510); three Scheduled brochs; the Burness and chapel (Site 23), the Hillock broch, Finstown (Site 28) and Ingashowe broch (Site 50) and the Scheduled remains of St. Mary's Chapel on Damsay (Site 51). Although visibility within the historic core of Kirkwall will be limited by the structure of the townscape, **minor/ moderate** effects are predicted upon the settings of the Scheduled Bishop's and Earl's Palaces (Sites 217 and 219) and the Category A Listed St. Magnus Cathedral and Graveyard in Kirkwall (Site 297) as well as the wider Kirkwall Conservation Area (Site 378) within which they stand. **Minor/ moderate** effects are also predicted upon the settings of the Category A Listed Balfour Castle (Site 516) and the IGDL which surrounds it (Site 559). These effects are discussed below.

Neolithic chambered cairns such as Helliar Holm (Site 507) and the Head of Work (Site 511) are considered to have a high relative sensitivity to changes to their settings as they were placed purposefully within the landscape, often in relation to topographical features such as ridgelines, watercourses and coastlines or in relation to other monuments. This is particularly true of Orkney where chambered cairns often have clear visual relationships with bodies of water including the firths and channels which interweave between the islands. Helliar Holm and the Head of Work stand on opposing topographic landforms which define 'The String' the narrow channel which separates the internal Wide Firth to the west from the open waters of Shapinsay Sound to the east. These opposing landforms, the Helliar Holm island and the Head of Work promontory on East Mainland therefore define the channel which the open sea is both entered and returned from. The placing of a chambered cairn on the high points of these landforms is not coincidental and suggests that value was placed on this portal within the Neolithic world.

The alignment of chambered cairns is also considered to be a factor in understanding the cultural value of the monuments and their settings. The chambers within Neolithic cairns were typically orientated towards their entrances and views from these entrances can often be seen to be focussed on topographical features or watercourses. In some instances, the entrances appear to have been purposefully aligned towards solar events; the entrance passage at Maeshowe (Site 380) is, for example, aligned with the setting of the midwinter sun so that the light illuminates the interior of the chamber. Archaeological evidence also suggests that feasting or other activities took place in front of the entrances at many chambered cairns. Neolithic chambered cairns are therefore considered to be particularly sensitive to changes along the alignments of their internal chambers, passages and entrances.

The Helliar Holm cairn stands prominently on the highest point on the island and is clearly visible from both the Mainland to the south and Shapinsay to the north. Unfortunately, its Scheduling documentation lacks a detailed description although records of visits between the 1920's and the 1980's held by the NRHE note that it measured 18 m in diameter, survives to a height of 2.2 m high and was aligned north-west south-east. Although no trace of the entrance could be found this alignment would suggest that the cairn was orientated either towards or back from the open seas to the east. The cairn on the Head of Work on the to the south is more substantial than Helliar Holm, measuring 50 m x 18 m and is aligned WNW-ESE along the axis of the promontory, which again suggests that value was attached to views that extend either out to or back from the open sea to the east. Long cairns are characterised by the presence of two 'horned' courtyards on the axis of the monument one at either end and the Hill of Work is no exception, suggesting that it is sensitive to change at either end. The core setting of the cairn encompasses both the Wide Firth and Shapinsay Sound.

When viewed from the Hill of Work the Proposed Development will appear to the WSW, slightly to the south of its critical alignment and just to the north of Widford Hill which terminates the horizon from this vantage point. The nearest turbine will stand 5.82 km from the cairn and the Proposed Development will be clearly outwith the core setting of the cairn which is defined by the promontory upon which it stands and the seas which surround it on the remaining three sides, including the narrow channel of the string to the north. The chambered cairn on

Helliar Holm lies 6.075km south-west of the nearest proposed turbine and the Proposed Development will therefore appear offset from its sensitive north-west south-east alignment. Although the setting of Helliar Holm is arguably more open and expansive than that of the Head of Work, as the cairns stands proud on the summit of the island, the Proposed Development will not interfere in views across either the Wide Firth, The String or Shapinsay Sound. Nor will it interrupt the visual relationship between the two cairns. For these reasons the Proposed Development is predicted to constitute a slight alteration to the settings of the Helliar Holm and Hill of Work cairns, which fall beyond those elements of their setting which directly contribute to our understanding of their cultural value. Consequently, there will be no material change to the observer's ability to understand, appreciate and experience these assets and the magnitude of impact upon the settings of both assets is predicted to be low. However, given that both cairns have a high relative sensitivity to changes in their setting the overall effect upon the setting of each cairn will be **minor/moderate** and not significant.

Three Scheduled brochs; the Burness and chapel (Site 23), the Hillock broch at Finstown (Site 28) and Ingashowe broch (Site 50) line the shores of the Bay of Firth to the west of the Proposed Development. Brochs were fortified defensive towers of Iron Age date and on Orkney, were often placed on coastlines, as all three of these brochs are. The comparatively sheltered bays, sounds and firths of the Orkney coastline would have also offered rich marine resources and easy communication routes. Although brochs are considered to be sensitive to changes to their surroundings, the setting of coastal brochs is considered to be focused on the shorelines upon which the stand. The coastal locales would have allowed surveillance over considerable areas, whilst in their intact state the brochs would have been prominent visual landmarks. Although when in use and complete these brochs would have been prominent stone towers, all three monuments have been reduced to the extent that the stonework is now buried within turf mounds and it is these mounds, the products of post-abandonment decay, collapse and erosion, which now appear within the modern landscape. Coastal erosion has impacted upon both the Hillock and Ingashowe brochs, whilst Burness has reportedly been 'mutilated' through quarrying. The Hillock was fortified during the Second World War and a pillbox survives on the top of the mound. It was subsequently truncated by the insertion of the A966 which cuts the western side of the mound. Whilst the value attached to their coastal locations can still be appreciated, in all three cases their sensitivity to changes in their setting has been affected by the poor condition of these assets. This means that although the topographical landscape context within which all three brochs were placed survives, their current condition means that the precise nature of these relationships cannot be determined. For this reason, the relative sensitivity of these three brochs is considered in all three instances to be medium.

The Proposed Development will be positioned to the east of the three Brochs and will not intervene in visual relationships either between the brochs or the landforms upon which they lie. The Proposed Development will not interrupt any views across the Bay of Firth from any of the three monuments although it will appear on the south-east shore of the bay (Figures 10.16 and 10.17). The Proposed Development could also potentially backdrop the Ingashowe broch when it is viewed from the A965 to the west. The Proposed Development is located within 5km of all three Brochs, with the closest turbine located 1.93km from Ingashowe. The Proposed Development will constitute a notable change to the setting of each broch but in each instance their core relationships with their coastal positions on the comparatively sheltered shores of the Bay of Firth will not be directly affected and will remain legible. The predicted effect will therefore be outwith those elements of the setting which directly contribute to our understanding of the cultural value of these three brochs. For these reasons the impacts upon the setting of each broch is predicted to be of medium magnitude and given their medium sensitivity to changes in their setting the level of effect is predicted to be **minor/moderate** and not significant.

The remains of St. Mary's Chapel (Site 51) lies on the north-western tip of Damsay a small uninhabited island within the Bay of Firth to the west of the site. The monument's Scheduling documentation notes that Damsay was a renowned place into the post-medieval period although reportedly all that now remains of the chapel is an amorphous turf covered mound which survives up to a height of one metre. The mound is aligned east west

and the Scheduling document notes that it has been exposed by coastal erosion on its seaward (presumably northern side) exposing stone and some possible flagged flooring. A limited excavation of the exposed eroded coastal face undertaken by Oxford University in August 2013 confirmed the presence of flagstone flooring (Griffiths 2014). Although the interpretation of the mound as a chapel site is still unconfirmed, its east west orientation would certainly accord with a Christian usage, whilst its position on a small isolated island could suggest the presence of an early monastic site on Damsay. Further non-designated remains on Damsay suggest that the island was occupied from late prehistory onwards, and the chapel should therefore be seen within this context. The core setting of the possible chapel is confined to Damsay itself and the waters which surround it provide its intermediate context. The coastal perimeter of the Bay of Firth, upon which the Proposed Development will stand marks the near edge of its wider setting. It has been suggested that it may have been possible to access the chapel via a narrow causeway from the Rendall shore to the north (*ibid.*). Although this potential access route is unconfirmed the possible presence of a chapel on the Scheduled broch mound to the north of Damsay on the Rendall shore at Burness (Site 23) is potentially significant as it could suggest that there was a contextual relationship between these two monuments and that therefore the remains of the chapel are more sensitive to changes to the north than to the south. The remoteness of the monument's setting contributes to our understanding and appreciation of it as a possible early Christian chapel. However, understanding and appreciation of the monument is compromised to a degree by its poor condition which means that it is no longer readily legible as a chapel. The remains of St. Mary's Chapel on Damsay are therefore considered to have a medium relative sensitivity to changes in its setting.

The Proposed Development will be visible to the south of Damsay on the southern shore of the Bay of Firth to the left of Wideford Hill. The turbines will be clearly visible (Figure 10.15) and will constitute a notable alteration to the setting of the monument. However, this visibility will fall outwith both its core island setting and its intermediate seascape context. Additionally, there will be no interaction with the potentially significant visual relationship with Burness and the Rendall shore to the north. For these reasons the magnitude of impact of impact upon the setting of the chapel is predicted to be medium and given its medium relative sensitivity the overall level of effect is predicted to be **minor/ moderate** and not significant.

The Scheduled remains of the palaces of the Bishops (Site 217) and Earls of Orkney (Site 219) stand adjacent to each other within the historic core of Kirkwall to the south of the Category A Listed Cathedral of St. Magnus (Kirkwall Cathedral) (Site 297). Construction of the cathedral started in 1137 and the building was not finally completed until the west front was built during the 15th century. The earlier phases of the cathedral bear striking comparison with the main body of Durham Cathedral, which was completed in 1130, leading to suggestions reflected in Kirkwall's Listing Description, that stonemasons travelled north from Durham to commence work on St. Magnus. Although this cannot be proved, given that Durham has World Heritage status, it could be argued that Kirkwall is also of international importance. The Scheduled remains of the Bishop's Palace (Site 217) stand to the south of the cathedral on the opposite side of Palace Road. Construction of the palace started during the 12th century however, it had fallen into disrepair by the early 14th century and much of what survives today is the product of an extensive reconstruction that was undertaken by Bishop Reid during the mid-16th century. The palace was acquired by the Earl of Orkney around 1600 and further alterations were made, before a new Palace, the Earl's Palace was built to the immediate east of the former episcopal seat between 1601 and 1607. Although both palaces are now ruined, substantial structural remains survive, and the form and character of the palaces remains readily discernible whilst St. Magnus is an iconic example of a large Romanesque Norman cathedral set within the 'remote' Orcadian north. All three assets therefore possess a high relative sensitivity to changes in their setting. In all three cases the assets are most sensitive to changes in their core setting which is primarily defined by the Historic core of Kirkwall and the visual inter-relationship between the three assets themselves.

Site visits established that Proposed Development will not be visible at ground level from either of the palaces or from the doorways in the west front of the cathedral. However, the turbines will be seen from the elevated viewing points at the highest points of both palaces and will also be seen from the external gallery on the top of

the cathedral tower (Plate 10.9). Kirkwall was laid out along the axis of a broad isthmus, a low strip of land which links the elevated landforms of East and West Mainland. Scapa Bay protrudes into the isthmus from the south, whilst Kirkwall Bay extends into it from the north. Historically, the coast extended deeper into the isthmus, allowing the transportation of boats across Mainland at this point. It is therefore reasonable to argue that the town, and therefore consequently both the cathedral and the initial Bishop's Palace were purposively placed in relation to these two bays. This would mean that weight could be attached to the importance of views north from the cathedral towards the Bay of Kirkwall and south towards Scapa Bay and that in times of conflict surveillance over both these strategic waters would have been afforded from the tower. Views towards the two bays from the tower will be unaffected by the Proposed Development, although turbines will appear in views to the north-west at a distance of 3.8 km. When viewed from this vantage point the Proposed Development will appear to the rear of the Hatson industrial estate, which is itself visually separate from Kirkwall and will be clearly set apart from both the cathedral and the historic core of the town. The character of the visibility from the elevated parts of the two palaces will be similar although given its lower elevation visibility from the Earl's will be partially impeded by tree cover. Given that visibility will be limited to the uppermost, less accessible portions of these monuments and will fall beyond their authentic urban context the Proposed Development will constitute a slight alteration elements of their setting which do not contribute directly to their overall cultural value. The observer's ability to understand, appreciate and experience these assets will not be materially affected. For these reasons the magnitude of impact upon the settings of the cathedral and the two palaces is predicted to be low but given their high relative sensitivity the level of effect will be **minor/ moderate** and not significant.

The kirkyard which surrounds the cathedral is included within its Category A Listing and was therefore considered as part of the setting assessment. Views of the Proposed Development from the entrances at the west end of the cathedral will in all probability be blocked by the buildings which front the western side of Broad Street. However, Wideford Hill can be clearly seen from a number of points within the Kirkyard, most notably from the ground to the north-west of the cathedral (Plate 10.10) and therefore a wireframe has been prepared in order to assess possible visibility (Figure 10.8). The wireframe confirms that all six turbines would theoretically be visible from the kirkyard although the two left hand turbines would only appear at hub height. Comparisons with the images taken during the site visit (Plate 10.10) suggest that the flank of Wideford Hill that can be seen from the kirkyard lies to the left of the Proposed Development and that the turbines will be largely if not entirely concealed from view behind vegetation and the intervening townscape. Any visibility from the kirkyard will thus be extremely limited and clearly outwith its urban context. The Kirkyard shares both the cathedral's designation and its high relative sensitivity. Visibility of elements of the Proposed Development are would not materially change an observer's ability to understand and appreciate the Kirkyard consequently any visibility will constitute a low magnitude but given its high relative sensitivity the level of effect would be **minor/ moderate** and not significant.

The potential effects of the appearance of the Proposed Development in views which include the cathedral also needs to be taken into consideration. As will be discussed below with relation to the Conservation Area, visibility from within the historic core of the town will in all probability be blocked, although as discussed above the potential for limited visibility from the kirkyard cannot be discounted. The construction of the cathedral during the 12th century was an expression of the importance of the developing town as well as the power of Orkney's rulers and the observer's ability to view or glimpse the cathedral when it comes into view, often at close quarters within the townscape contributes not only to our modern understanding and appreciation of the monument, but also to our understanding of the town itself, its origins and its former importance. With the possible exception of the kirkyard it is considered unlikely that the Proposed Development will appear alongside the cathedral in any views from within Kirkwall's historic core and therefore this element of the significance of both assets will be largely unaffected, although the potential for a minor/ moderate effect upon the kirkyard is noted. Although views of the cathedral from within the core of the town are limited its tower and spire appear prominent when viewed from many of the approach roads into Kirkwall and also from the sea lanes to the north.

When approached from the west via the A965 the cathedral will only come into view once the Proposed Development has been passed and therefore there will be no intervisibility from the west. When approached from the south via the A961, the cathedral appears as a prominent landmark at the base of the valley, surrounded by the modern town. Although the Proposed Development will be seen in this view it will appear well to the left of Kirkwall to the rear of the Hatson industrial estate and will clearly be separate from both the cathedral and its valley floor context. Both the cathedral and the Proposed Development will also appear in south-west facing views from Carness Road to the north-east of Kirkwall however, from this perspective the cathedral and the Proposed Development will be separated by the intervening landform of Wideford Hill which will dwarf both and will be the dominant visible marker from this perspective. Although both the Proposed Development and the cathedral will appear together when Kirkwall is approached from the sea, all the ferry routes converge on Kirkwall and the Proposed Development will appear to the west of this. The Proposed Development will therefore appear visually separate from the cathedral on a separate landform and will not interrupt its dominance of the townscape and the valley within which it is located. For these reasons the Proposed Development would not materially change the ability of the observer to understand or appreciate either the cathedral's townscape context or its location on the valley floor and for this reason the magnitude of impact on views of the cathedral will be low, but given the cathedral's high relative sensitivity, the level of effect would be **minor/ moderate** and not significant.

The Kirkwall Conservation Area extends to within 3.5 km of the Proposed Development from the south-west and encompasses both the historic core of the town and its initial phase of suburban expansion on the hillslopes to the east. The Conservation Area contains two Category A Listed Buildings; Kirkwall Cathedral (Site 297) and the Tankerness House Museum (Site 264) as well as 197 Category B and C Listed Buildings. The predicted effects upon the Category A Listed Buildings are discussed individually in this assessment, the remaining Listed Buildings are assessed as a group within the Conservation Area. It is recognised that effects on the settings of the individual Listed Buildings within the Conservation Area will vary according to the nature of the assets and their location within the townscape, however none would be considered significant in EIA terms. Kirkwall is a unique settlement; a close-knit small Scottish town with evident Viking origins and a substantial medieval cathedral at its heart and the Conservation Area is therefore considered to have a high relative sensitivity to changes which effect its character and setting.

Visibility of the Proposed Development from within the historic core of the town from along the central axis of Victoria Street, Broad Street and Albert Street will in all probability be prevented by the developed streetscapes themselves. However, visibility is likely to gradually increase as the observer ascends the hillslopes to the east. The potential for visibility from the cathedral kirkyard has been discussed above, views from Palace Road to the south are less likely due to the substantial blocking presence of the cathedral, although limited visibility could occur from the stretch of Mill Street to the rear of the OIC offices and the western end of Thoms Street. Further visibility could also occur on Willowburn, although in all these instances views would be at worst fleeting and severely impeded by the intervening townscape. Greater visibility is predicted from the highest point of the Conservation Area along East Road although these views will still be impeded to a degree by both structures and vegetation and will occur to the rear of the modern Hatson industrial estate. Views from the harbour and waterfront are inevitably more open and the Proposed Development will be clearly visible to the rear of the harbour and the Hatson Industrial Estate (LVIA Chapter Figures VP.4).

Overall, although visibility will be greater along the waterfront, internal visibility from within the sensitive historic core of the Conservation Area will be at worst fleeting and intermittent, whilst views from the suburban expansion up the hillslope to the east will be restricted until the highest points of the Conservation Area is reached. Views from the waterfront will be more open although this part of the town is characterised by a busy commercial harbour. Although visibility from the waterfront will be greater, the character of the Conservation Area will not be materially changed to the extent that the observer's ability to understand, appreciate and experience Kirkwall would be diminished. Consequently, the magnitude of effect is predicted to be low, and

given the Conservation Area's high relative sensitivity the level of effect will be **minor-moderate** and not significant.

Balfour Castle (Site 516) stands within its IGDL (Site 559) on the southern coast of Shapinsay. The castle was built between 1846-59 to designs by David Bryce and is described in its Listing Description as a 'large rambling Scots Baronial mansion'. The castle was built on the site of an earlier mansion and some elements of the IGDL which surrounds it predate Bryce's scheme. The castle fronts southwards with views out across The String towards East Mainland and Kirkwall. The IGDL is compartmentalised and includes plantations to the rear of the castle with agricultural land beyond. This assessment focuses on the terraces and grassed areas that extend southward from the castle to the water's edge as well as the carriage drive from the gatehouse to the east as these form the castle's immediate context and frame both the way that it appears in northward views towards the castle from the water and in southern views out from the castle towards East and West Mainland. Both the castle and the IGDL share a combined setting which makes a significant contribution to the observer's ability to understand, experience and appreciate them and therefore both retain a high relative sensitivity to changes to their settings.

Bryce designed the castle so that it would appear conspicuous when viewed from East Mainland to the south and orientated the building so that views to the south would take in a broad coastal vista, which would include Kirkwall and its cathedral on the opposing shore. The castle itself is orientated due south towards the Bay of Carness on East Mainland. The terraces and grasslands which extend south and east from the castle were laid out so as to facilitate these vistas and should therefore structure the castle's core inner setting. The sea channel to the south, which provides the context by which the castle is understood by the majority of observers, forms the intermediate setting of both the castle and the IGDL, although it is a neutral player as it is the medium by which distant views both towards and out from the castle are obtained. The outer peripheral setting of both the castle and the IGDL takes in Kirkwall and the northern shores of East and West Mainland to the south.

Two visualisations have been prepared to illustrate the predicted view from the castle (Figure 10.14) and the carriage drive to the east (Figure 10.19). Both predict a similar level of visibility and suggest that the Proposed Development will be visible obliquely to the south-west of the castle immediately north-west of the dominant landmark of Wideford Hill and the Proposed Development will not interrupt any views of Kirkwall from either the castle or the IGDL. Views of both the castle and the IGDL from the south will be unaffected by the Proposed Development. Views of the castle and the coastal portion of the IGDL from the north and north-east are either blocked or severely impeded by the tree belt that shields the castle from view and will consequently also be unaffected. Although the Proposed Development will change the setting of both the castle and the IGDL, this would represent a slight alteration to the overall setting of these assets and would not materially affect an observer's ability to understand and appreciate them. For these reasons it will constitute an impact of low magnitude. Given the high relative setting of both the castle and the IGDL the overall level of effect would be **minor/ moderate** and not significant.

Minor Effects

Minor effects are predicted upon the settings of 13 Scheduled Monuments within 10km of the Proposed Development and three Listed Buildings. There will also be a **minor** effect upon the setting of the Heart of Neolithic Orkney World Heritage Site (HONO WHS). These effects are discussed below.

Seven Scheduled prehistoric funerary mounds or mound groups lie to the north of the site on the northern coast of the Bay of Firth and at the high ground at Rendall and to the north of Cottascarth; the Knowe of Lyron (Site 2), the Seven Knowes (Site 3), the Black Knowe (Site 4), the North Wald Mounds (Site 27), the Varne Dale Mounds (Site 63), the Knowes of Euro (Site 64), the two mounds at West Puldrite (Site 65), and the Sandyhall Mounds (Site 66). Bronze Age burial mounds such as these are comparatively commonplace within the Orcadian landscape. Unlike the earlier chambered cairns their alignments are often hard to determine, as the cists which

contained the internments are usually either hidden within the mounds, or in many instances were removed during 18th and 19th century antiquarian explorations. However, it is clear that many monuments have significant visual relationships with topographical features, for example the settings of the mounds at North Wald (Site 27) and Varme Dale (Site 63) can be said to primarily relate to their coastal locations, whilst views from the Black Knowe (Site 4) which is elevated on the slope to the north of Cottascarth command a wide vista eastwards out to sea. The settings of some of the mounds have been compromised, either by their poor condition or the contemporary context within which they are appreciated. For example, the Knowe of Lyron (Site 2) lies adjacent to a football pitch whilst an intrusive modern field boundary crosses the Black Knowe (Site 4). Other mounds have been spread either through agricultural usage or simply the passage of time and now survive as diminished forms within the modern landscape. Although all of these mounds retain elements of their settings that contribute to our understanding of their value, this contribution has been moderately compromised by their contemporary character and they are consequently considered to retain medium relative sensitivities to changes in their settings.

The eight Scheduled mounds are dispersed widely across the broad landscape which extends north of the Bay of Firth, and each monument will have its own individual visual relationship with the Proposed Development. However, all are located at least 4.5km from the nearest proposed turbine and have closer contextual relationships with their immediate surroundings and topography than they have with the low Quanterness peninsula upon which the Proposed Development will stand. Given the distance of separation and the fact that visibility will in each case fall outwith the core settings of these mounds which are focussed to the north of the Bay of Firth, the Proposed Development will not affect an observer's ability to understand, appreciate or experience these monuments and the integrity of their settings will not be adversely affected. For these reasons the magnitude of impact upon the settings of these assets is predicted to be low, and given their medium sensitivity, the overall level of effect will be **minor** and not significant.

The Scheduled remains of a ninth funerary monument, the Hillock of Garth cairn (Site 220) stands 4.58km to the south-east of the nearest proposed turbine on the high ground of East Mainland south-east of Kirkwall. The cairn comprises an oval mound which survives to a height of 1.8m and has been subject to previous disturbance as evidenced by peat cutting and a backfilled archaeological trench. The cairn stands on the spinal ridge which extends down the axis of East Mainland and its setting is focussed on East Mainland and Inganess Bay to the north. As a funerary cairn the Hillock of Garth has a high relative sensitivity to changes in its setting. The Proposed Development will stand on a markedly different topographic land-form to the cairn and will be seen at a distance of over 4.5 km outwith, its core setting which relates to East Mainland. The magnitude of impact is predicted to be marginal and the level of effect will be **minor** and not significant.

Three Scheduled Monuments; the Skelbist chambered cairn (Site 505), the Ness of Borray broch (Site 61) and the Langskaill Viking Houses (Site 62) lie within the ZTV to the north of the site on Gairsay, a small island which marks the northern entrance to the Wide Firth. All three assets lie on the coast suggesting that their core settings relate primarily to Gairsay and the seas which surround it. The Skelbist chambered cairn is poorly documented although the chamber is recorded as being aligned north south suggesting that its axis of alignment may relate to Gairsay Sound to the north and the Wide Firth to the south. As a chambered cairn, Skelbist is considered to have a high relative sensitivity to changes in its setting. The ZTV suggests that the cairn would lie at the extreme northern edge of the ZTV (Figure 10.5b). Visibility of the Proposed Development will be to the south-west at a distance of 8.88 km, meaning that the nearest turbine would lie nearly 2 km off the axis of alignment. The predicted visibility will also be across a wide-open seascape and the Proposed Development will be seen back-dropped by Wideford Hill which will appear to its immediate south at this point. For these reasons the magnitude of impact is predicted to be marginal. Given the cairn's high relative sensitivity the level of effect will be **minor** and not significant.

The Ness of Borray broch (Site 61) lies at the southern tip of Gairsay facing south across the Wide Firth, the Scheduling Document contains no description although the NRHE suggests that it has been severely impacted

by coastal erosion and class it as a possible broch. Given its poor condition its relative sensitivity is considered to be medium. The Proposed Development will appear 7.3 km to the south of the broch and will be separated from it by the full length of the Wide Firth. It will therefore, at most represent a slight alteration to the setting of the monument, beyond those elements of its setting which directly contribute to our understanding of it. For this reason, the magnitude of impact is predicted to be low, and the level of effect **minor** and not significant.

The remains of the Langskaill Viking Houses (Site 62) lie on the western coast of Gairsay within the farm complex at Langskaill. Once again, the Scheduling Document contains no description whilst the NRHE record it as a possible house site defined by a building platform with rounded ends marked by a grassy bank. Given its poor condition and lack of confirmed provenance the monument is considered to have a medium relative sensitivity to changes to its setting. The Proposed Development will be located 8.16 km to the south and any visibility will be at least partially blocked both by the farm complex to the south and the eastern edge of West Mainland beyond. Given this any visibility would, at worst, constitute a slight alteration to the setting of the monument and the observer's ability to appreciate the assets will not be materially affected. For these reasons the magnitude of impact is predicted to be medium and the overall level of effect, **minor** and not significant.

Effects of minor significance are predicted upon the settings of two Category B Listed Buildings to the west of the site; Burness House (Site 30) which stands 2.72 km to the north-west on the northern coast of the Bay of Firth and Binscarth House (Site 565) which lies 5.8 km to the west on the ridge above Finstown. Burness is a relatively prosperous large Orcadian farmhouse of presumed 18th century date set within a 19th century farm complex. Although the farm remains occupied both the Listed Building and the historic elements of the steading are unoccupied and in poor condition. Despite its poor condition Burness both the function and form of the farm complex and their relationship with the surrounding landscape remain readily apparent. Burness is primarily the product of the agricultural improvement movement during the 18th and 19th century and as such its setting relates primarily to the enclosed farmlands which surround it. It is judged to have a medium sensitivity to changes to its setting. The Proposed Development will be located 2.72 km from the building, but visibility will be partially impeded by modern unlisted farm buildings within the steading. Partial visibility of the Proposed Development would not materially affect the observer's ability to understand the critical relationships between the farm buildings and adjacent fertile land and consequently the magnitude of impact is predicted to be low and the level of effect **minor** and not significant.

Binscarth House (Site 565) is a small mid-19th century country house. Whilst the policies are wooded the house itself stands above them and is clearly visible from the A965 to the south. The house fronts to the WSW towards the Bay of Firth and beyond. Binscarth's core setting is defined by the steep sided valley that provides the vantage point through which views of the waters to the east are channelled. Binscarth has a high sensitivity to changes within its core valley context and a medium sensitivity to changes outwith that core within the wider Orcadian archipelago which lies beyond this. The Proposed Development will be visible on the Quanterness peninsula 5.8 km to the east and would change the setting of the house. However, the Proposed Development will lie beyond the asset's core valley setting and will not impede the observer's ability to understand and appreciate the house, its character or its context. For this reason, the impact of magnitude is predicted to be low, and given Binscarth's medium sensitivity to change in setting the level of effect would be minor and not significant.

The Category A Listed Tankerness House (Site 264) stands opposite St Magnus Cathedral fronting Broad Street. Tankerness dates from the early 16th century and the structure was extended and remodelled gradually into the 19th century. It is a rare example of a substantial Orcadian townhouse and now houses Kirkwall Museum. The house is a conspicuous presence within the historic core of Kirkwall and as such is considered to have a high relative sensitivity to changes to its setting. The site visit established that the Proposed Development will not be visible from Broad Street and therefore this component of the house's setting will be unaffected. Although the potential for limited visibility from the gardens to the rear of the house cannot be discounted any views will be impeded by the intervening modern townscape and will fall outwith its core historic townscape context. For

these reasons any effect upon the setting of Tankerness House will be of marginal magnitude. Given its high sensitivity, the level of effect would be **minor** and not significant.

The Scheduled remains of Car Ness battery (Site 503), a coastal defence installation in use during both world wars on the Car Ness promontory to the north-east of Kirkwall. The promontory is believed to have accommodated an anti-aircraft installation during the First World War and was reoccupied and equipped with larger naval guns during the Second World War. The battery is aligned to the north-east and the guns orientated so as to control passage through The String; the sea channel which controls access to Kirkwall from the east. It is therefore reasonable to consider that the battery's primary setting relates to its ability to control the sea lane to the north and east and that it has a high relative sensitivity to changes in that direction. However, the battery's coastal orientation makes it less sensitive to changes within its setting resulting from developments to the west within its landward rear. The Proposed Development will stand 4.18 km to the west of the battery and will not impinge on any views out from it either to the north or to the east. For this reason, the magnitude of impact is predicted to be marginal and the level of effect **minor** and not significant.

ZTV evidence suggests a potential for distant visibility from the portion of the HONO WHS that lies to the north of the Ring of Brodgar stone circle (Site 566), although not from the Ring of Brodgar itself. Given the high sensitivity of the HONO WHS to changes in its setting and the potential for an effect upon the setting of the HONO WHS, albeit at a distance of over 11 km, and the possible appearance of the Proposed Development in views which include the Ring of Brodgar a transect of four wireframes has been prepared extending northwards from the northern part of the Ring of Brodgar (Figure 10.20). The transect includes points taken on three further Scheduled Monuments, non WHS Scheduled Monuments, the Wasbister burial mounds (Site 567, Figure 10.21), the Bookan chambered cairn (Site 568, Figure 10.22) and the Ring of Bookan chambered cairn (Site 569, Figure 10.23) which lie within the buffer zone. These wireframes confirm that there will be no visibility from the Ring of Brodgar, but some distant visibility from the Scheduled Monuments to the north. There is therefore predicted to be no effect upon the setting of the Ring of Brodgar and a marginal magnitude of impact upon the settings of the Wasbister burial mounds and the Bookan chambered cairns. Although there is predicted to be no visibility from any of the WHS monuments themselves a marginal impact upon the Brodgar element of the WHS has been identified but given its high relative sensitivity an effect of **minor** significance upon the setting of the WHS has been predicted. This takes account of the possible appearance of the Proposed Development, obliquely and distantly, in views of the Ring of Brodgar from the non WHS Scheduled Monuments to the north. Any visibility which took in the Ring of Brodgar, would clearly fall outwith its context and would not affect the observer's ability to understand and appreciate and experience either the Ring of Brodgar or the non-WHS Scheduled Monuments within the buffer.

The Stenness and Brodgar peninsulas lie within the Brodgar Conservation Area (Site 541) which affords additional protection to this part of the HONO WHS. The predicted effects upon the setting of the Conservation Area will be the same as has been discussed above for the WHS. For this reason, any effect upon the setting of the setting of the Conservation Area would also be **minor** and not significant.

Negligible Effects

Negligible effects are predicted upon the settings of nine Scheduled Monuments (Sites 48-9, 57, 504, 508-9, 511, 513 and 514) and 16 Listed Buildings (Sites 29, 41, 237, 241, 272, 289, 322, 341, 367, 439-441, 437 & 541).

The Scheduled remains of the Rennibister souterrain (Site 48) lie 1.46 km west of the nearest turbine within the steading of Rennibister Farm. Souterrains are by their very nature subterranean structures and the Rennibister example is completely buried and has been made safe for public display. Although when first built the location of a souterrain will have contributed to its significance Rennibister's setting has been compromised by its current context buried beneath a modern farmyard which means that its authentic context cannot be determined. The

monument is judged to have low sensitivity to changes in its setting. The Proposed Development will be visible from the exterior of this monument but will not materially affect the observer's ability to understand the monument and therefore the magnitude of impact will be low. The level of effect will be **negligible** and not significant.

Three Scheduled Monuments; the Hall of Rendall settlement (Site 508), the Knowe of Dishero Broch (Site 513) and the remains of South Aittit Church (Site 514) lie between 5.77 and 7.02 km north of the Proposed Development on the east facing coast of the Rendall headland, separated from it by both the sea and the intervening topography of the headland. Although each monument has an individual setting, their placement on the coast would suggest that their settings relate primarily to the shoreline and the waters to the east and that they are likely to be less sensitive to distant changes to the south. All three monuments are considered to have a medium sensitivity to changes in their settings. In each case the Proposed Development will be seen outwith the monument's core coastal context and the magnitude of impact is predicted to be marginal. The predicted level of effect of effect will be **negligible** and not significant in each instance.

The Scheduled remains of a burnt mound, Sweyn's Castle (Site 504) lie 8.4 km north of the Proposed Development on the south east coast of Gairsay. The mound is described by the NRHE as a '*large crescentic turf-covered mound, c.3.0m high, composed of burnt stone and situated close by the sea-shore and a small freshwater loch*', suggesting that its setting relates primarily to the surrounding water bodies, from which water would presumably have been procured. Sweyn's Castle is therefore considered to have a medium sensitivity to amendments outwith its core coastal context. Given the distance of separation between the monument and the Proposed Development and its placement beyond the adjacent water courses to which the setting of this monument relates the magnitude impact it is predicted to be marginal. The level of effect will be **negligible** and not significant.

The Scheduled Hillock of Howe broch (Site 511) lies 8.91km to the west of the Proposed Development on the southern coast of Shapinsay. Although a substantial broch mound survives, its condition means that the underlying structure and form of the original broch tower is no longer discernible, and it is therefore considered to have a medium sensitivity. Although the Proposed Development will be visible from the broch it will be partially concealed by the intervening landform of Helliar Holm and will be backdropped by the ridges of West Mainland to its rear and the magnitude of impact will therefore be marginal. The level of effect will be **negligible** and not-significant.

The Scheduled remains of the Bay of Meil chapel (Site 509) lie beside the Bay of Meil on East Mainland. The chapel survives as a series of grass-covered stoney mounds and its Scheduling document acknowledges that its attribution as a chapel is 'probable'. The Bay of Meil is a distinctly sub-circular incursion into the East Mainland coastline and the probable chapel remains lie within the centre of its southern perimeter deep into this sheltered enclave. This suggest that the core of the monuments setting relates to the bay within which it lies, and it is therefore considered to have a medium relative sensitivity to changes beyond this. Given the distance of separation of 5.86km and the presence of intervening topography which will limit visibility to at most four turbines the magnitude of impact upon the setting of this monument is predicted to be low and the level of effect **negligible** and not significant.

The mounds of Ness (Site 57) and Quoyar (Site 49) lie close to the eastern shores of the Loch of Harray directly opposite the Ring of Brodgar, the Ness of Brodgar and the Stones of Stenness. It is therefore reasonable to conclude that their settings were primarily orientated westwards the heart of Neolithic Orkney and that their sensitivity to distant peripheral changes beyond the topographical bowl that encloses both Stenness and Harray is at most medium. As Figure 10.5b shows visibility to the west of Finstown will be severely constrained by intervening ridges although limited views of the Proposed Development could leak through the break in the ridge which separates the Hill of Heddle from Snaba Hill. ZTV evidence suggests that this could potentially allow for very limited visibility of a single turbine from the Scheduled mound at Ness (Site 57) 10.15km west of the nearest proposed turbine and up to three turbines from the mound at Quoyar (Site 49) 9.15km to the west.

Given this distance of separation and the predicted limited theoretical visibility the magnitude of impact upon the settings of both monuments is considered to be marginal and the level of effect will therefore be **negligible** and not significant.

Two Category B Listed Buildings; Cursiter Old Manse (Site 41) and Finstown Mill (Site 29) lie to the west of the site 2.99 km and 5.14 km from the nearest proposed turbines. Both the mill and the former manse are considered to have a low relative sensitivity to changes to their settings this is due to the mill's functional purpose and locational context and the manse's modern role as a farmhouse. The Old Manse is orientated north-west south-east away from the Proposed Development and will be at least partially shielded by the farm steading and a tree belt. In neither case would the observer's ability to understand and appreciate these buildings be materially affected and therefore the magnitude of impact upon their settings will in both cases be low and the level of effect **negligible** and not significant.

This assessment has also predicted **negligible** effects upon the settings of 14 Category B and C Listed Buildings which stand within Kirkwall outwith the Conservation Area (Sites 237, 241, 272, 299, 322, 341, 367, 439-441, 537, 539, 541 and 541). The reasons for these predictions are outlined in Table 1 above.

Neutral Effects

A neutral effect is predicted upon the setting of the Pickaquooy burnt mound and settlement (Site 221) which lies within the western suburbs of Kirkwall. The bunt mound lies immediately adjacent to a modern housing estate and given its context and condition is considered to have a low relative sensitivity to changes in its setting. It lies on the periphery of the ZTV which predicts visibility with two turbines although it is possible that the intervening housing estate will block views entirely. For these reasons the magnitude of impact is predicted to be marginal and the level of effect **neutral**.