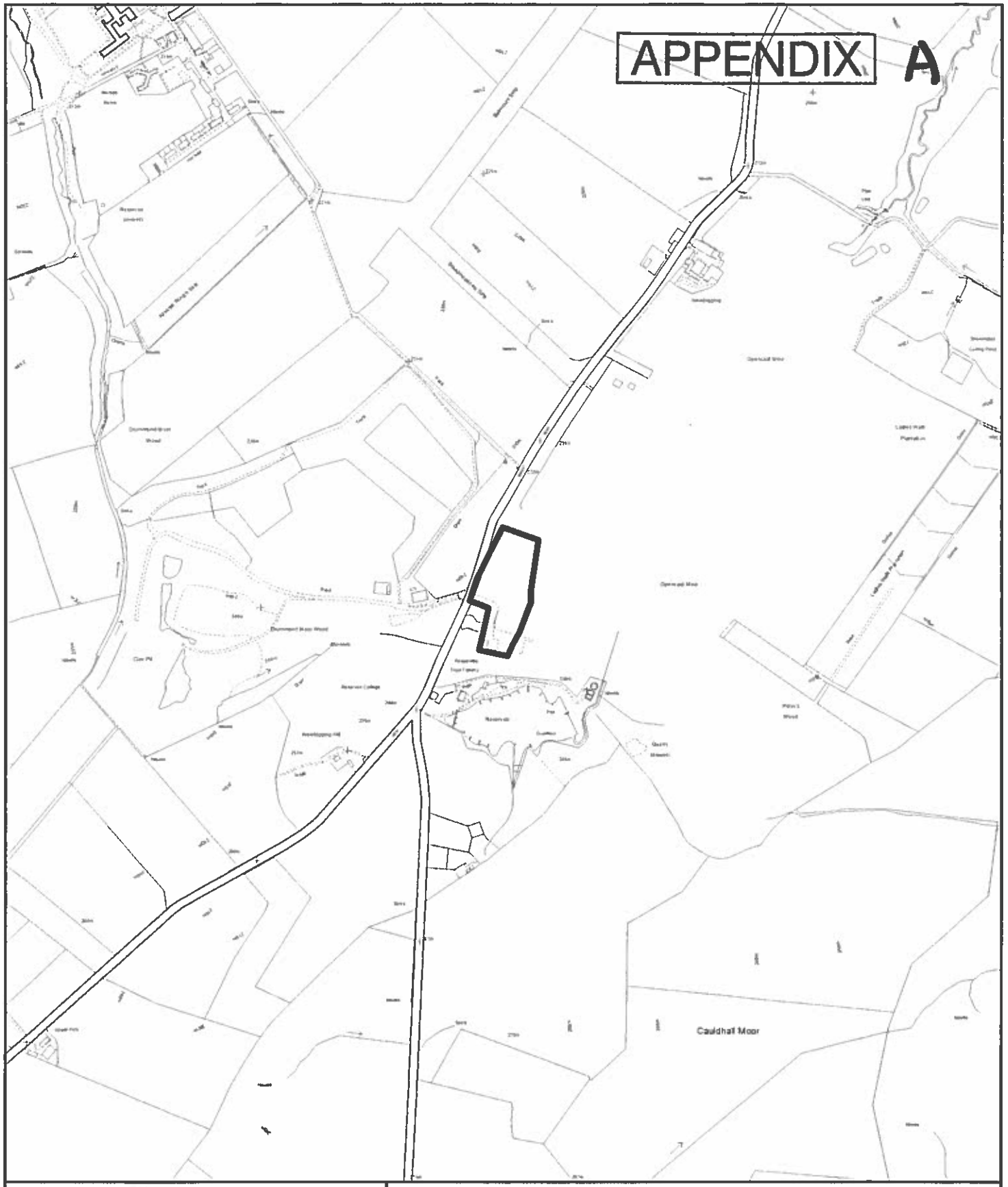

Midlothian

Education, Economy & Communities
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3AA

Formation of temporary test piling facility; associated car parking, access roads and buildings at Shewington, Rosewell

File No. 15/00158/DPP

Scale: 1:10,000

N

APPENDIX B

MAINSTREAM RENEWABLE POWER

Neart na Gaoithe Offshore Wind Farm

Test Piling Works

Document 2B: Local Review Statement

September 2015

AECOM

Document Release and Authorisation Record			
Report Name: **Date:** **Client Name:** **Client Contact(s):**	Test Piling Works – Document 2B: Local Review Statement 29 September 2015 Neart na Gaoithe Offshore Wind Ltd. Rosie Scurr		
QA	Name	Signature	Date
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Report authorised by	Ewan Walker	[redacted]	29 September 2015

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1 Introduction

This Local Review Statement supports a Notice of Review under Section 43A(8)(a) of the Town and Country Planning (Scotland) Act 1997 (as amended), relating to Midlothian Council's (MC) decision of 30 June 2015 to refuse planning permission for *"formation of temporary test piling facility; associated car parking, access roads and buildings at Shewington, Rosewell"* ('the development'), pursuant to planning application reference 15/00158/DPP, submitted by Neart na Gaoithe Offshore Wind Ltd (the Appellant) on 20 February 2015.

The Notice of Review provides the information required by Regulation 9 of the Town and Country Planning (Schemes of Delegation and Local Review Procedure) (Scotland) Regulation 2013 ('the LRB Regulations'). In accordance with Regulation 9(3)(d), this Review Statement sets out the full particulars of the review. This Local Review Statement, alongside the accompanying documentation, sets out the full range of matters that the Appellant believes should be taken into account when considering the review, as well as the procedure by which the Appellant requests that the review be conducted.

1.1 Further Procedures

The Appellant expects that the review will proceed towards early determination at Midlothian Council's Local Review Body.

In terms of the procedure by which the review is determined, the Appellant requests the holding of a hearing session and considers such a procedure necessary in order to fully examine the reasons for the refusal and the technical and policy grounds which underpin them. A hearing session would allow comprehensive and robust consideration of the national and local contexts of the development, as well as an explanation of the various phases of the development works. Further, it would facilitate discussion around the approach adopted by Midlothian Council in weighting certain material considerations. Without an exchange of oral evidence and the discussion facilitated by a hearing session, the Appellant is concerned that given the unique nature of the development proposals, the practicalities and perceived impacts of the development might not be fully explored.

Further, as prescribed by Regulation 21 of the LRB Regulations, given the technical nature of the RfRs 3 and 4, the LRB should consider the appointment of a specialist advisor to assist in the assessment of evidence.

1.2 Supporting Documentation

Throughout this Statement references are included to documentation which has been provided in support of the review, listed within the accompanying List of Supporting Documentation (doc ref MRP2B).

1.3 This Appeal Statement

The decision notice (doc ref MRP1A) lists the reasons for refusal, as follows:

- *"The application does not relate to the furtherance of an existing acceptable countryside use; the proposal is therefore contrary to policy RP1 of the Midlothian Local Plan"* ('reason for refusal (RfR) 1');
- *"The use of the site as a test piling facility is not supported by any policies in the Midlothian Local Plan; the proposal is therefore contrary to the aims of the Midlothian Local Plan"* ('RfR2');
- *"The noise associated with the piling activities will have a detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage"* ('RfR3'); and

- *"The vibration associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage"* ('RfR4').

This Local Review Statement considers each of the reasons for refusal in turn, in the local and national contexts of the proposed development given both its temporary nature and its significance as part of the wider Neart na Gaoithe Offshore Wind Farm Project. Accordingly, this Local Review Statement comprises the following sections:

- Section 2 – The National and Local Contexts;
- Section 3 – The Proposed Development;
- Section 4 – Summary of Pre-Application and Determination;
- Section 5 – Appellant Response to RfR1;
- Section 6 – Appellant Response to RfR2;
- Section 7 – Appellant Response to RfR3;
- Section 8 – Appellant Response to RfR4; and
- Section 9 – Summary of Proposed Mitigation Measures.

2 National & Local Contexts

2.1 National Context

In 2009, the Crown Estate awarded Neart na Gaoithe Offshore Wind Ltd (NnGOWL), a wholly owned subsidiary of Mainstream Renewable Power, the exclusive right to develop the Neart na Gaoithe (NnG) Offshore Wind Farm in Scottish territorial waters. The wind farm site is located in the outer Firth of Forth, approximately 29 kilometres (km) north of Torness. Permission for the offshore elements of the project was granted by the Scottish Government in October 2014 and planning permission for the onshore works (a cabled grid connection and substation) was granted by East Lothian Council in June 2013.

NnGOWL is proposing to undertake onshore temporary test piling works (hereafter referred to as 'the Pile Test') to inform the piling methods which may be used to construct Neart na Gaoithe Offshore Wind Farm. One possible foundation type which will support the offshore turbines is known as a 'steel jacket foundation'. These are fixed to the seabed with piles which will be installed using a combination of drilling and driving, known as the 'drive-drill-drive' installation method ('D3').

The purpose of the proposed development is to undertake a Pile Test to inform the piling methods which may be used to construct the Neart na Gaoithe Offshore Wind Farm. Since the submission of the planning application, NnGOWL has been awarded a 15-year Contract for Difference (CfD), one of only two offshore wind farms off Scotland's coast with a CfD. With offshore wind a key element of the Scottish Government's energy policy and strategy (recognised by the 2020 Routemap for Renewable Energy and in planning terms by onshore electricity transmission infrastructure associated with offshore generation being afforded national development status within National Planning Framework (NPF) 3), the award of the CfD is acknowledgement of the crucial role that Neart na Gaoithe Offshore Wind Farm will perform in securing energy supply for both Scotland and the UK.

Given the relative infancy of the offshore wind industry, as well as the complex geological conditions at the Neart na Gaoithe Offshore Wind Farm site, it is essential that the piling techniques are comprehensively tested in similar geological conditions to meet the challenging delivery timescales required by the CfD award. The Pile Test is therefore considered an important pre-cursor to a priority development for both the UK and Scottish Governments. The project also has wider relevance amongst other offshore wind developers, as it will provide valuable information to help unlock technical uncertainty associated with the installation of offshore wind turbine foundations.

2.1.1 A Significant Material Planning Consideration

Section 25 of the Town and Country Planning (Scotland) Act 1997 states that when determining a planning application *"...regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material considerations indicate otherwise."*

The status of the pile test in the context of the wider development, and the positive benefits of that wider development, in terms of its contributions towards the securing of energy supply and the various associated direct and indirect benefits, are significant material considerations in favour of the proposed development.

This national significance, as well as the temporary nature of the proposed development, can be incorporated within a decision notice as specific reasons for granting planning permission following the LRB process.

2.2 Local Context

The site at Newbigging, with a history of open cast mineral extraction, has been identified following an extensive site search process (see Section 2: Site Selection and Alternatives of Neart na Gaoithe Offshore Wind Farm Test Piling Works Environmental Appraisal (February 2015) ('the Environmental Appraisal') (doc ref MRP4D(i))) which accompanied the planning application for the Pile Test. This search was significantly constrained by the geological conditions that are required.

2.2.1 Site Search & Assessment

From an early stage, it was understood that the final site selected has to accommodate the following components and will have to be at least 5,000m^2:

- two pile testing areas, each with four piles installed around 10 and 15m apart in each;
- welfare facilities and offices;
- parking and marshalling areas; and
- equipment and materials storage.

2.2.2 Review of Potential Alternative Sites

NnGOWL undertook a preliminary review of nine potential areas against a number of criteria, including:

- Geography: sites sought within the vicinity of Musselburgh or the Berwickshire coastline for access and direct comparability of geological strata with that found offshore;
- Geology: areas of Westphalian succession sought with lower, middle and upper coal measures at workable depth below ground level, e.g. maximum 10m overburden;
- Access: consideration of vehicle and plant access (due to their length, the piles will be considered as 'abnormal loads', as will the trucks delivering cranes to the Pile Test Site given their width);
- Noise and traffic levels: considered with respect to proximity to nearby residential properties;
- Availability of existing data: consideration of sites where borehole records are available. Of the nine potential areas, five were identified as priority areas and site visits were undertaken at four of these. The fifth area was considered less likely to have suitable geology and also had a mine and a wind farm project in close proximity, which may have caused operational issues for undertaking the Pile Test. Following the site visits, the Shewington / Newbigging OCCS area was identified as the preferred area for the following reasons:
  - Suitability of access;
  - The presence of rock outcrops where coal measures and interbedded siltstone and sandstone was evident; and
  - Sufficient space available to accommodate the Pile Test works and equipment.

The preferred area was further broken down into six discrete sites for more detailed investigation. A desk-based appraisal of the environmental conditions at the six potential sites was undertaken by LUC in June 2014. Early indications were that the sites located north of the Pile Test Site at Shewington and Newbigging would fulfil the requirements detailed above. In addition, no environmental constraints were identified through the desk based assessment which would have precluded these sites from being taken forward.

2.2.3 Geotechnical Surveys

Following the completion of the preliminary geophysical surveys, preliminary geotechnical surveys were undertaken at three locations. This involved drilling one borehole of up to 30m depth at each of the three locations.

The geotechnical surveys found that none of the six potential sites subject to the initial geophysical and geotechnical surveys were suitable to be taken forward as a pile testing site in terms of their geology. This was due to the depth of overburden being greater than 10m. Therefore, it was necessary to identify a new potential site for initial investigations.

The geotechnical report from the borehole work is provided as Environmental Appraisal (EA) Appendix 2: Coal Mining Risk Assessment (doc ref MRP4D(x)-(xiv)).

2.2.4 Final Site Selection

Following the elimination of all of the sites initially appraised for their suitability for the Pile Test, another site was identified to the south of the initially reviewed sites, still within the confines of the Newbigging OCCS. A desk based review did not identify any environmental constraints which prevented this area from being taken forward for the Pile Test, particularly given the context of the historic open cast mining of the area. Following this, geotechnical boreholes were drilled and an ecological walkover undertaken to check for any sensitive habitats or evidence of protected species within the area and surroundings. No evidence of ecological constraints was identified and the results of the geotechnical boreholes found that this site was suitable to be taken forward.

3 The Proposed Development

The Pile Test will involve the installation of eight steel piles using D3 installation methods (as described within doc ref MRP4D(i)) and, once they are installed, the testing of the shaft friction applied to the piles by the soil and rock in which the piles are installed.

After the piles are installed to their design depth, 'strain gauges' will be installed within the piles and the piles will be tested by applying a vertical force to the top of the pile in an attempt to move the pile upwards, out of the ground. The readings from the instruments will then allow the calculation of what soils are applying what shaft friction to the pile walls.

Three contractors will be used for the Pile Test:

- VolkerStevin Ltd (Volker) will act as Lead Contractor with overall responsibility for setting up and managing the site and undertaking the works. Volker will also be responsible for pile driving;
- Bauer Renewables Ltd (Bauer) will install four piles of up to 1.65m diameter and will undertake pile testing; and
- Fugro Seacore Ltd (Fugro) will install four piles of up to 1.1m diameter and will undertake pile testing. Bauer and Fugro will use different drilling equipment methods as detailed further below.

By comparing the results from the larger and smaller piles installed using different equipment it will be possible to discern whether the size of the piles and the methods with which they are installed has any impact on the shaft friction.

3.1 Site Set-Up and Description

3.1.1 Overview

The Pile Test Site is located within the disused Newbigging OCCS and covers an area of 1.9 hectares (ha) as illustrated on EA Figure 1 (doc ref MRP4D(ii)). The pile testing area, equipment, storage, and parking will be located within the Pile Test Site as illustrated on EA Figures 3a and 3b (doc refs MRP4D(iv) and MRP4D(v)). The equipment and working area will be established just inside the existing entrance and will be secured using gates and temporary fencing.

3.1.2 Access to the Pile Test Site

Access to the Pile Test Site will be via the existing site entrance, off the A6094 road. It is proposed that the piles themselves and the majority of construction traffic will be transported via the strategic road network (M8, M9 or A1 depending on origin) and then via the A720 (City of Edinburgh Bypass to the Junction with the A7. From the City Bypass, vehicles will travel south on the A7 to the A6094 roundabout and will pass through two other roundabout junctions. At the A7/A6094 junction, the vehicles will proceed ahead on the A7 before turning right at the A7/B6392 roundabout. Once on the B6392, vehicles will proceed in a south-westerly direction to join the A6094 and past Rosewell before entering the Pile Test Site.

3.1.3 Existing Conditions

Across much of the Pile Test Site, the topsoil has already been stripped and hard standing instated as can be seen on EA Figure 3a (doc ref MRP4D(iv)), which shows the Pile Test Site boundary overlaid on aerial photography. However, this hard standing may need to be repaired and/or upgraded. Furthermore, where topsoil remains on the Pile Test Site, this will have to be stripped and stored and temporary hard standing built.

There will be a requirement to upgrade the existing access track within the Pile Test Site which will involve levelling and the filling of potholes. Where new access track is created, the same process as for creating the hard standings will be employed. This will involve stripping topsoil, grading the ground and laying down gravel. Some widening of the junction to the A6094 public road is required to allow access of abnormal loads to the site. The area of widening is within the Pile Test Site boundary.

The indicative general arrangement and layout of the Pile Test Site, including the Pile Test area and parking and storage areas, is illustrated on EA Figure 3b (doc ref MRP4D(v)). The use of additional space adjacent to these areas may be required, although this will all be within the Pile Test Site boundary.

There will be up to 15 containers on site providing welfare facilities, including changing rooms, showers, toilets, dining rooms, kitchens and offices.

The Pile Test Site arrangement is subject to change based on the requirements of the contractors and the final method statements and equipment specifications.

The Pile Test Site will be fenced in and lit at night for security reasons. Fencing will be of an 'anti-climb' design incorporating square top panels. The fence will be 2m high and comprise a number of 3.5m wide conjoined panels. The indicative lighting plan will require six diesel powered mobile lighting units that have 4 x 1,000W metal halide bulbs mounted on towers that extend to a height of 9m above ground level. In addition, there will be a full-time security guard and CCTV coverage of the Pile Test Site.

3.2 Pile Installation

Eight piles will be installed. Four of the piles will be up to 1.1m in diameter and four will be up to 1.65m in diameter. All eight piles will be up to 20m long and will be installed to an embedment depth of up to 18m. The piles will weigh between 30 and 40 tonnes each.

As noted above, the eight steel piles will be installed using D3 installation methods. This entails:

- First driving a hollow cylindrical steel pile into the ground with a hydraulic impact hammer until the point of refusal, where further blows with the hammer can no longer drive the pile further into the ground;
- Removing the hammer and drilling a pilot hole down through the pile and beyond the pile toe by a certain distance to ease driving; and
- Replacing the hydraulic impact hammer and driving the pile further into the ground.
- Repeating steps 2 and 3 until the pile is installed to its design depth (18m).

The installation procedure is as follows for each pile:

- The pile is lifted and held vertical either by a crane or frame;
- A hammer (starting with a 150kJ hammer before switching to a 600kJ hammer) is placed on top of the pile;
- The pile is driven and drilled using the D3 method; and
- Pile installation is complete when the piles are embedded 18m into the ground, and therefore visible by up to 2m.

Two different drill units will be used (illustrated within Section 3 of Environmental Appraisal (doc ref MRP4D(i)):

- For the 1.65m piles: a BG 40 H Rotary Drilling Rig, or similar; and
- For the 1.1m piles: a Teredo 3 Pile Top Drill, or similar.

The BG 40 H Rotary Drilling Rig drives up beside the pile and inserts its drilling tool into the pile, whereas the Teredo 3 Pile Top Drill is placed on top of the pile by a crane.

3.2.1 Water Requirements

The Teredo 3 Pile Top Drill requires water to flush the drill cuttings from the pile. The cuttings will have to be removed from the water before it is re-used by the drill. The cuttings can either be removed by putting the water into a settlement pond or can be separated by filter or mechanical means. The method chosen to remove the cuttings will influence the amount of water required: the settlement pond method will require the most. The amount of water required when using the settlement pond method could be up to 1,500m^3. If a de-sander and de-gaser are used to mechanically remove the drill cuttings from the drilling water, then the volume of water required could be up to 200m^3.

It is proposed that the water required will be trucked in, in tanker HGVs.

Water, either used in drilling or extracted groundwater, will be discharged to ground level. Up to 2,000m^3 could be discharged over up to two months, at a rate of up to 400m^3 per hour.

3.3 Pile Testing

Once the piles are installed, they will be tested by applying a vertical load of up to 30 meganewtons (MN) to the head of the pile. This vertical load can either be applied by an 'H' shaped testing rig that sits over the top of the pile, or an internal beam and jack that is placed in the pile. The movement made by the pile when testing should be only centimetres at most.

The 'H' shaped testing rig could be founded on either up to four clusters of four piles of 750mm diameter embedded up to 8m deep into the ground or on support mats placed at the corners. The piles would be installed by a drill rig, without the need for any hammering, and removed from site once the pile tests are complete. On top of these piles or mats would sit hydraulic jacks supporting two pairs of main beams ('MBs') of up to 2.6m height. Sitting on top of the MBs would be four transverse beams ('TBs') of up to 2.2m height. The TBs would be welded to the head of the pile being tested by a number of steel bars. When the hydraulic jacks are activated they will push up the entire frame, and through the frame the pile, upwards out of the ground.

If an internal beam and jack are used, a concrete plug will be installed below the toe of each pile. A 20m long vertical steel beam will be placed on the concrete plug such that it sticks up to the top of the pile. A crossbeam will be installed across the top of the pile and a hydraulic jack placed between the vertical and the crossbeam so that it can push the pile up out of the ground.

By installing strain gauges in the piles, it will be possible to measure the strain along the length of the piles whist the vertical loads are being applied. The strain measurements can then be used to calculate the shaft friction between the pile and the soil and bedrock.

3.4 Demobilisation and Site Reinstatement

Once the Pile Test is completed, the piles will be cut at least 1.5m below ground level and the protruding sections removed from the Pile Test Site. Steel plates will then be welded over the top of the piles and the pre-existing soils put back over the top of them. To remove piles from the ground would require very large scale excavation works, therefore it has been deemed more appropriate for the lower part of the piles to be left in situ. This has been agreed with the landowner.

It is unlikely that mining will be undertaken in this location because the area surrounding the Pile Test Site is scheduled to be reinstated as arable farm land in 2015, following the completion of the Pile Test. Reinstatement has been scheduled by the landowner independently of the Pile Test, following the completion of previous coal mining activity. NnGOWL are working with the contractor to ensure the reinstatement work required for the Pile Test dovetails with the wider reinstatement works. However, should further coal mining be undertaken in the future, the piles could be removed as part of those excavation works.

All equipment and materials will be removed from the Pile Test Site including any hard standing and temporary fencing installed by NnGOWL. Any areas where temporary hard standing has been laid will be reinstated to their previous condition, including reseeding as appropriate. Any pre-existing hard standing and fencing will be left on the Pile Test Site.

3.5 Project Schedule

The project programme is described below:

- Set-up of the Pile Test Site is anticipated to take up to 6 weeks. During this period, the site will be cleared, accesses and parking will be instated or upgraded, fencing and site security set up, areas of hard standing for cranes and equipment built as necessary, and materials and equipment will be delivered to site. These initial works, prior to installation of the piles, will ensure a phased start to the works;
- Installation of the piles is anticipated to take up to 7 weeks. During this period, pile driving with the hydraulic hammer will be undertaken over up to 24 discrete durations of approximately three hours which will occur intermittently. The gaps between these pile driving events could be between one hour and several days. The size of these gaps will be dependent on the final installation methods used, programming of parallel activities on site and the weather. Pile testing may be undertaken partially in parallel with pile installation. In total, testing may take up to 6 weeks. The programme assumes that some of the pile testing (which is a quiet activity) will take place at night;
- Demobilising and site reinstatement works are anticipated to take up to five weeks; and
- In total, from the start of work on site to the finish of work on site, the duration of the Pile Test is expected to be 19 weeks.

Throughout the duration of the Pile Test, work will take place onsite between 8am and 6pm, Monday to Friday. The exception to this is some of the pile testing itself as detailed above. Weekend working is not anticipated but there may be a need for abnormal loads to be delivered to the Pile Test Site on Saturdays and Sundays depending on the requirements of Midlothian Council.

There is expected to be a maximum of 31 staff working on the Pile Test Site at any one time, although exact numbers are likely to vary throughout the 19-week programme.

4 Summary of Pre-Application Consultation and Determination

This section describes key milestones and events in the pre-application and determination processes, with links to documentation, where relevant.

4.1 Pre-Application Consultation

Since the development is classified as 'local' development as defined by the Town and Country Planning (Hierarchy of Development) (Scotland) Regulations 2009 there was no regulatory requirement for NnGOWL to engage in pre-application consultation. Notwithstanding, NnGOWL embarked upon a comprehensive programme of pre-application consultation, engaging Midlothian Council, local residents and businesses and other stakeholders.

4.1.1 Pre-Application Consultation with Midlothian Council

An initial pre-application consultation meeting was held with a representative of Midlothian Council's Planning Department, on 9 July 2014. That meeting informed the approach to be adopted in respect of the planning application, and subsequent to the meeting NnGOWL submitted a request (doc ref MRP3A(i)) for an Environmental Impact Assessment (EIA) screening opinion. The screening opinion was issued on 1 September 2014 (doc ref MRP3B), confirming that no EIA would be required and providing commentary on relevant matters to be addressed through planning application documentation. The screening opinion anticipated *"the impacts that will be most significant are likely to be traffic and noise related."* In relation to the latter of these points Midlothian Council confirmed that any agreement with local landowners would form part of the mitigation measures which would offset any potential noise impact (doc ref MRP3D).

In terms of the reasons for refusal, despite the request for a screening opinion making mention of the need to consider vibration impacts, no reference is made within the screening opinion to the potential significance of vibration impacts. Similarly, no reference is made within the screening opinion to the dam at Rosslynlee Trout Fishery, or more generally to impacts upon users of the Fishery or the Fishery itself. It is understood that the screening opinion was informed by input from Midlothian Council's Environmental Health department and, given the nature of the department's response to the application and eventual inclusion of RfR4, the absence of such references is surprising.

Following the screening process, NnGOWL undertook an informal scoping exercise, designed to agree methodologies, including the use of BS5228, and scope of environmental assessment and reporting to be provided as part of the planning application documentation.

The scope was informed by discussions with representatives of Midlothian Council. On the basis that it was not anticipated that the proposed piling tests would have any significant effects on the following , these topics were scoped out of the detailed environmental appraisal;

- Landscape and visual amenity;
- Public access;
- Land use; and
- Utilities.

4.1.2 Pre-Application Consultation with Local Residents and Businesses

Despite there being no legislative or regulatory requirement to consult local residents and businesses prior to the submission of the planning application, NnGOWL was committed to engaging with the local community. Such an approach is consistent with NnGOWL's approach across the wider Neart na Gaoithe

Offshore Wind Farm, with community engagement consistently being effective, comprehensive and of a high quality.

By way of an example of that best practice, following a detailed planning application for the onshore infrastructure associated with the wider development (which comprised a major new substation and approximately 12km of underground cabling), NnGOWL secured planning permission from East Lothian Council without a single objection, whether from local residents, businesses, or other statutory or non-statutory consultees.

In respect of the proposed development, NnGOWL met with residents in close proximity to the development, including properties at Shewington, Newbigging, Rosslynlee and Reservoir Cottage. Other property owners were also contacted by phone to discuss the proposals.

4.2 Submission, Determination and Decision

The planning application was submitted to Midlothian Council on 20 February 2015 and was registered on 6 March 2015.

Following submission, NnGOWL remained in regular contact with Planning Officials and at their request, addressed representations made by the following parties in respect of the planning application:

- SEPA;
- Midlothian Council's Environmental Health Officer (EHO); and
- Rosslynlee Trout Fishery (RTF).

Exchanges in respect of each of these representations are discussed below.

4.2.1 SEPA

SEPA originally submitted an objection to the planning application (doc ref MRP5A(i)), to which a formal response was submitted by NnGOWL (doc ref MRP5A(ii)), informed by discussions with representatives of SEPA. Following NnGOWL's response, SEPA withdrew its objection (doc ref MRP5A(iii)) on the basis that an informative note be attached to any grant of planning permission referencing the latest drainage proposals contained within document MRP5A(ii).

4.2.2 EHO

As discussed within Section 4.1.1, NnGOWL comprehensively engaged with Midlothian Council, including representatives of the Environmental Health department, as part of its pre-application consultation process.

4.2.2.1 EHO Objection

The EHO submitted an objection to the planning application, dated 24 April 2015 (doc ref MRP5B(i)). The key issues raised in the objection were as follows: (a) The use of *BS 5228: Code of practice for noise and vibration control on construction and open sites (2009)* – The standards were considered inapplicable to the proposed development; and (b)The predicted noise levels as stated within the Environmental Appraisal were considered to be incorrect. The objection concluded as follows:

- *"1. This development is in a relatively quiet rural environment.*
- *2. There is an expectation of a low noise environment for the leisure enjoyment of the fishery.*

- *3. Assessment of impact should be based on the anticipated loss of amenity and potential nuisance, not construction site noise standards.*
- *4. Regular exposure for seven weeks to average noise levels of 73 and 74 dB(A) and Impulsive noise events of 82/83 dB(A) at the facade of noise sensitive premises is considered to be excessive.*
- *5. The predicted noise levels and duration of exposure are considered likely to result in a significant loss of amenity and nuisance.*
- *6. The predicted vibration levels will be significant at neighbouring residential properties, being noticeable and likely to cause complaint (agreed by the ARUP report).*
- *7. The potential for ground-borne vibration causing earth movement and instability arising out of previous mineral workings does not appear to have been considered.*
- *8. Due to likely attitudinal issues and there being no developmental benefit related to this site, it is not accepted that adverse impact could be 'managed' with prior warning and explanation given to residents.*

For the above reasons it is recommended that this application be refused."

4.2.2.2 NnGOWL Response

NnGOWL subsequently prepared a comprehensive response, addressing each of these points, which was submitted on 22 May 2015 (doc ref MRP5B(ii)). In summary, NnGOWL's response emphasised the applicability of the assessment approach adopted (which was previously agreed with the EHO) and stood by the conclusions of the Environmental Appraisal submitted as part of the planning application documentation. In particular NnGOWL's response detailed the rationale behind the application of BS 5228, highlighted the intermittency of the proposed development and the site's open cast history, as well as addressing the EHO concerns over the noise levels. Specific responses to abovementioned points 1-8 were also included.

Responses to the points raised by the EHO include the following:

- The use of BS5228 – This was agreed with the EHO during the pre-application consultation stage, and remains an entirely appropriate basis for assessment having been used in similar projects elsewhere;
- Use of the ABC method – Is also an appropriate methodology, with established precedent for its use elsewhere;
- Response to predicted noise levels – Whilst there will be noise emissions, given the intermittency and short-terms nature of the work, periods of noise will be concentrated and will not produce unacceptable impacts;
- A relatively quiet rural environment – There is a long established history of heavy industry in the area via the open cast mining of the adjacent sites;
- Expectation of low noise – Works are extremely short-term, and various mitigation measures, including regular dialogue with neighbours, will contribute towards minimising impacts during this short period. On completion of the works, the site will be restored to its current condition;
- Regular exposure is excessive – The works are very short-term, both in their duration and the overall period of the works, and will be restricted to day-time hours;
- Significant loss of amenity and nuisance - Whilst there will be noise emissions, given the intermittency and short-terms nature of the work, periods of noise will be concentrated and will not produce unacceptable impacts;
- Vibration levels will be unacceptable - Although the works will be noticeable to nearby residents, they will be informed of works activities and the steps taken to minimise impact. These measures include before and after surveys, as well as ongoing monitoring; and

- No development benefit – This is not the case. The development is intrinsically linked to a wider development of national significance and will contribute towards the long-term security of energy supply across Scotland and the UK.

4.2.2.3 Additional EHO Comments

Brief additional commentary was subsequently provided by the EHO, dated 12 June 2015 (doc ref MRP5B(iii)). As well as maintaining the original objection, this additional commentary included:

- It is suggested that there is an absence of clarity over the proposed use of the site;
- There is perceived to be a risk of the granting of planning permission later being cited as a precedent to allow further development on the site;
- BS 5228 is considered an inappropriate tool for assessing impact;
- There is continued debate over the level of impact acceptable to a Fishery;
- There is continued debate over the stated noise levels and associated impacts.

In summarising the EHO's position the following statement is provided: *"The submitted information has been reviewed and it is recommended that the contested points be rejected. Midlothian Council is entitled to consider this development as a plant testing activity and not a construction site. They are therefore also entitled to adopt the position that their assessment should be based on whether the resultant noise and vibration levels will be acceptable in terms of anticipated annoyance and/or nuisance to any sensitive neighbouring occupiers.*

In terms of making such a judgement:

- *it is accepted by the applicant that the vibration levels are excessive, and*
- *it is advised that the LA01 noise levels would best reflect the likelihood neighbour impact*
- *the LA01 noise levels should be based on the driving cycle LAeq and not the 12hr LAeq. As the drive cycle LAeqs are not given it is not possible to comment on the revised LA01 values of 79 and 75 dB."*

As agreed with planning officers (doc ref MRP5E(i)) during the determination period, NnGOWL provided no response to this additional commentary. However, a number of the points raised are considered unreasonable and responses are provided, where appropriate, within Section 7 of this Local Review Statement.

4.2.3 Rosslynlee Trout Fishery

As discussed within Section 4.1.2, above, NnGOWL sought to engage with the owners of Rosslynlee Trout Fishery (RTF) from an early stage in the process.

4.2.3.1 Rosslynlee Trout Fishery Objection

NnGOWL was informed of RTF's objection (doc ref MRP5C(i)) on18 March 2015, by Midlothian Council, who requested (doc ref MRP5E(ii)) a response from NnGOWL on the content of the objection, dated 18 March 2015.

In general terms, the RTF objection related to the following points which comprise six sections of the objection:

- Section (1);

  - Concern over the vibration impacts upon the dam at RTF/suggestion that vibration impacts have not been assessed/concern at absence of mitigation;
- Section (2);
  - Suggestion that there has been no assessment of vibration impacts upon neighbouring properties;
- Section (3);
  - Concern at potential air quality implications given the historic mining of the area;
- Section (4);
  - Concern at absence of water supply for welfare facilities;
  - Concern at vibration impacts on private water supply;
- Section (5);
  - Suggestion that the impact upon flora and fauna has not been assessed;
  - Concern at the potential for vibration impacts upon trout;
- Section (6);
  - Concerns at potential disturbance to anglers;
  - Alternative site should be developed;
  - Day-time noise impacts would be unacceptable;
  - Suggestion that concerns relating to dam have not been addressed;
  - Potential for light pollution;
  - Criticism over the scope and quality of application documentation; and
  - Given the history of development in the area, no more should be permitted.

Each of these points has been addressed in detail in doc ref MRP5C(ii).

4.2.3.2 NnGOWL Response to RTF Objection

The NnGOWL response to the RTF objection (doc ref MRP5C(ii)) was submitted to Midlothian Council on 11 May 2015. The response focussed upon the six sections of the objection, addressing each in turn:

- Concern over the vibration impacts upon the dam at RTF/suggestion that vibration impacts have not been assessed/concern at absence of mitigation – Vibration impacts are assessed within the original application documentation and as detailed at Section 9, a comprehensive suite of mitigation measures are proposed;
- Suggestion that there has been no assessment of vibration impacts upon neighbouring properties – This was not the case, see doc ref MRP4D(xv);
- Concern at potential air quality implications given the historic mining of the area – There is no history of methane gas releases and the issue is considered within the coal mining risk assessment (see doc refs MRP4D(xi)-(xii));
- Concern at absence of water supply for welfare facilities – This is not the case, a private supply will be provided;
- Concern at vibration impacts on private water supply – This was addressed in doc ref MRP4D(ii), which confirms that services will not be affected;
- Suggestion that the impact upon flora and fauna has not been assessed – This is not the case, Section 5 of MRP4D(i) details the findings of such surveys;
- Concern at the potential for vibration impacts upon trout – There is no evidence of vibration impacts negatively affecting trout;
- Concerns at potential disturbance to anglers – Whilst there will be an element of disturbance, the short-term nature of the work means that this is insignificant. The Appellant will liaise closely with RTF in detailing working schedules on a weekly basis;

- Alternative site should be developed – There is precedent for industrial development in the area and it is considered that the development can be facilitated without unacceptable levels of impact;
- Day-time noise impacts would be unacceptable - Whilst there will be an element of disturbance, the short-term nature of the work means that this is insignificant. The Appellant will liaise closely with neighbours in detailing working schedules on a weekly basis;
- Suggestion that concerns relating to dam have not been addressed – This is not the case and a comprehensive programme and surveys and monitoring is proposed;
- Potential for light pollution – Work will be limited to 0800-1800. In the event that lighting is required it will be designed to ensure emissions are minimised;
- Criticism over the scope and quality of application documentation – The scope was agreed with Midlothian Council in advance of submission and attempts were made to consult local neighbours to inform the scoping process; and
- Given the history of development in the area, no more should be permitted – The principle of industrial development is established within the area. The nature of the proposed development is such that very few sites are suitable in geological terms and on the basis that impacts are acceptable, the national significance of the wider development, alongside the short-term nature of the development, the point is not accepted.

The response concludes: *"This shows that no further environmental effects of concern are predicted to occur and highlights the temporary nature of the works. The findings of the Environmental Appraisal submitted with the planning application for the Pile Test are considered to remain valid."* This conclusion remains the Appellant's position.

4.2.3.3 Additional RTF Comments

Following the submission the NnGOWL's response, further comments were made by the owners of RTF, dated 25 May 2015 and 1 June 2015 (doc refs MRP5C(iii) and MRP5C(iv), respectively). These comments largely reiterated points made within the original objection and no further response was submitted by NnGOWL to Midlothian Council. Relevant outstanding points of disagreement are addressed within Sections 7 and 8 of this Local Review Statement.

4.3 Determination of Planning Application

As detailed in Section 1 of this Local Review Statement, the planning application was refused by Midlothian Council under delegated powers on 30 June 2015. The decision notice and accompanying officers' report comprise document refs MRP1A and MRP1B, respectively.

The Appellant wishes to address two comments originating from the accompanying officers' report (doc ref MRP1B:

- *"Due to the absence of development benefits at the site it is unlikely that the adverse impact could be managed via prior warning and information being provided to residents."* – The statement is misleading. Not only is the proposed development an investment in Midlothian, but the Appellant is intending to engage with local schools who may be interested in undertaking project work around the development. Far more significantly however are the benefits associated with the wider Neart na Gaoithe development, which will contribute positive to maintaining a sustainable and secure energy supply for both Scotland and the UK in the coming decades.
- *"While it is acknowledged that the offshore windfarm development that the proposal is ultimately intended to support will make a significant contribution to national targets on renewable energy these national benefits do not outweigh the very significant local amenity impacts caused by the noise and vibration associated with the proposal."* - The Appellant is concerned at the weighting

attached to these considerations by the planning officer. On one hand, a nationally significant infrastructure project, supported by both Scottish and UK Governments, makes a 'significant contribution'. Conversely, short-term, temporary impacts, are described as being 'very significant'. The Appellant would be interested to hear explanation of the weighting of these two considerations.

5 Appellant Response to RfR1

RfR1 states: *"The application does not relate to the furtherance of an existing acceptable countryside use; the proposal is therefore contrary to policy RP1 of the Midlothian Local Plan".*

5.1 Policy RP1

Policy RP1 of the Midlothian Local Plan states:

> ***"RP 1: PROTECTION OF THE COUNTRYSIDE***
> *Development in the countryside will only be permitted if:*
> ***A.*** *it is required for the furtherance of agriculture, including farm related diversification, horticulture, forestry, countryside recreation, tourism, or waste disposal (where this is shown to be essential as a method of site restoration); or*
> ***B.*** *it is within a designated non-conforming use in the Green Belt; or*
> ***C.*** *it accords with policy DP1.*
> *All such development will need to:*
> ***A.*** *demonstrate a requirement for a countryside location;*
> ***B.*** *be of a scale and character appropriate to the rural area;*
> ***C.*** *be well integrated into the rural landscape;*
> ***D.*** *avoid a significant permanent loss of prime quality agricultural land; and*
> ***E.*** *take account of accessibility to public transport and services (where appropriate).*
> *In certain locations, new or expanded business development, low density rural housing, the winning of mineral resources or renewable energy developments may be appropriate (refer to proposal ECON1, policies ECON7, ECON8, HOUS5, MIN1 and NRG1)."*

In the first instance, it should be noted that at no point does policy RP1 require 'the furtherance of an existing acceptable countryside use' which the drafting of RfR1 infers as a requirement for compliance with policy RP1. The substantive point therefore is whether or not the proposed development is compliant with policy RP1.

Given the significance of the pile test as supporting a wider major renewable energy development which will contribute towards long-term security of energy supply, the RP1 references to policies ECON8 and NRG1 are relevant, and are reiterated below. Compliance with one of policies ECON8 and/or NRG1 would result in the proposed development being consistent with RP1.

5.1.1 Policy ECON8

ECON8 RURAL DEVELOPMENT

"Development proposals that will enhance rural economic development opportunities will be permitted provided they accord with all relevant Local Plan policies and proposals and they meet the following criteria:

- *the proposal is located adjacent to a smaller settlement (Inset Maps 5 to 16) unless there is a locational requirement for it to be in the countryside;*
- *the proposal is well located in terms of the strategic road network and access to a regular public transport service (minimum service frequency of 1 bus per hour weekdays, weekends and evenings);*
- *the proposal is of a character and scale in keeping with the rural setting, will not detract from the landscape of the area, and is sited, designed and landscaped so as to enhance the rural environment;*
- *the proposal will not introduce unacceptable levels of noise, light or traffic into inherently quiet and undisturbed localities nor cause a nuisance to residents in the vicinity of the site;*
- *the proposal is capable of being served by an adequate and appropriate access;*
- *the proposal is capable of being provided with drainage and a public water supply at reasonable cost, or an alternative acceptable private water supply, and avoiding unacceptable discharge to watercourses; and*
- *the proposal is not primarily of a retail nature.*

Some of the above criteria may be set aside if the site has been identified through supplementary planning guidance as being a location supported by the Council for rural economic development."

It is the preference of the NnG project that local supply chain is essential (please see Supply Chain Plan (doc ref MRP6(vi) for the project). The contractors on the NnG Onshore Pile Test project are encouraged to seek local supply wherever possible. Through consultation with the contractors, there is anticipated at least £750,000 worth of contracts available to local suppliers, such as:

- Steel work
- Welding services
- Provision of cranes
- Earthworks
- Site staff (cleaning, admin, etc.)
- Accommodation (rental / hotel)

In relation to the criteria prescribed by ECON8 which are of relevance to the proposed development:

- As described within Section 2 of the Environmental Appraisal (doc ref MRP4D(i)), the site was selected after an extensive site search exercise, which focused upon areas with similar geological conditions to the Neart na Gaoithe Offshore Wind Farm site. There is therefore a locational requirement for the proposed development in this countryside location;
- The site is well located in relation to the strategic road network, as documented within Technical Appendix 6 (doc ref MRP4D(xviii)) of the EA;
- The proposed development is of a similar character to, and is of a much smaller scale than historic mineral extraction in the area. Following completion of the short-term temporary development, the site will be reinstated to its existing condition;
- Whilst there will be some noise associated with the proposal, it will not introduce unacceptable levels of noise, light or traffic into the area, nor will unacceptable disturbance be caused to residents. The issue of noise impacts is considered in detail in Section 7 of this Review Statement;

- An existing access will be acceptable for the proposed development; and
- Private water supply will be provided and SEPA has confirmed the acceptability of proposed drainage arrangements.

5.1.2 Policy NRG1

NRG1 RENEWABLE ENERGY PROJECTS

"Renewable energy developments, including wind energy, landfill gas, biomass, combined heat and power and geothermal schemes will be permitted provided any proposal:

- *will not cause a significant adverse effect upon areas of nature conservation interest covered by policies RP10, RP11 and RP12, nor the following protected areas: Conservation Areas, Scheduled Ancient Monuments, Listed Buildings, Historic Gardens and Designed Landscapes, significant archaeological sites, Pentland Hills Regional Park, (and where relevant, the settings of the aforementioned designated areas or buildings), prime agricultural land, the Green Belt, Areas of Great Landscape Value, peatland and water supply catchment areas;*
- *will not have an unacceptable effect on the amenity of nearby residential properties;*
- *will not have an unacceptable effect on the wider environment by reason of landscape and/ or visual impact *1 *2, noise, safety, traffic generation or pollution control;*
- *will not demonstrably damage the local economy in terms of tourism or recreation;*
- *includes a realistic means of securing the removal of the equipment when redundant, and restoring the site to a satisfactory condition;*
- *will not require infrastructure for access and/or power transmission which in itself has a significantly unacceptable environmental impact; and*
- *accords with any other relevant Local Plan policies or proposals."*

The proposed development clearly relates to a renewable energy project, with NRG1 therefore applicable. In relation to the criteria prescribed by NRG1 which are of relevance to the proposed development:

- The proposed development will not result in an adverse impact on any of the areas listed in NRG1, bullet point (1);
- As detailed in Sections 7 and 8 of this Review Statement, whilst the proposed development, on a site with a history of open cast mining, will generate noise, it will not be of a level that will have an adverse impact on residential amenity;
- The proposed development is not unacceptable in environmental terms, further discussion on which is provided at Sections 7 and 8 of this Review Statement;
- The proposed development will have a positive impact upon the local economy. Since the development works would be undertaken over winter months when, as confirmed by Rosslynlee Fishery there is minimal use of the facility, the proposed development will not be detrimental to local tourism and recreation; and
- Full reinstatement of the site will be undertaken on completion of the proposed development.

5.2 Summary

The only ECON8/NRG1 criterion of relevance to the reasons for refusal is that relating to potential impacts on surrounding residents, addressed in full in Section 7 of this Local Review Statement. Whilst it is acknowledged that there is an element on noise produced by the proposed development, the relatively short, concentrated periods of working, mean that noise impacts will not be unacceptable. On the basis that noise impacts are acceptable, the proposed development is consistent with policies ECON8 and NRG1 and is therefore consistent with policy RP1.

RfR1 is therefore considered unreasonable and should be set aside.

Whilst the Appellant is robust in this contention, should there be any debate over the proposed development's compliance with the aforementioned policies, the Appellant reiterates the point

documented within Section 2.1.1 of this Local Review Statement, that weighty material considerations exist in favour of the proposed development, in particular that the proposed development would significantly contribute towards the delivery of the Neart na Gaoithe Offshore Wind Farm.

6 Appellant Response to RfR2

RfR2 states: *"The use of the site as a test piling facility is not supported by any policies in the Midlothian Local Plan; the proposal is therefore contrary to the aims of the Midlothian Local Plan".*

RfR2 essentially comprises two elements: (i) that the use of the site as a test piling facility is not supported by any Local Plan policies; and (ii) that therefore the proposal is contrary to the aims of the Local Plan.

In respect of (i), it is not a requirement that the proposed development be specifically supported by one or more Local Plan policies. It is unreasonable to expect a Local Plan to make specific provision for every possible form of development and in cases such as this, where an unusual form of development is proposed (indeed one of which the origins are pre-dated by the adoption of the Local Plan and could not, therefore have been anticipated by the extant Local Plan), best practice is to assess proposals against the 'general' development policies contained within a Local Plan (those of relevance, relating primarily to RfRs 3 and 4, (see Sections 7 and 8 of this Statement, respectively). The logical extension of the approach stated at RfR2 is that since no specific provision is made for test piling facilities on any site in the Local Plan, such development would be unacceptable in planning policy terms at any location in Midlothian. Such an approach is clearly unreasonable.

In respect of (ii), the inclusion of the word "therefore" adds significant weight to the approach adopted at (i), linking the absence of support by specific policy to a contravention of the aims of the Local Plan. Again, such an approach is entirely unreasonable, in this case resulting in a development which will contribute towards the delivery of more than one of the strategic aims, instead being considered contrary to such aims.

6.1 Strategic Aims of Midlothian Local Plan

The strategic aims in question are stated at Section 1.4.1 of the Midlothian Local Plan, as follows:

> *1. "to implement the requirements of the ELSP 2015;*
> *2. to safeguard and enhance the natural and built heritage of Midlothian which sustains the quality of life of its communities;*
> *3. to support the development of a vibrant, competitive and sustainable local economy;*
> *4. to provide positively for development which secures long-term social, economic and environmental benefits for existing and new residents, and not just short-term gain; and*
> *5. to ensure that Midlothian is a welcoming and enriching place to live, work and visit."*

In respect of the first aim, the Edinburgh and Lothians Structure Plan has been superseded by SESplan (approved 2013), of which Policy 10 encourages development that contributes towards *"...achieving national targets for energy..."*. As described within Section 2 of this Local Review Statement, the proposed pile test undoubtedly can be considered such a development and as such, contributes towards the implementation of SESplan.

In respect of the third and fourth aims, as stated at Section 2 of this Local Review Statement the pile test is important to the delivery of the wider Neart na Gaoithe Wind Farm development which, as is clear from the awarding of a Contract for Difference (CfD) and the role of offshore wind as part of the Scottish Government's long-term energy policy, Neart na Gaoithe is key infrastructure which is recognised by both UK and Scottish Governments as contributing towards long-term security of energy supply. Without such security of supply, national, regional and local economies will undoubtedly suffer. As such, on a macro level, the proposed development can be considered to contribute towards aims 3 and 4.

6.2 Summary

RfR2 is unreasonable on the basis that the mere absence of supportive policy does not make a development unacceptable, particularly given the fairly unique nature of many forms of development including the proposed development, the origins of which are superseded by the adoption of the Local Plan. Further, an absence of policy support does not automatically make a development inconsistent with the strategic aims of the Local Plan. Indeed rather, in this case, the proposed development would contribute positively towards the delivery of a number of strategic aims.

Whilst the Appellant is robust in this contention, should there be any debate over the proposed development's compliance with the aforementioned policies, the Appellant reiterates the point documented within Section 2.1.1 of this Local Review Statement, that weighty material considerations exist in favour of the proposed development, in particular that the proposed development would significantly contribute towards the delivery of the Neart na Gaoithe Offshore Wind Farm.

7 Appellant Response to RfR3

RfR3 states: *"The noise associated with the piling activities will have a detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage".*

As part of the planning application documentation, NnGOWL undertook a comprehensive assessment of the noise implications of the proposed development. The scope of that assessment was informed by the pre-application discussions held with Midlothian Council and other stakeholders, as discussed within Section 4 of this Local Review Statement.

Whilst it is accepted that there will be an element of noise associated with the piling activities, the short-term and intermittent nature of works is such that these noise impacts will not generate an unreasonable level of disturbance. Combined with the national significance of the wider Neart na Gaoithe development and the historic mining use of the area, it is not accepted that the piling activities will have a detrimental impact of the amenities of neighbours, particularly given the range of mitigation measures proposed by the Appellant.

7.1 EHO Review Comments

As outlined at Section 4.2.2.3 of this Local Review Statement, having received additional comments from the EHO dated 12 June 2015, on the advice of planning officials (see doc ref MRP5E(i)) NnGOWL made no response to the issues and points raised within that response. Notwithstanding, there remains disagreement with the EHO's stated position, particularly in their representing of statements made by NnGOWL in both the original Environmental Appraisal and its response of 22 May 2015 (doc refs MRP4D(i) and MRP5B(ii), respectively). These outstanding points, as summarised within Section 4.2.2.3, are addressed in turn, below.

7.1.1 Lack of clarity over proposed use

The proposed development is clearly stated within the description of development and is comprehensively explained and illustrated within the planning application documentation. The Appellant is unclear how there can be any uncertainty over the nature of the proposed use. In addition, the EHO makes the following statement: *"...garage premises operate compressors; office buildings may have standby generators; an industrial facility may have cranes - but none of these are construction sites."* The relevance of this statement is unclear. However, regardless of the relevance of the statement, the statement relates to entirely different circumstances to the proposed development, each of the examples referencing an activity which is ancillary to a primary development; in the case of the proposed development the piling activity is the primary development.

7.1.2 Risk of precedent

The EHO also states: *"Although this proposed testing facility is time-limited, it does not change the fact that it is not a construction site and that other applicants (or this applicant) could wish to make use of the site as a testing facility in the future."* The statement is misleading and neglects to mention the established industrial use of the site. The proposed development is indeed time limited and it is fully anticipated that any grant of planning permission would include a time limit on the duration of the proposed development works. Indeed, NnGOWL proposed such a limitation within the planning application documentation. Any use of the site beyond the time limited period would not be permissible under a planning permission granted pursuant to this Review. Such use would instead require an additional planning permission, with Midlothian Council retaining full control over the granting of that permission.

Whilst a site's planning history is a material consideration in the determination of future planning applications, the context within which decisions are made is also material. In this case, the proposed development relates to a clearly defined short-term development programme, relating to a wider development which is recognised as being of national significance. These points could be clearly defined within the reasons for granting planning permission. As material considerations in the determination of future planning applications, the weight to be attached to the planning history and the rationale behind historic decisions is entirely at the discretion of Midlothian Council. Since any work beyond that detailed within the planning application (and within Section 3 of this Local Review Statement) would require a further planning permission, Midlothian Council retains full planning control over any future proposed development.

Should there be any ongoing doubt over this point, whilst it does not consider such measures necessary (instead the reasons for approving the application could clearly make reference to the national significance of the development and the intermittency/short-term of the works), NnGOWL would be willing to enter into a Planning Obligation under Section 75 of the Town and Country Planning (Scotland) Act 1997, restricting the development in terms of the user (to NnGOWL and its contractor) and the nature of the proposed development (to that described within Section 3 of this Local Review Statement and relating to Neart na Gaoithe Offshore Wind Farm).

7.1.3 BS 5228 as a tool for assessing impact

The works being carried out at the test pile site are construction related activities as might be carried out for buildings or infrastructure construction sites, and it is appropriate to assess them as such (i.e. by using the assessment methods detailed in BS5228). Indeed, in doing so, the Appellant has simply followed the original advice of the EHO. It is of note therefore that, whilst the EHO objection suggests that use of BS 5228 is not appropriate to appraise the potential noise effects resulting from the Pile Test, in an email dated 26th September 2014 to NnGOWL the EHO stated "*If you do not have information on the L_{AMAX} or L_{A1} for the proposed piling activities then … you should rely on the guidance contained in BS5228*". Hence, the methods set out in BS 5228 to estimate L_{A1} noise levels were followed and the data provided.

When assessing residential receptors, BS5228 is considered to be the most appropriate standard to use and the ABC method based on the 'working day' L_{Aeq} is precedent for these types of activities. Predicted noise levels arising from the test pile site do not exceed the most onerous (Category A) thresholds detailed in BS5228 (assessed in the absence of environmental survey data and adopting the most conservative assessment approach). The ABC assessment methodology has been used successfully on many other construction related projects including those using piling activities, including those where works extend beyond two months and in many cases continue over several years. For example, this was the case for ground investigation works for the Forth Replacement Crossing which were conducted on a 24hr/7day a week basis for 3 months at varying distances from the closest noise sensitive receptors but as close as around 190m across water. The noise threshold values were established using the BS5228 ABC method, providing a precedent for using the BS5228 ABC method for construction investigation works.

Most construction related activities are variable and noise emitted is often impulsive/intermittent in nature, however with the implementation of best practical means methods, as described in BS5228, the risk of disturbance is minimised. The Arup report (Appendix 3 of the Environmental Appraisal) discusses well established potential mitigation methods, including keeping local residents and users of other sensitive receptors regularly informed of the works.

For the avoidance of doubt, the Appellant maintains that BS5228 is an appropriate basis for the assessment methodology, as agreed with and advised by the EHO during the pre-application consultation phase.

7.1.4 Debate over stated noise levels and associated impacts

With regard to concerns about levels of noise exposure and the items of plant that would be operating, the results of the noise assessment indicate that the Category A noise threshold is not exceeded at any of the nearby receptors during the proposed works. The highest predicted level is 1dB below threshold at the nearest residential property (64dB L_{Aeq}). It should be noted that the assessment also includes noise from the generator (which is likely to run 24 hours a day); however, the generator noise levels are not considered to be of concern as these are at least 10dB below the threshold levels at all times of the day. Other noise will arise from occasional works at the Pile Test Site (e.g. delivery lorries, roller movements during site preparation etc.). However, again it is anticipated that the noise levels arising from these activities will be considerably lower than the threshold levels.

An assessment has also been undertaken of the L_{A01} value. By applying the guidance in BS5228-1, it is estimated that noise levels would be 9dB higher than the L_{Aeq} levels identified in the ABC method. Whilst informative, it should be noted that there are no established criteria to assess against for the L_{A01} index. The ABC thresholds are specifically intended for the consideration of construction noise, including piling, and as such, are considered to be the most appropriate measure of the potential noise impacts associated with the Pile Test.

7.2 Response to RfR3

The responses provided within Sections 7.1.4 and 7.1.5 are key to RfR3 and the Appellants response to that as grounds for refusing the planning application.

As documented at Section 3 of this Local Review Statement and on page 17 of the EA submitted as part of the planning application documentation (doc ref MRP4D(i)), the proposed development would be undertaken in its totality over a period of 19 weeks, comprising the following three stages:

- Set up – weeks 1-6 (6 weeks);
- Installation of piles and testing of piles – weeks 7-14 (8 weeks); and
- Demobilisation and site reinstatement – weeks 15-19 (5 weeks).

Despite the proposed development works totalling 19 weeks, the installation of piles (which it is understood to be the origin of noise-related concerns) comprises only seven weeks, during which pile driving with the hydraulic hammer will be undertaken over up to 24 discrete durations of approximately three hours which will occur intermittently. This equates to a total of 72 hours of piling activity, which in turn equates to an average of 1.47 hours (approximately 88.2 minutes) of piling per day during the installation period. It is acknowledged however that whilst on the majority of days piling activities will fall below these average levels, on some days activities will be above these durations. In order to minimise disturbance to neighbouring properties, during the installation period NnGOWL would provide interested parties with an indicative weekly programme of likely piling activity.

7.3 Summary

The short-term and temporary nature of the impacts are such that the proposed development will not produce an excessive level of noise impacts upon local residents. In assessing these impacts, the Appellant has relied upon appropriate methodologies which are regularly adopted in relation to similar development, and which was agreed with the EHO prior to submission of the planning application. Notwithstanding, the Appellant has suggested a range of mitigation measures, as outlined within Section 9 of this Review Statement, in order to minimise impacts upon local residents and would welcome the opportunity for further discussions with neighbours in order to identify opportunities to further reduce impacts.

Whilst the Appellant is robust in this contention, should there be any debate over the proposed development's compliance with the aforementioned policies, the Appellant reiterates the point documented within Section 2 of this Review Statement, that weighty material considerations exist in favour of the proposed development, in particular that the proposed development would significantly contribute towards the delivery of the Neart na Gaoithe Offshore Wind Farm.

8 Appellant Response to RfR4

RfR4 states: *"The vibration associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage".*

As part of the planning application documentation, NnGOWL undertook a comprehensive assessment of the vibration implications of the proposed development. The scope of that assessment was informed by the pre-application discussions held with Midlothian Council and other stakeholders, as discussed within Section 4 of this Review Statement.

Whilst it is accepted that there will be an element of noticeable vibration associated with the piling activities, the short-term and intermittent nature of works is such that these noise impacts will not generate an unreasonable level of disturbance. Combined with the national significance of the wider Neart na Gaoithe development and the historic mining use of the area, it is not accepted that the piling activities will have a detrimental impact of the amenities of neighbours, particularly given the range of mitigation measures proposed by the Appellant.

8.1 EHO Review Comments

Whilst the majority of references within the additional EHO comments (doc ref MRP5B(iii)) appears to relate primarily to noise impacts as opposed to vibration impacts, the commentary provided within Section 7 of this Local Review Statement in relation to RfR3 applies equally to RfR4 and should be considered in respect of potential vibration impacts, as well as the noise impacts discussed within Section 7.

8.2 Response to RfR4

As detailed within Section 7.2 of this Local Review Statement, the activities that give rise to vibration-related concerns are concentrated in a seven-week period, during which very intermittent work will be undertaken. These are short term works (the piling itself is anticipated to last for 7 weeks in an overall programme of works lasting 19 weeks) with intermittent piling activities within these 7 weeks where the gaps between the pile driving could be between one hour and several days.

Both the Hydro hammers (150kJ and 600kJ) have been assessed based on the peak particle velocity (PPV) calculation methodology detailed in Table E.1 in BS5228-2. Whilst this vibration prediction method in the standard is robust, it is based on measured data up to 111 metres from the pile and for hammer energies up to 85 kJ. The proposed plant and Pile Test Site are therefore outwith the range of parameters for which the predictors are proven. However the PPV calculations are based on current best practice and the only way to improve certainty would be to measure similar piling activities (i.e. with the larger hammer energies and at the greater distances being assessed). Although vibration from the works could be noticeable to nearby residents, they will be informed of works activities and the proposed mitigation measures implemented to minimise impact. At the levels of vibration predicted, there is no risk of causing damage to any dwellings.

8.3 Summary

The short-term and temporary nature of the impacts are such that the proposed development will not produce an excessive level of vibration impacts upon local residents, whilst the distance from the dam means that there is little potential for negative impacts. Notwithstanding, the Appellant has suggested a range of mitigation measures (as outlined in Section 9 of this Review Statement) to minimise impacts upon local residents and would welcome the opportunity for further discussions with neighbours in order to

identify opportunities to further reduce impacts. Similarly, the Appellant has suggested comprehensive pre- and post- development surveys on the dam, as well as monitoring throughout the duration of the works, which together will help further minimise the potential for impacts upon the structure.

Whilst the Appellant is robust in this contention, should there be any debate over the proposed development's compliance with the aforementioned policies, the Appellant reiterates the point documented within Section 2 of this Review Statement, that weighty material considerations exist in favour of the proposed development, in particular that the proposed development would significantly contribute towards the delivery of the Neart na Gaoithe Offshore Wind Farm.

9 Summary of Proposed Mitigation Measures

This Section of the Local Review Statement summarises the mitigation measures proposed by NnGOWL, both those which were included within the original planning application documentation and exchanges with Midlothian Council during the determination process, as well as additional measure proposed by the Appellant.

9.1 Mitigation measures proposed within and during planning application

- Restriction of piling/testing works to during the period 8am to 6pm, Monday-Friday
- Local residents will be regularly notified of forthcoming activities, with a point of contact being provided for the duration of the works to manage concerns;
- Site personnel will receive an induction outlining their responsibilities in relation to noise and vibration management;
- Hours of working will be planned taking into account the surrounding land use and duration of the works;
- Provision of an out-of-hours works procedure to minimise the effect of any unnecessary works outside daytime working hours;
- Notify nearby residents of construction activities likely to affect amenity;
- Quiet working methods will be employed where practicable including the use of appropriate plant;
- Unnecessary revving of engines will be avoided and equipment switched off when not in use;
- Minimise drop height of materials;
- Start-up plant and vehicles sequentially rather than in unison;
- Use of broadband alarms rather than tonal on reversing vehicles;
- Orientate directional noise generating plant away from noise sensitive receptors where practicable;
- A phased start to the works will be undertaken, e.g. slowly increasing hammer energy over a short period of time at the commencement of piling; and
- When the piles are driven to refusal, a pilot hole will be drilled beyond the pile toe to ease progress before piling recommences. This should reduce the amount of time the higher levels of vibration are experienced.

9.2 Additional proposed mitigation measures

- During the piling and testing stages of the work, NnGOWL will inform residents on a weekly basis of the anticipated programme for the following week;
- If required by Midlothian Council, NnGOWL to enter into a S75 Obligation restricting: (i) the undertaking of works pursuant to the planning permission to NnGOWL and its contractors; and (ii) restricting works pursuant to the planning permission to those relating to potential piling techniques associated with Neart na Gaoithe Offshore Wind Farm;
- NnGOWL to undertake 'before' and 'after' surveys of the Rosslynlee Reservoir and neighbouring properties; and
- NnGOWL to undertake vibration monitoring at Rosslynlee Reservoir during piling.

It is proposed that the above mentioned mitigation be collated within an Environmental Management Plan, required under a condition attached to the planning permission and submitted for the approval of Midlothian Council prior to the commencement of pile testing work.

MAINSTREAM RENEWABLE POWER

Neart na Gaoithe Offshore Wind Ltd
3rd Floor, 2 West Regent Street
Glasgow G2 1RW, UK

Tel: +44 (0)141 206 3860
info-UK@mainstreamrp.com
www.mainstreamrp.com

Mr Kingsley Drinkwater
Planning & Building Standards
Fairfield House
8 Lothian Road
Dalkeith
Midlothian
EH22 3ZN

8 August 2014

Dear Kingsley,

REQUEST FOR EIA SCREENING OPINION IN RESPECT OF TEMPORARY TEST PILING WORKS AT SHEWINGTON, MIDLOTHIAN

On behalf of our client Neart na Gaoithe Offshore Wind Ltd (NnGOWL) and in accordance with the provisions of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 ('the EIA Regulations'), this correspondence comprises a request for a screening opinion in respect of temporary test piling works at land at Shewington, Midlothian (as identified on the enclosed location plan).

Background

In 2009 NnGOWL was awarded by the Crown Estate the exclusive right to develop the Neart Na Gaoithe Offshore Wind Farm in Scottish territorial waters. With a capacity of 450MW, the project is located in the outer Forth Estuary, some 30km north of Torness. NnGOWL is currently awaiting its offshore consents, while planning permission in respect of the onshore works was granted by East Lothian Council in June 2013.

NnGOWL will use four-legged jacket foundations to support the turbines offshore. These jacket turbine foundations will be installed using a technique (the "drill-drive-drill technique") which has been used previously to install different types of foundations (monopiles) but not as yet for jackets, and certifying body Lloyd's Register, have recommended that a pile test be conducted at an onshore location with similar bedrock conditions to the offshore site.

The Shewington area has been selected following an extensive site analysis and selection exercise. Its geology matches that of the proposed site of the Neart na Gaoithe Offshore Wind Farm (NnG) and the area is free of any significant environmental constraints, making it an ideal location for testing potential piling techniques.

MAINSTREAM RENEWABLE POWER

The Proposed Development

Two separate pile installation techniques will be tested during the works, each with its own installation and testing equipment rig. Each technique would comprise four steel piles of 1m or 1.5m diameter and approximately 19m in length. It is anticipated that the piles would be retained in the ground on the completion of the testing. The piles would be below ground level. The aim is to drive the piles 18m into the ground, with 1m left above ground for the purposes of testing, once testing is complete, the pile would be cut below ground level. The piles could be removed in the event of any future minerals extraction works at the area.

In addition to the two test piling rigs, the development would include the following:

- Welfare facilities and offices;
- Parking and marshalling areas;
- Potential upgrading of accesses; and
- Equipment and materials storage.

Deliveries to the site and removal of plant and associated items would be by dedicated HGV movements, via the existing access road on to the A6094.

It is anticipated that the works would be undertaken over a twelve- to seventeen-week period, from September 2014:

- Preparatory and set-up works – approximately 1 month;
- Piling works undertaken – over an approximately 6 week period, assuming 2 – 3 hours of piling per day, 4 days per week. Alternatively, the piling could take place over an approximately 3 – 4 week period, assuming 4 – 6 hours of piling per day, 4 days per week
- Testing of piles – over a 3-5 week period, assuming 2 – 3 days per pile; and
- Dismantling and ground restoration – approximately 2 weeks.

It is intended that test piles would be retained in situ on completion of the works, with the remainder of the site reinstated.

The entirety of the development, including the access, would cover an area not exceeding 2-hectares. The exact siting of the piling works within the Shewington area will be confirmed on completion of further geotechnical analysis, which will be completed prior to the submission of a planning application. It is anticipated that the works would take place within the area identified on the enclosed plan.

EIA Regulations 2011

It is considered that the nature and scale of the proposed development is such that it does not constitute 'EIA Development' and does not require assessment in accordance with the EIA Regulations. The need for EIA of the proposed works should therefore be 'screened out' at this stage.

The reasoning behind this is set out below:

- The proposals do not constitute Schedule 1 development under the terms of the EIA Regulations;
- In terms of Schedule 2 of the EIA Regulations, the proposal is not located within a 'sensitive area' and is not considered to have any significant effects on the environment due to the limited nature and scale of works proposed.; and
- Schedule 3 sets out the selection criteria which must be applied when determining whether a development is likely to have 'significant effects' on the environment. The three tests of the selection criteria are:
    - Consideration of the characteristics of the development;
    - Consideration of the location of the development; and
    - Consideration of the characteristics of potential impact.

The impact of the proposed development is likely to be fairly minor given its temporary nature. Further, the area is not a 'sensitive location' and has a history of minerals extraction. As such, the effect of the proposed works is likely to be insignificant.

Appropriately worded planning conditions would be sufficient to control and mitigate any impacts associated with the development. To inform any necessary controls, the forthcoming planning application will include an overarching Environmental Report, which will outline the rationale for site selection and will reference relevant environmental matters. In particular, Technical Appendices will be provided detailing the following topics:

- Noise and Vibration;
- Ecology and Habitats;
- Archaeology and Cultural Heritage;
- Transportation and Access;
- Geotechnical Survey (incorporating Coal Mining Risk Assessment);
- Hydrology; and
- Engineering Method Statements.

In light of the above, we consider that the proposals do not constitute EIA Development as defined by the EIA Regulations and we request confirmation of Midlothian Council's agreement of this position.

Should you have any queries or require any additional information then please do not hesitate to contact me.

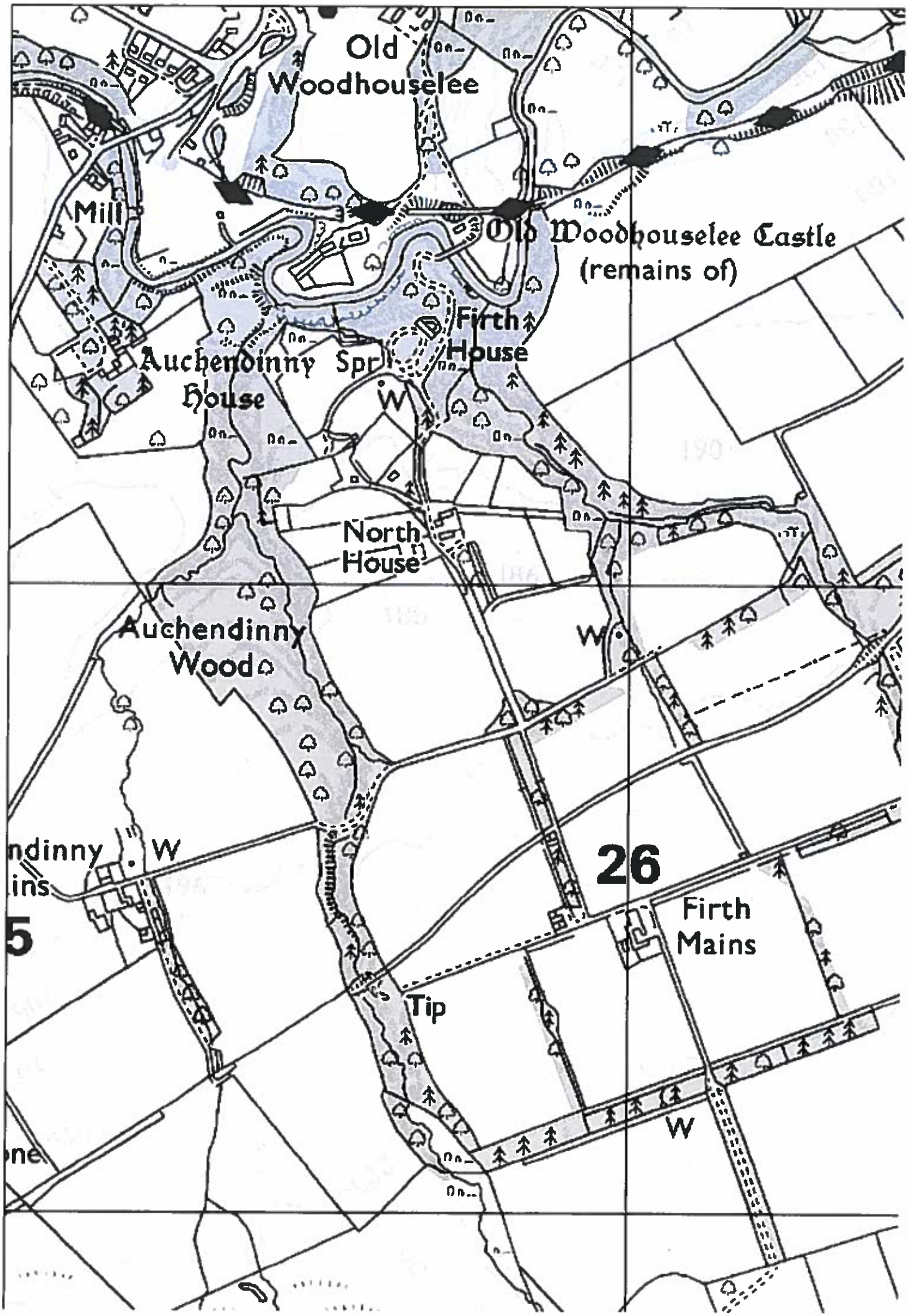
Yours sincerely,

[redacted]

Grant Young BA (Hons) MSc URP MRTPI
Planning Director, Scott Hobbs Planning
For and on behalf of Neart na Gaoithe Offshore Wind Ltd

Cc Rosie Scurr Neart Na Gaoithe Offshore Wind Ltd

Enc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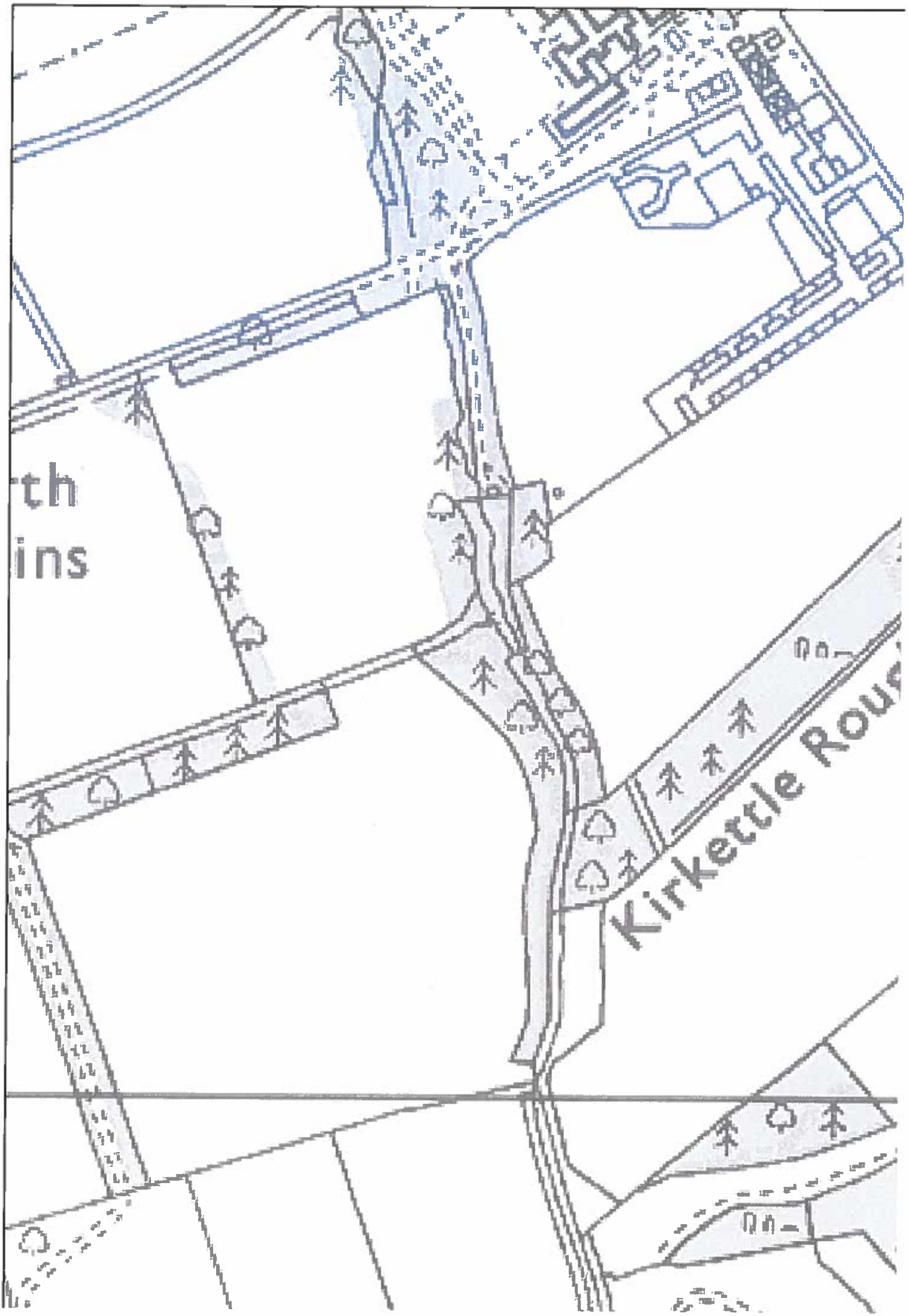
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Planning and Development
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

Education, Communities and Economy

Director
Dr Mary Smith

Midlothian

01 September 2014

Grant Young
Scott Hobbs Planning
24A Stafford Street
Edinburgh
EH3 7BD

Dear Mr Young,

REF: 14/00591/SCR - REQUEST FOR PRE-APPLICATION ADVICE AND SCREENING OPINION FOR TEMPORARY TEST PILING

AT SHEWINGTON, ROSEWELL, MIDLOTHIAN

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2011

I refer to your letter dated 08 August 2014 regarding the above, submitted on behalf of Neart na Gaoithe Offshore Wind Ltd.

The proposed development does not sit precisely within any of the descriptions of development listed in Schedule 2 class 3(i) of the regulations. The closest would appear to be Class 11 Other projects, part (f) *Test benches for engines, turbines or Reactors*. As the site area is over 1 hectare it would seem appropriate to consider it as a schedule 2 development.

The proposed site is not within a sensitive area as defined by regulation 2. It is therefore necessary to consider the proposal under schedule 3 with regards to the characteristics of the development, the location of the development, and the characteristics of the likely impacts.

The site is located around 1400 metres from the edge of Rosewell in open countryside. There are residential properties within 160 and 250 metres of the proposal. It is located close to an area that has been surface mined and restored recently and adjacent to a site that is proposed for further surface mining.

The character of the development is of a civil engineering type involving pile driving likely to create percussive and other plant noise, and involving the movement of heavy plant and machinery and large steel sections which will have to be transported to the site. The principal impacts will relate to noise and transport. Noise assessment will therefore be required with particular reference to occupiers at Shewington and Newbigging.

Tel 0131 271 3315
Fax 0131 271 3537
Minicom 0131 271 3291
Legal Post LP4 - Dalkeith
www.midlothian.gov.uk

Your Ref: .
Our Ref: 14/00591/SCR

There is no significant pollution associated with the development other than emissions from vehicles and plant/machinery. In terms of accident risk, there is no obvious risk to neighbouring properties, but a risk assessment can be undertaken in relation to vehicle movements and piling operations. .

There are no wildlife designations in the vicinity of the proposal. The piling operations are not expected to have any significant impacts upon local wildlife. The applicant would be advised to carry out appropriate wildlife and habitat surveys, and operations should if possible avoid areas with trees or hedges where breeding birds or bats may be present. Assuming no loss of woodland or hedges, impacts will only last for the duration of the operations.

There are no landscape designations in the vicinity of the proposal. The general landscape impact will not be significant and will only be short term temporary with regards to the drilling equipment and site compounds. There will be no visual impact upon completion, subject to removal and restoration of all associated access roads and ancillary site accommodation and compounds.

There is no cultural heritage in the vicinity of the proposal. Impacts will not extend beyond the boundary of the site.

In terms of geology and hydrology, assessment should be made of any potential impact upon the hydrology of the area, impacts upon any groundwater dependent terrestrial ecosystems, and upon any private water supplies within the area.

In terms of the 2011 EIA regulations, I would advise that this development **will not** require an environmental impact assessment.

The impacts that will be most significant are likely to be traffic and noise related. These matters can be addressed through the submission of surveys/reports along with any future planning application and can be safely mitigated through the use of appropriate planning conditions.

Pre-application advice can be provided however at this stage more information would need to be known about noise levels, exact locations of piling operations, and details of vehicle movements and site access points. Controls may need to be put in place regarding hours of operation for piling, and with regards the delivery of any abnormal loads to the site.

Yours faithfully,

Kingsley Drinkwater
Senior Planning Officer
kingsley.drinkwater@midlothian.gov.uk

From: Kingsley Drinkwater <Kingsley.Drinkwater@midlothian.gov.uk>
Sent: 09 July 2014 11:44
To: Grant Young
Cc: 'rosie.scurr@mainstreamrp.com'
Subject: RE: Mainstream test piling

Grant,

Quick decision. Unfortunately there is no way that this can be seen as being development not requiring planning permission. We are going to require a planning application. I am hoping to see Lilianne Lauder this afternoon.

Single application to cover all parts of your proposal.

The determining issue is likely to revolve around residential amenity, with Noise and vibration.

If the levels are likely to be unacceptable at any neighbouring property then you may wish to come to some contractual arrangement with those neighbours, as was done with the open cast operation.

Regards

Kingsley

From: Grant Young [mailto:gy@scotthobbsplanning.com]
Sent: 04 July 2014 20:27
To: Kingsley Drinkwater
Subject: Re: Mainstream test piling

Great, we'll see you then.

Regards
Grant

Sent from my iPhone

On 4 Jul 2014, at 15:09, "Kingsley Drinkwater" <Kingsley.Drinkwater@midlothian.gov.uk> wrote:

> That time is fine, thanks
>
> Kingsley
>
> ---
>
> **From:** Grant Young [mailto:gy@scotthobbsplanning.com]
> **Sent:** 04 July 2014 15:07
> **To:** Kingsley Drinkwater
> **Subject:** Re: Mainstream test piling
>
> No problem, you mentioned Wednesday morning as well, would 10.30 suit?
>
> Regards,
> Grant
>
> Grant Young BA (Hons) MSc URP MRTPI
> Planning Director
>
> <image001.png>
>
> Scott Hobbs Planning
>
> a. 24a Stafford Street, Edinburgh, EH3 7BD
> t. 0131 226 7225 m. 07969 737 838
> www.scotthobbsplanning.com
>
> Registered in Scotland No. SC338885
>
> ---
>
> **From:** Kingsley Drinkwater <Kingsley.Drinkwater@midlothian.gov.uk>
> **Date:** Friday, 4 July 2014 15:04
> **To:** Grant <gy@scotthobbsplanning.com>
> **Subject:** RE: Mainstream test piling
>
> Grant,
>
> My apologies, I have had to take that afternoon off from 2pm. I am then off until 21st July. When else suits, avoiding Tuesday 2 – 3pm
>
> Kingsley
>
> ---
>
> **From:** Grant Young [mailto:gy@scotthobbsplanning.com]
> **Sent:** 04 July 2014 14:54
> **To:** Kingsley Drinkwater
> **Subject:** Mainstream test piling
>
> Hi Kingsley,

Just a quick one to follow up on our discussion yesterday. Is Thursday afternoon still OK for you, say 2.30pm?

Regards,
Grant

Grant Young BA (Hons) MSc URP MRTPI
Planning Director

<image001.png>

Scott Hobbs Planning

a. 7a Alva Street, Edinburgh, EH2 4PH
t. 0131 226 7225 m. 07969 737 838
www.scotthobbsplanning.com

Registered in Scotland No SC338685

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Rosie Scurr

From: Kingsley Drinkwater <Kingsley.Drinkwater@midlothian.gov.uk>
Sent: 09 July 2014 11:44
To: 'Grant Young'
Cc: Rosie Scurr
Subject: RE: Mainstream test piling

Follow Up Flag: Follow up
Flag Status: Completed

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Sent from my iPhone

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> Kingsley
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> Grant

Grant Young BA (Hons) MSc URP MRTPI

Planning Director

<image001.png>

Scott Hobbs Planning

a. 24a Stafford Street, Edinburgh, EH3 7BD

t. 0131 226 7225 m. 07969 737 838

www.scotthobbsplanning.com

From: Kingsley Drinkwater <Kingsley.Drinkwater@midlothian.gov.uk>
Date: Friday, 4 July 2014 15:04
To: Grant <gy@scotthobbsplanning.com>
Subject: RE: Mainstream test piling

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Kingsley

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Sent: 04 July 2014 14:54
To: Kingsley Drinkwater
Subject: Mainstream test piling

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Regards,
Grant

Grant Young BA (Hons) MSc URP MRTPI
Planning Director

<image001.png>

Scott Hobbs Planning

a. 7a Alva Street, Edinburgh, EH2 4PH
t. 0131 226 7225 m. 07969 737 838
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Registered in Scotland No. SC338885

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From: Lauder, Lilianne <llauder@eastlothian.gov.uk>
Sent: 26 September 2014 17:44
To: Rosie Scurr
Cc: Lilianne Lauder; 'kingsley.drinkwater@midlothian.gov.uk'; 'alistair.somerville[redacted]
Subject: FW: Temporary Test Piling Works - Newbigging

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ms Scurr,

Note you have forwarded on this email to me in Kinsley's absence.

In any submission for planning permission the local authority will be looking for sufficient information to allow the application to be fully considered. Both I and Alistair Somerville have tried to provide sufficient advice / guidance as to what Environmental Health would be looking for in responding to any such application. If you do not have information on the L_{Amax} or L_{A1} for the proposed piling activities then, as you mention below, you should rely on the guidance contained in BS5228.

Note you state you are seeking to have agreements in place with the two nearest sensitive receptors. This would be a matter for Planning to consider / comment on. The submissions should also address the impact at the next noise sensitive properties.

Regards

Lilianne Lauder
Group Leader Environmental Protection
East Lothian Council
John Muir House
Haddington
East Lothian
EH41 3HA
Tel 01620 827325

From: Rosie Scurr [mailto:Rosie.Scurr@mainstreamrp.com]
Sent: 24 September 2014 11:52
To: Lilianne Lauder
Subject: FW: Temporary Test Piling Works - Newbigging

Dear Lilianne

I sent Kingsley the email below regarding the proposed temporary test piling works at Newbigging. I received an out of office from him so I am sending directly to you.

Could you please come back to me on this?

Regards,

Rosie Scurr
Environment Manager

Please note new phone number:

Tel: +44 (0)141 206 3864
Mob: +44 (0)7967 445 717
rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

From: Rosie Scurr
Sent: 24 September 2014 11:46
To: 'Kingsley Drinkwater'
Subject: RE: Temporary Test Piling Works - Newbigging

Hi Kingsley

I have discussed the below advice from Lilianne with our noise consultant and was given the following feedback:

We confirm that BS5228 does contain L_{Aeq} data but does not contain L_{Amax} or L_{A1} data for piling activities (although the standard does suggest a method to convert from L_{Aeq} to L_{A1}). We can undertake a literature review and also review of our internal noise level database to try and establish a relationship between the L_{Aeq} (already assessed) and L_{A1} / L_{Amax} for the proposed test piling activities and revise our assessment.

By definition this new assessment will generate higher predicted levels than previously presented given the following:

- *L_{Amax} is the maximum noise level identified during a measurement/assessment period*
- *L_{A1} is the level exceeded for 1% of the measurement/assessment period*

However, there are no established criteria to allow these predicted levels (L_{A1} / L_{Amax}) to be assessed against. Furthermore, statutory noise nuisance is a judgement for an Environmental Health Officer or Sheriff. The draft report for consultation identifies a likely significant noise effect due to these works and it is anticipated that an additional assessment based on L_{A1} / L_{Amax} is unlikely to provide a different outcome.

Given that we are seeking to have agreements in place with the two nearest sensitive receptors identified as having a significant effect, I am keen we do not undertake any unnecessary assessment.

If you would rather we have this discussion with Lilianne directly, please let me know.

Regards,

Rosie Scurr
Environment Manager

Please note new phone number:

Tel: +44 (0)141 206 3864
Mob. +44 (0)7967 445 717
rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

please consider the environment - do you really need to print this email?

From: Kingsley Drinkwater [mailto:Kingsley.Drinkwater@midlothian.gov.uk]
Sent: 19 September 2014 13:52
To: Rosie Scurr
Subject: RE: Temporary Test Piling Works - Newbigging

I was advised that; -

The measures to address our concerns will take the form of including (a) their contractual compensatory agreements with the 2 nearest residences and commercial fishing activity (b) any proposed mitigation and (c) additional nuisance impact assessments for the further away NSRs, looking at LA01/LAmax levels and shorter duration / on-time LAeqs.
I also advised them that I only looked at their assessment with regard to the nearest properties as there was nothing in their report to suggest that they may be reaching an agreement with them.
I agreed that the vibration levels were unlikely to be a problem at the further away properties.
They agreed that there was now nothing further they required from Midlothian Council prior to submitting their application.

Hope that makes sense

Kingsley

MAINSTREAM
RENEWABLE
POWER

Neart na Gaoithe Offshore Wind Ltd
3rd Floor 2 West Regent Street
Glasgow G2 1RW, UK

Tel: +44 (0)141 206 3860
info-UK@mainstreamrp.com
www.mainstreamrp.com

20th February 2015

Planning & Environment Reception
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
Midlothian
EH22 3ZN

FAO Kingsley Drinkwater

Dear Sir/Madam,

APPLICATION FOR FULL PLANNING PERMISSION UNDER THE TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997 (AS AMENDED) IN RESPECT OF [TEMPORARY] TEST PILING WORKS, WITH ASSOCIATED WELFARE FACILITIES, CAR PARKING, UPGRADING OF ACCESS AND STORAGE AREAS; AT LAND AT NEWBIGGING, MIDLOTHIAN

Further to recent discussions, please find enclosed on behalf of Neart na Gaoithe Offshore Wind Ltd (NnGOWL), a planning application for works as described above.

Background

In 2009 NnGOWL was awarded by The Crown Estate the exclusive right to develop the Neart Na Gaoithe Offshore Wind Farm (capacity 450 megwatts [MW]) in Scottish territorial waters. The project is located in the outer Forth Estuary, approximately 29km north of Torness. Permission for the offshore elements of the project was granted in October 2014 by the Scottish Government, while planning permission in respect of the onshore grid connection works was granted by East Lothian Council in June 2013.

One possible foundation type identified for the project, which will support the offshore turbines is known as a 'steel jacket foundation'. These are fixed to the seabed with piles which will be installed using a combination of drilling and driving, known as 'drive-drill-drive'. To inform the piling methods which will be used in construction of the offshore wind farm, NnGOWL is proposing to undertake a scaled down piling test onshore to test this technique.

The Newbigging area has been selected following an extensive site analysis and selection exercise. Its geology is relevant to several offshore wind farms and closely matches that of the proposed site of the Neart na Gaoithe Offshore Wind Farm (NnG), and the area is free of significant environmental constraints, making it an ideal location for testing potential piling techniques.

The Proposed Works

Two separate pile installation techniques will be tested during the works, each with its own installation and testing equipment rig. Each technique would comprise four steel piles of up to 1.1m or up to 1.65m diameter and approximately 20m in length. It is anticipated that the embedded portion of the piles would be retained in the ground on the completion of the testing. The aim is to drive the piles 18m into the ground, with 2m left above ground for the purposes of testing, once testing is complete, the pile would be cut below ground level.

In addition to the two test piling rigs, the temporary works would include the following temporary facilities:

- Welfare facilities and offices;
- Parking and marshalling areas;
- Upgrading of accesses; and
- Equipment and materials storage.

Deliveries to the site and removal of plant and associated items would be by dedicated HGV movements, via the existing access road on to the A6094.

It is anticipated that the works would be undertaken over a nineteen week period:

- Preparatory and Set-up Works –up to 6 weeks;
- Pile Installation – potentially 72 hours total over a 7 week period, assuming 24 discrete durations of approximately 3 hours Monday to Friday 08.00 – 18.00. Gaps between piling events could be 1 hour or several days dependent on final installation method, programme of parallel activities and weather;
- Pile Testing – a quieter activity lasting up to 6 weeks, partially in parallel with pile installation (assuming able to test 24 hours, 7 days a week); and
- Demobilisation and Reinstatement – up to 5 weeks.

It is intended that the portion of the test piles below the surface would be retained in situ on completion of the works, with the remainder of the site reinstated. However, the piles could be removed in the event of any future minerals extraction works at the area.

Further details of the proposed works are provided within accompanying planning application documentation.

Application documentation

Please find enclosed the following documentation which comprises this planning application:

- Duly completed planning application forms and site ownership certificate;
- Environmental Appraisal, with associated Figures and Technical Appendices and specific sections relating to:
  - Noise and Vibration;
  - Ecology;
  - Archaeology and Cultural Heritage;
  - Transport and Access; and
  - Hydrology.
- Drawing 1: Pile Test Site Location;
- Drawing 2a: Indicative Pile Test Site Layout Overlayed on Aerial Photography;
- Drawing 2b: Detailed Indicative Pile Test Site Layout;
- Payment of £1,920.00 has been made electronically and we will provide confirmation reference details as required.

I trust the enclosures are in order and look forward to receiving your receipt of the application at your earliest opportunity. Should you have any queries or require any additional information please do not hesitate to contact me.

Yours Faithfully

[redacted]

Rosie Scurr

Environment Manager

NnGOWL

Email: rosie.scurr@mainstreamrp.com
Phone: 0141 206 3864
Mobile: 07967445717
Address: Neart na Gaoithe Offshore Wind Ltd, 3rd Floor, 2 West Regent Street, Glasgow, G2 1RW

MAINSTREAM
RENEWABLE
POWER

Neart na Gaoithe Offshore Wind Limited is registered in Scotland.
Registered Office: Shepherd & Wedderburn, 191 West George Street, Glasgow G2 2LB
Registered Company Number: 356223

Midlothian

Fairfield House 8 Lothian Road Dalkeith EH22 3ZN

Tel: 0131 271 3302

Fax: 0131 271 3537

Email: planning-applications@midlothian.gov.uk

Applications cannot be validated until all necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 000096661-001

The online ref number is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the Planning Authority about this application.

Type of Application

What is this application for? Please select one of the following: *

We strongly recommend that you refer to the help text before you complete this section.

- [x] Application for Planning Permission (including changes of use and surface mineral working)
- [ ] Application for Planning Permission in Principle
- [ ] Further Application, (including renewal of planning permission, modification, variation or removal of a planning condition etc)
- [ ] Application for Approval of Matters specified in conditions

Description of Proposal

Please describe the proposal including any change of use: * (Max 500 characters)

FULL PLANNING APPLICATION IN RESPECT OF (TEMPORARY) TEST PILING WORKS, WITH ASSOCIATED WELFARE FACILITIES, CAR PARKING, UPGRADING OF ACCESS AND STORAGE AREAS; AT LAND AT NEWBIGGING, MIDLOTHIAN

Is this a temporary permission? * [x] Yes [ ] No

Please state how long permission is required for and why: * (Max 500 characters)

temporary test piling works over a maximum 6 month period from commencement

If a change of use is to be included in the proposal has it already taken place? (Answer 'No' if there is no change of use.) * [ ] Yes [x] No

Have the works already been started or completed? *

[x] No [ ] Yes - Started [ ] Yes - Completed

Applicant or Agent Details

Are you an applicant, or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application) [x] Applicant [ ] Agent

Applicant Details

Please enter Applicant details

Title: *	Ms	You must enter a Building Name or Number, or both:*	
Other Title:		Building Name:	3rd Floor
First Name: *	Rosie	Building Number:	2
Last Name: *	Scurr	Address 1 (Street): *	West Regent Street
Company/Organisation:	Neart na Gaoithe Offshore Wind Ltd	Address 2:	
Telephone Number: *	[redacted]	Town/City: *	Glasgow
Extension Number:		Country: *	UK
Mobile Number:		Postcode: *	G2 1RW
Fax Number:			
Email Address: *	[redacted]		

Site Address Details

Planning Authority: Midlothian Council

Full postal address of the site (including postcode where available):

Address 1:		Address 5:	
Address 2:		Town/City/Settlement:	
Address 3:		Post Code:	
Address 4:			

Please identify/describe the location of the site or sites.

Northing	660454	Easting	328562

Pre-Application Discussion

Have you discussed your proposal with the planning authority? * ☑ Yes ☐ No

Pre-Application Discussion Details

In what format was the feedback given? *

☑ Meeting ☑ Telephone ☑ Letter ☑ Email

Please provide a description of the feedback you were given and the name of the officer who provided this feedback. If a processing agreement [note 1] is currently in place or if you are currently discussing a processing agreement with the planning authority, please provide details of this. (This will help the authority to deal with this application more efficiently.) * (Max 500 characters)

Meeting and subsequent email correspondence.

Title:	Mr	Other title:	
First Name:	Kingsley	Last Name:	Drinkwater
Correspondence Reference Number:		Date (dd/mm/yyyy):	09/07/14

Note 1. A processing agreement involves setting out the key stages involved in determining a planning application, identifying what information is required and from whom and setting timescales for the delivery of various stages of the process.

Site Area

Please state the site area: 1.90

Please state the measurement type used: ☑ Hectares (ha) ☐ Square Metres (sq.m)

Existing Use

Please describe the current or most recent use: (Max 500 characters)

Former open cast coal site

Access and Parking

Are you proposing a new or altered vehicle access to or from a public road? * ☑ Yes ☐ No

If Yes please describe and show on your drawings the position of any existing, altered or new access points, highlighting the changes you propose to make. You should also show existing footpaths and note if there will be any impact on these.

Are you proposing any changes to public paths, public rights of way or affecting any public rights of access? * ☐ Yes ☑ No

If Yes please show on your drawings the position of any affected areas highlighting the changes you propose to make, including arrangements for continuing or alternative public access.

How many vehicle parking spaces (garaging and open parking) currently exist on the application site? * 0

How many vehicle parking spaces (garaging and open parking) do you propose on the site (i.e. the total of existing and any new spaces or a reduced number of spaces)? * 14

Please show on your drawings the position of existing and proposed parking spaces and identify if these are for the use of particular types of vehicles (e.g. parking for disabled people, coaches, HGV vehicles, cycle spaces).

Water Supply and Drainage Arrangements

Will your proposal require new or altered water supply or drainage arrangements? * ☐ Yes ☑ No

Do your proposals make provision for sustainable drainage of surface water? (e.g. SUDS arrangements) * ☐ Yes ☑ No

Note: -

Please include details of SUDS arrangements on your plans

Selecting 'No' to the above question means that you could be in breach of Environmental legislation.

Are you proposing to connect to the public water supply network? *

☐ Yes

☐ No, using a private water supply

☑ No connection required

If No, using a private water supply, please show on plans the supply and all works needed to provide it (on or off site).

Assessment of Flood Risk

Is the site within an area of known risk of flooding? * ☐ Yes ☑ No ☐ Don't Know

If the site is within an area of known risk of flooding you may need to submit a Flood Risk Assessment before your application can be determined. You may wish to contact your Planning Authority or SEPA for advice on what information may be required.

Do you think your proposal may increase the flood risk elsewhere? * ☐ Yes ☑ No ☐ Don't Know

Trees

Are there any trees on or adjacent to the application site? * ☑ Yes ☐ No

If Yes, please mark on your drawings any trees, known protected trees and their canopy spread close to the proposal site and indicate if any are to be cut back or felled.

Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste (including recycling)? * ☐ Yes ☑ No

If Yes or No, please provide further details:(Max 500 characters)

No waste will be produced

Residential Units Including Conversion

Does your proposal include new or additional houses and/or flats? * ☐ Yes ☑ No

All Types of Non Housing Development - Proposed New Floorspace

Does your proposal alter or create non-residential floorspace? * ☐ Yes ☑ No

Schedule 3 Development

Does the proposal involve a form of development listed in Schedule 3 of the Town and Country Planning (Development Management Procedure (Scotland) Regulations 2013 * ☑ Yes ☐ No ☐ Don't Know

If yes, your proposal will additionally have to be advertised in a newspaper circulating in the area of the development. Your planning authority will do this on your behalf but will charge you a fee. Please check the planning authority's website for advice on the additional fee and add this to your planning fee.

If you are unsure whether your proposal involves a form of development listed in Schedule 3, please check the Help Text and Guidance notes before contacting your planning authority.

Planning Service Employee/Elected Member Interest

Is the applicant, or the applicant's spouse/partner, either a member of staff within the planning service or an elected member of the planning authority? * ☐ Yes ☑ No

Certificates and Notices

CERTIFICATE AND NOTICE UNDER REGULATION 15 – TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATIONS 2013

One Certificate must be completed and submitted along with this application form. This is most usually Certificate A, Form 1, Certificate B, Certificate C or Certificate E.

Are you/the applicant the sole owner of ALL the land ? * ☐ Yes ☑ No

Is any of the land part of an agricultural holding? * ☐ Yes ☑ No

Are you able to identify and give appropriate notice to ALL the other owners? * ☑ Yes ☐ No

Certificate Required

The following Land Ownership Certificate is required to complete this section of the proposal:

Certificate B

Certificates

The certificate you have selected requires you to distribute copies of the Notice 1 document below to all of the Owners/Agricultural tenants that you have provided, before you can complete your certificate.

Notice 1 is Required

☑ I understand my obligations to provide the above notice(s) before I can complete the certificates. *

Land Ownership Certificate

Certificate and Notice under Regulation 15 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

I hereby certify that -

(1) - No person other than myself/the applicant was an owner [Note 4] of any part of the land to which the application relates at the beginning of the period of 21 days ending with the date of the accompanying application;
or –
(1) - I have/The Applicant has served notice on every person other than myself/the applicant who, at the beginning of the period of 21 days ending with the date of the accompanying application was owner [Note 4] of any part of the land to which the application relates.

Name:

Address: Wardell Armstrong, Sir Henry Doulton House, Forge Lane, Etruria, Stoke on Trent, ST1 5BD

Date of Service of Notice: * 20/02/15

(2) - None of the land to which the application relates constitutes or forms part of an agricultural holding;

or –

(2) - The land or part of the land to which the application relates constitutes or forms part of an agricultural holding and I have/the applicant has served notice on every person other than myself/himself who, at the beginning of the period of 21 days ending with the date of the accompanying application was an agricultural tenant. These persons are:

Name:

Address:

Date of Service of Notice: *

Signed: Ms Rosie Scurr

On behalf of:

Date: 20/02/2015

Checklist - Application for Planning Permission

Town and County Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

Please take a few moments to complete the following checklist in order to ensure that you have provided all the necessary information in support of your application. Failure to submit sufficient information with your application may result in your application being deemed invalid. The planning authority will not start processing your application until it is valid.

a) If this is a further application where there is a variation of conditions attached to a previous consent, have you provided a statement to that effect? *

☐ Yes ☐ No ☑ Not applicable to this application

b) If this is an application for planning permission or planning permission in principal where there is a crown interest in the land, have you provided a statement to that effect? *

☑ Yes ☐ No ☐ Not applicable to this application

c) If this is an application for planning permission, planning permission in principle or a further application and the application is for development belonging to the categories of national or major developments (other than one under Section 42 of the planning Act), have you provided a Pre-Application Consultation Report? *

☐ Yes ☐ No ☑ Not applicable to this application

Town and County Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

d) If this is an application for planning permission and the application relates to development belonging to the categories of national or major developments and you do not benefit from exemption under Regulation 13 of The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, have you provided a Design and Access Statement? *

☐ Yes ☐ No ☑ Not applicable to this application

e) If this is an application for planning permission and relates to development belonging to the category of local developments (subject to regulation 13. (2) and (3) of the Development Management Procedure (Scotland) Regulations 2013) have you provided a Design Statement? *

☐ Yes ☐ No ☑ Not applicable to this application

f) If your application relates to installation of an antenna to be employed in an electronic communication network, have you provided an ICNIRP Declaration? *

☐ Yes ☐ No ☑ Not applicable to this application

g) If this is an application for planning permission, planning permission in principle, an application for approval of matters specified in conditions or an application for mineral development, have you provided any other plans or drawings as necessary:

- [x] Site Layout Plan or Block plan.
- [ ] Elevations.
- [ ] Floor plans.
- [ ] Cross sections.
- [ ] Roof plan.
- [ ] Master Plan/Framework Plan.
- [ ] Landscape plan.
- [x] Photographs and/or photomontages.
- [ ] Other.

Provide copies of the following documents if applicable:

A copy of an Environmental Statement. *	☐ Yes	☑ N/A
A Design Statement or Design and Access Statement. *	☐ Yes	☑ N/A
A Flood Risk Assessment. *	☐ Yes	☑ N/A
A Drainage Impact Assessment (including proposals for Sustainable Drainage Systems). *	☐ Yes	☑ N/A
Drainage/SUDS layout. *	☐ Yes	☑ N/A
A Transport Assessment or Travel Plan. *	☑ Yes	☐ N/A
Contaminated Land Assessment. *	☐ Yes	☑ N/A
Habitat Survey. *	☑ Yes	☐ N/A
A Processing Agreement *	☐ Yes	☑ N/A

Other Statements (please specify). (Max 500 characters)

Comprehensive environmental appraisal informed by extensive pre-application discussions

Declare - For Application to Planning Authority

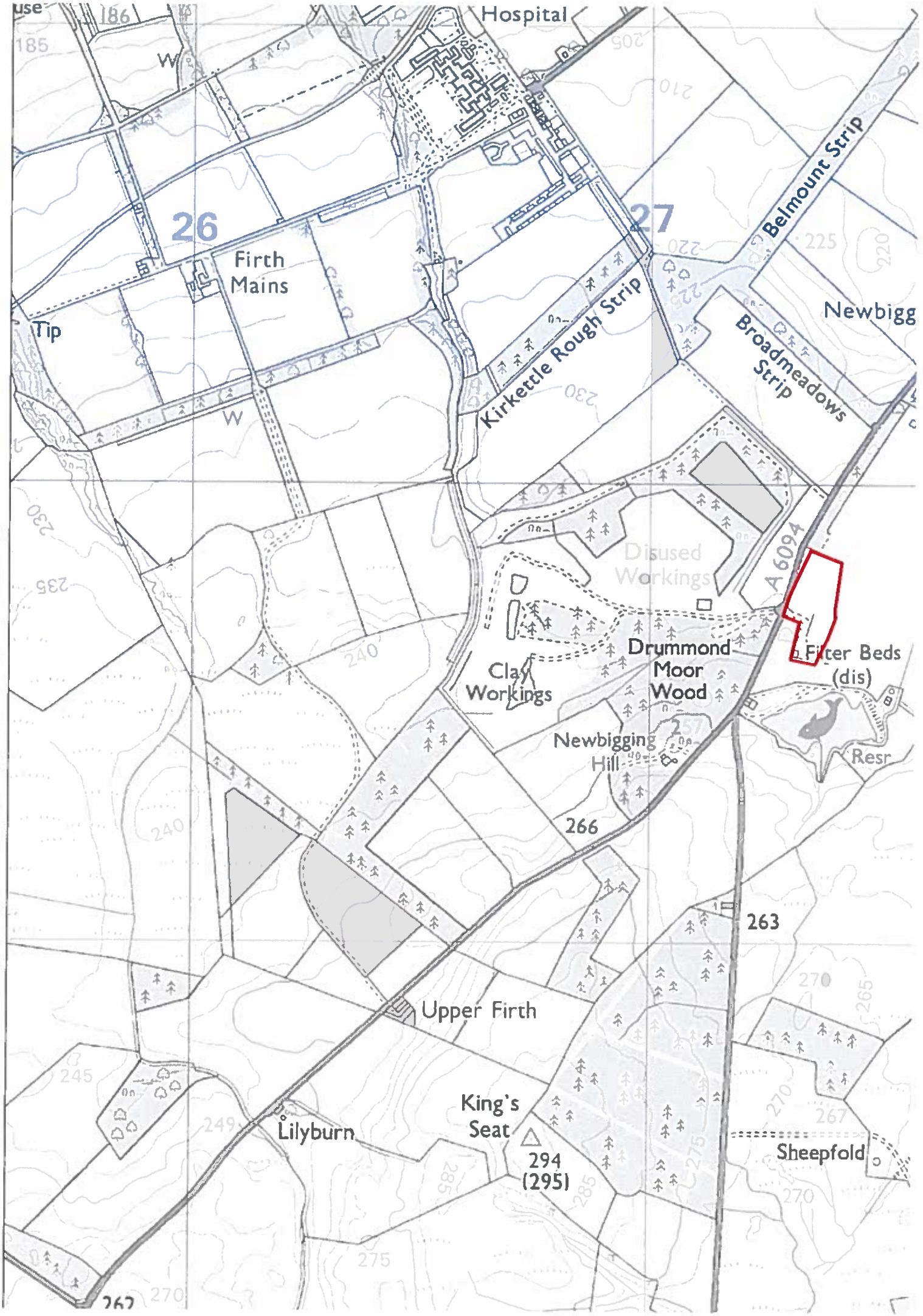
I, the applicant/agent certify that this is an application to the planning authority as described in this form. The accompanying plans/drawings and additional information are provided as a part of this application .

Declaration Name.	Ms Rosie Scurr
Declaration Date.	20/02/2015
Submission Date:	20/02/2015

Payment Details

Online payment: XMEP00000589

Created: 20/02/2015 11:14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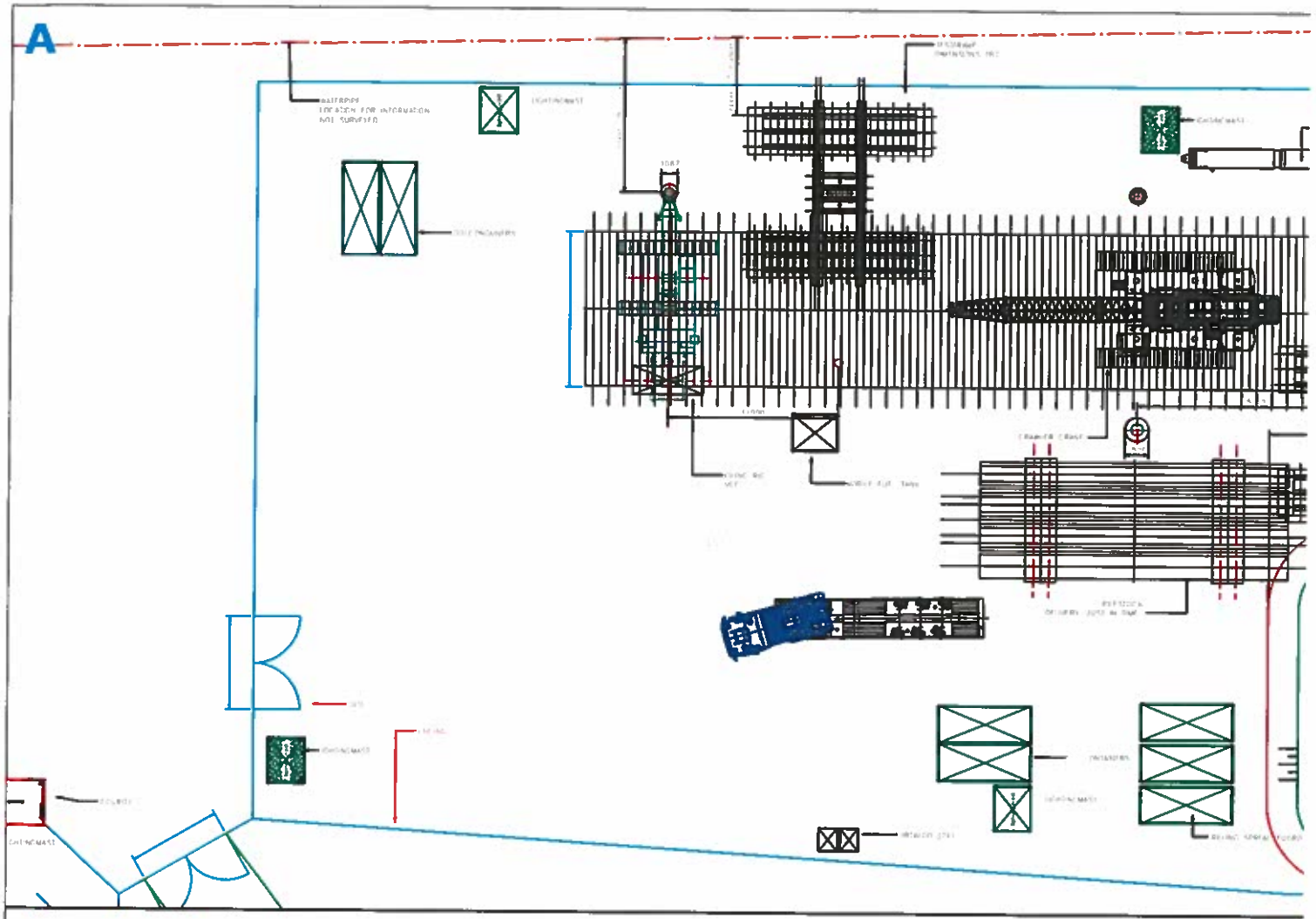

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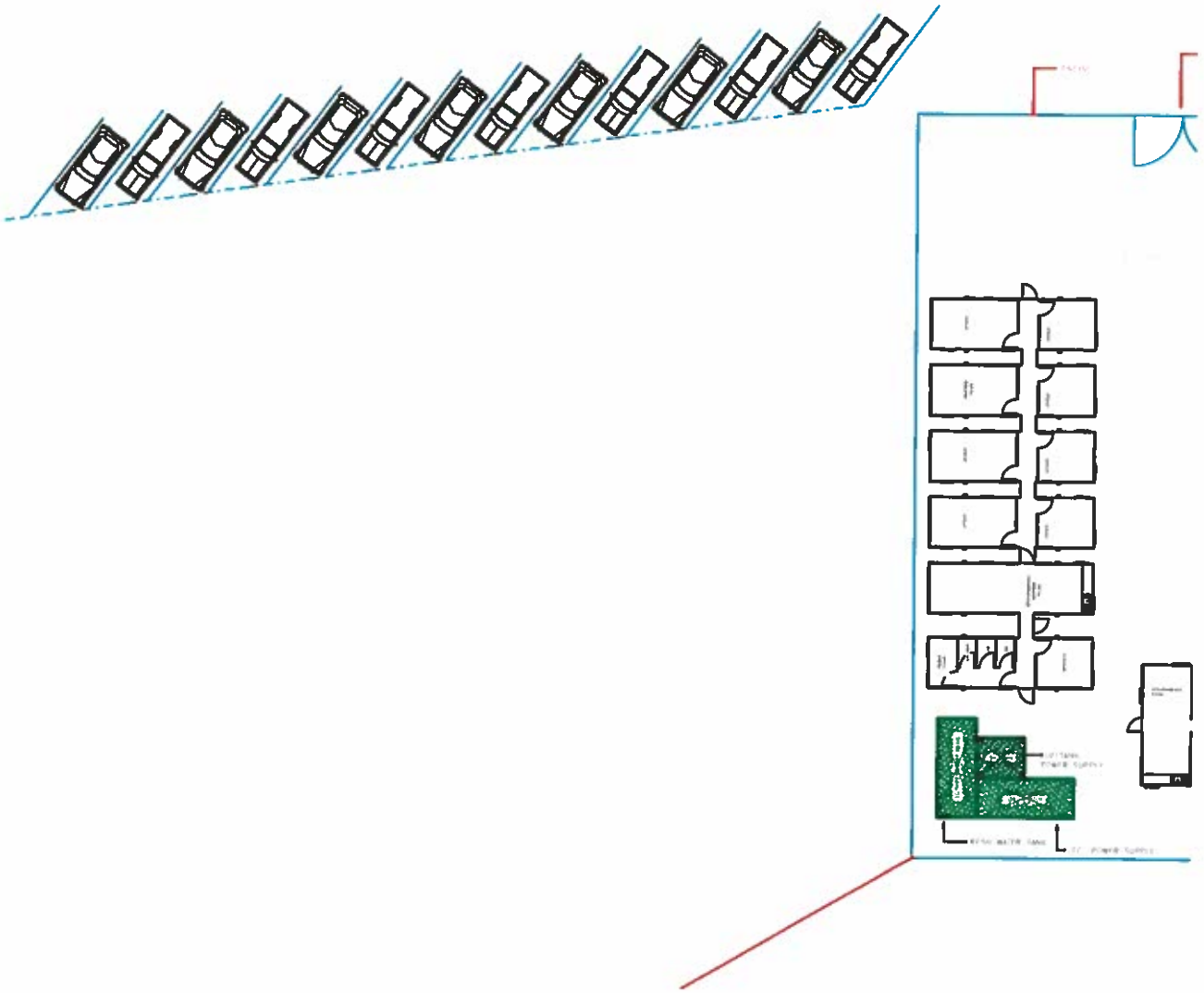
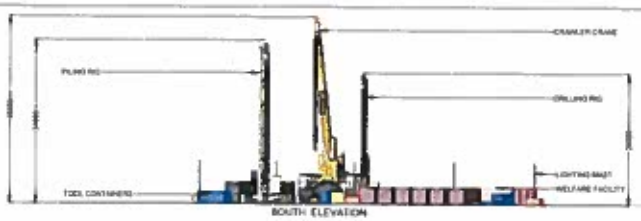
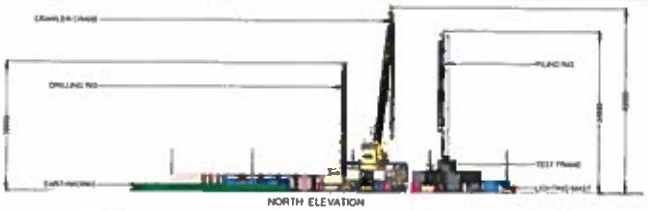
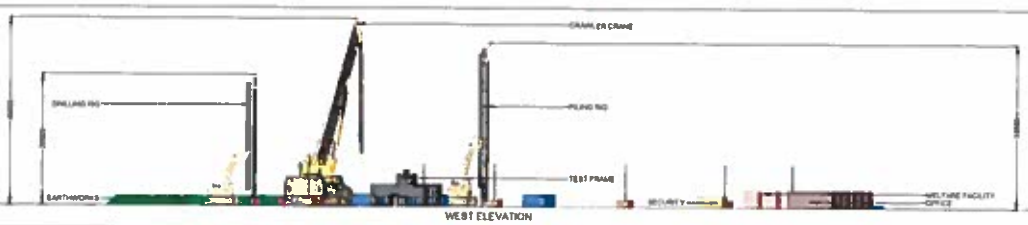




SOUTH ELEVATION



NORTH ELEVATION



WEST ELEVATION

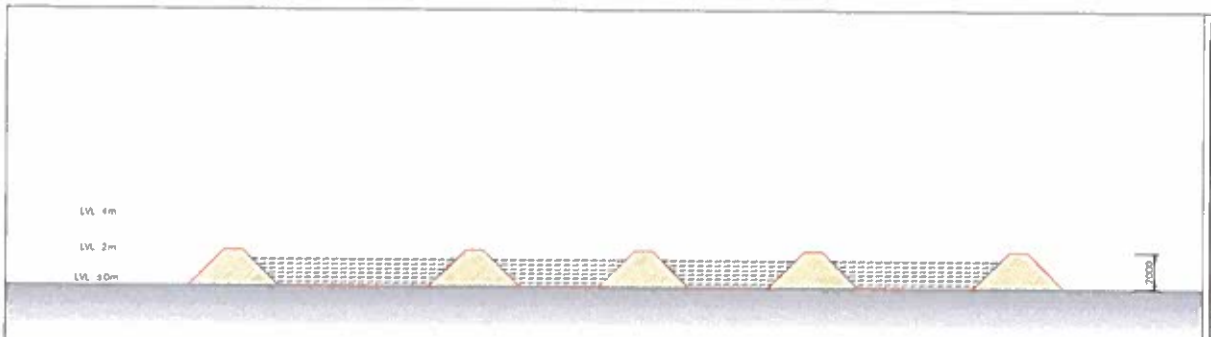
EAST ELEVATION

NOTES:

1. The drawing has been provided for illustrative purposes only. Structures are not shown, but details are only indicative however 3D models of equipment have been developed vertically and/or horizontally to match heights and footprints of equipment to be used.
2. All dimensions are in millimetres.

SITE PLAN

MAINSTREAM RENEWABLE POWER



SECTION A-A
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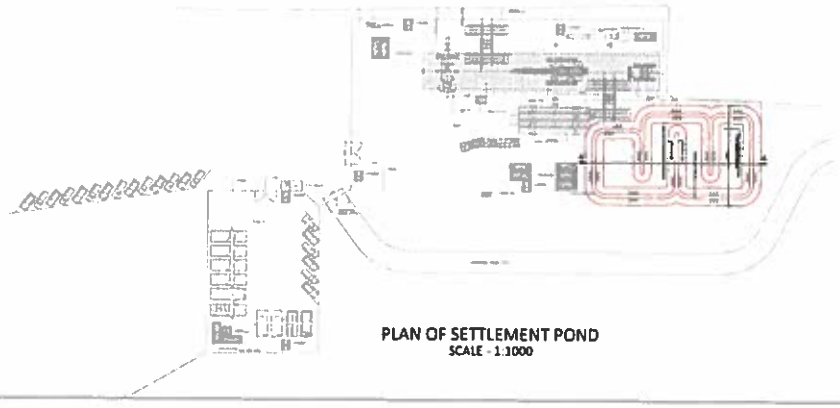

PLAN OF SETTLEMENT POND
SCALE - 1:1000

NOTES
ALL DIMENSIONS ARE IN MILLIMETRES

LEGEND
LANDMARK
DRAIN

MAINSTREAM RENEWABLE POWER

MAINSTREAM
RENEWABLE
POWER

Neart na Gaoithe Offshore Wind Farm

Test Piling Works Environmental Appraisal

February 2015

LUC and Associated Subconsultants

Document Release and Authorisation Record			
Job No:	**6083**		
Report No:	**Test Piling Works Environmental Appraisal**		
Date:	**19th February 2015**		
Client Name:	**Mainstream Renewable Power Ltd**		
Client Contact(s):	**Rosie Scurr**		
QA	**Name**	**Signature**	**Date**
LUC Principal in Charge	Joanna Wright	[redacted]	19/02/2015
LUC Project Manager	Jo Cottin	[redacted]	19/02/2015
Report checked by	Rosie Scurr	[redacted]	19/02/2015
Report authorised by	Ewan Walker	[redacted]	19/02/2015

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1 Introduction

1.1 Overview

UK Mainstream Renewable Power Ltd (UKMRP), a subsidiary of Mainstream Renewable Power, holds exclusive development rights over several offshore wind farms in UK and international waters, including the Hornsea Zone (4 – 6 gigawatts [GW]) and Neart na Gaoithe (450 megawatts [MW]) off the UK and Scottish coasts, and Horizont (1.2 GW) in the German sector of the North Sea.

In 2009, the Crown Estate awarded Neart na Gaoithe Offshore Wind Ltd (NnGOWL), also a wholly owned subsidiary of Mainstream Renewable Power, the exclusive right to develop the Neart na Gaoithe (NnG) Offshore Wind Farm in Scottish territorial waters. The wind farm site is located in the outer Firth of Forth, approximately 29 kilometres (km) north of Torness. Permission for the offshore elements of the project was granted by the Scottish Government in October 2014 and planning permission for the onshore works (a cabled grid connection and substation) was granted by East Lothian Council in June 2013.

NnGOWL is proposing to undertake onshore temporary test piling works (hereafter referred to as 'the Pile Test') to inform the piling methods which will be used to construct UKMRP's offshore wind farm portfolio. One possible foundation type which will support the offshore turbines is known as a 'steel jacket foundation'. These are fixed to the seabed with piles which will be installed using a combination of drilling and driving, known as the 'drive-drill-drive' installation method ('D3').

This report is provided in support of a planning application for the Pile Test submitted to Midlothian Council under the Town and Country Planning (Scotland) Act 1997 as amended by The Planning etc. (Scotland) Act 2006. The scope of this report has been informed by discussions with representatives of Midlothian Council and the Pile Test has been screened for Environmental Impact Assessment (EIA), with Midlothian Council confirming that an EIA would not be required (ref.14/00591/SCR). Whilst the exact timing of the start of works is yet to be determined, this is likely to be in summer 2015.

The preferred site of the Pile Test (the 'Pile Test Site') is located at Newbigging open cast coal site (OCCS) (now disused), within Midlothian, approximately 4.5km east of Penicuik. The Pile Test Site has been selected following an extensive analysis and site selection exercise. The geology of the Pile Test Site is relevant to several of UKMRP's offshore wind farms and closely matches that of the proposed site of the NnG Offshore Wind Farm, and the area is free of any notable environmental constraints. The location of the Pile Test Site is shown in Figure 1.

This report, including the ecological appraisal, has been compiled by LUC with input from specialist sub-consultants on the following topics:

- Coal Mining Risk Assessment: Gavin and Doherty Geo Solutions;
- Noise and Vibration: Arup;
- Archaeology and Cultural Heritage: CFA Archaeology;
- Transport and Access: JMP; and
- Hydrology: Kaya Consulting.

NnGOWL provided information relating to the description of works/engineering method statement and the geotechnical appraisal.

The potential for effects as a result of the Pile Test was considered for a number of other topics however these were not appraised in detail as notable effects are not anticipated:

- Landscape and visual amenity;
- Public access;

- Land use; and
- Utilities.

A brief overview of these topics, with justification for not undertaking a detailed appraisal of these, is detailed in Appendix 1: Topics Scoped Out of Detailed Appraisal.

Whilst vibration effects will potentially be noticeable during the Pile Test, particularly within 500m, as detailed further in Chapter 4: Noise and Vibration, there will be no notable effects on any of the other topics considered in detail within this report.

2 Site Selection and Alternatives

2.1 Overview

This chapter details the site selection process which was undertaken to identify the preferred site for the Pile Test. It also provides a brief overview of the alternative sites which were considered and the reasons why these were discounted.

2.2 Pile Test Site Requirements

From an early stage, it was understood that the final site selected has to accommodate the following components and will have to be at least 5,000m[1]:

- two pile testing areas, each with four piles installed around 10 and 15m apart in each;
- welfare facilities and offices;
- parking and marshalling areas; and
- equipment and materials storage.

2.3 Review of Potential Alternative Sites

NnGOWL undertook a preliminary review of nine potential areas against a number of criteria, including:

- Geography: sites sought within the vicinity of Musselburgh or the Berwickshire coastline for access and direct comparability of geological strata with that found offshore.
- Geology: areas of Westphalian succession sought with lower, middle and upper coal measures at workable depth below ground level, e.g. maximum 10m overburden.
- Access: consideration of vehicle and plant access (due to their length, the piles will be considered as 'abnormal loads', as will the trucks delivering cranes to the Pile Test Site given their width; further details are provided below).
- Noise and traffic levels: considered with respect to proximity to nearby residential properties.
- Availability of existing data: consideration of sites where borehole records are available.

Of the nine potential areas, five were identified as priority areas and site visits were undertaken at four of these. The fifth area was considered less likely to have suitable geology and also had a mine and a wind farm project in close proximity, which may have caused operational issues for undertaking the Pile Test. Following the site visits, the Shewington / Newbigging OCCS area was identified as the preferred area for the following reasons:

- Suitability of access;
- The presence of rock outcrops where coal measures and interbedded siltstone and sandstone was evident; and
- Sufficient space available to accommodate the Pile Test works and equipment.

The preferred area was further broken down into six discrete sites for more detailed investigation, 3.1 to 3.6 (see Figure 2). A desk-based appraisal of the environmental conditions at the six potential sites was undertaken by LUC in June 2014. Early indications were that the sites located north of the Pile Test Site at Shewington and Newbigging would fulfil the requirements detailed above. In addition, no environmental

[1] Note that the area of the Pile Test Site is 1.9 hectares (ha.), larger than required to allow for some flexibility in finalisation of site layout and the inclusion of accesses and parking areas to be included within the 'red line' boundary.

constraints were identified through the desk based assessment which would have precluded these sites from being taken forward.

The location of the alternative sites investigated is shown on Figure 2 together with the environmental constraints information considered in the initial environmental appraisal of the potential alternative sites.

2.4 Preliminary Site Investigations

2.4.1 Preliminary Geophysical Surveys

Of the six discrete sites referred to above, preliminary geophysical surveys were carried out on five of them (3.1, 3.2, 3.3, 3.4, and 3.5) to determine their suitability for the Pile Test. Site 3.6 was excluded from these preliminary geophysical surveys as the geology was expected to be very similar to site 3.3.

Following the interpretation of the geophysical survey data, sites 3.4 and 3.5 were ruled out as unsuitable due the overburden being interpreted as too thick (more than 10m).

2.4.2 Preliminary Geotechnical Surveys

Following the completion of the preliminary geophysical surveys, preliminary geotechnical surveys were undertaken at three locations, sites 3.1, 3.2, and 3.3. This involved drilling one borehole of up to 30m depth at each of the three locations.

The geotechnical surveys found that none of the sites subject to the initial geophysical and geotechnical surveys were suitable to be taken forward as a pile testing site in terms of their geology. This was due to the depth of overburden being greater than 10m. Therefore, it was necessary to identify a new potential site for initial investigations.

The geotechnical report from the borehole work is provided as Appendix 2: Coal Mining Risk Assessment to this Appraisal.

2.5 Final Site Selection

Following the elimination of all of the sites initially appraised for their suitability for the Pile Test, another site (3.7) (see Figure 2) was identified to the south of the initially reviewed sites, still within the confines of the Newbigging OCCS. A desk based review did not identify any environmental constraints which prevented this area from being taken forward for the Pile Test. Following this, geotechnical boreholes were drilled and an ecological walkover undertaken to check for any sensitive habitats or evidence of protected species within the area and surroundings. No evidence of ecological constraints was identified and the results of the geotechnical boreholes found that this site was suitable to be taken forward.

3 Description of Works/Engineering Method Statement

3.1 Introduction

The Pile Test will involve the installation of eight steel piles using D3 installation methods and, once they are installed, the testing of the shaft friction applied to the piles by the soil and rock in which the piles are installed.

After the piles are installed to their design depth, 'strain gauges' will be installed within the piles and the piles will be tested by applying a vertical force to the top of the pile in an attempt to move the pile upwards, out of the ground. The readings from the instruments will then allow the calculation of what soils are applying what shaft friction to the pile walls.

Three contractors will be used for the Pile Test:

- VolkerStevin Ltd (Volker) will act as Lead Contractor with overall responsibility for setting up and managing the site and undertaking the works. Volker will also be responsible for pile driving.
- Bauer Renewables Ltd (Bauer) will install four piles of up to 1.65m diameter and will undertake pile testing.
- Fugro Seacore Ltd (Fugro) will install four piles of up to 1.1m diameter and will undertake pile testing.

Bauer and Fugro will use different drilling equipment methods as detailed further below.

By comparing the results from the larger and smaller piles installed using different equipment it will be possible to discern whether the size of the piles and the methods with which they are installed has any impact on the shaft friction.

3.2 Site Set-Up and Description

3.2.1 Overview

The Pile Test Site is located within the disused Newbigging OCCS and covers an area of 1.9 hectares (ha) as illustrated on Figure 1. The pile testing area, equipment, storage, and parking will be located within the Pile Test Site as illustrated on Figures 3a and 3b. The equipment and working area will be established just inside the existing entrance and will be secured using gates and temporary fencing.

3.2.2 Access to the Pile Test Site

Access to the Pile Test Site will be via the existing site entrance, off the A6094 road. It is proposed that the piles themselves and the majority of construction traffic will be transported via the strategic road network (M8, M9 or A1 depending on origin) and then via the A720 (City of Edinburgh Bypass to the Junction with the A7. From the City Bypass, vehicles will travel south on the A7 to the A6094 roundabout and will pass through two other roundabout junctions. At the A7/A6094 junction, the vehicles will proceed ahead on the A7 before turning right at the A7/B6392 roundabout. Once on the B6392, vehicles will proceed in a south-westerly direction to join the A6094 and past Rosewell before entering the Pile Test Site. Further details on access are provided in Chapter 8: Transport and Access, and in Appendix 6: Transport and Access Report.

3.2.3 Existing Conditions

Across much of the Pile Test Site, the topsoil has already been stripped and hard standing instated as can be seen on Figure 3a, which shows the Pile Test Site boundary overlaid on aerial photography. However, this hard standing may need to be repaired and/or upgraded. Furthermore, where topsoil remains on the Pile Test Site, this will have to be stripped and stored and temporary hard standing built.

There will be a requirement to upgrade the existing access track within the Pile Test Site which will involve levelling and the filling of potholes. Where new access track is created, the same process as for creating the hard standings will be employed. This will involve stripping topsoil, grading the ground and laying down gravel. Some widening of the junction to the A6094 public road is required to allow access of abnormal loads to the site. The area of widening is within the Pile Test Site boundary.

The indicative general arrangement and layout of the Pile Test Site, including the Pile Test area and parking and storage areas, is illustrated on Figure 3b. The use of additional space adjacent to these areas may be required, although this will all be within the Pile Test Site boundary.

There will be up to 15 containers on site providing welfare facilities, including changing rooms, showers, toilets, dining rooms, kitchens and offices.

The Pile Test Site arrangement is subject to change based on the requirements of the contractors and the final method statements and equipment specifications.

The Pile Test Site will be fenced in and lit at night for security reasons. Fencing will be of an 'anti-climb' design incorporating square top panels. The fence will be 2m high and comprise a number of 3.5m wide conjoined panels. The indicative lighting plan will require six diesel powered mobile lighting units that have 4 x 1,000W metal halide bulbs mounted on towers that extend to a height of 9m above ground level. In addition, there will be a full-time security guard and CCTV coverage of the Pile Test Site.

3.3 Pile Installation

Eight piles will be installed. Four of the piles will be up to 1.1m in diameter and four will be up to 1.65m in diameter. All eight piles will be up to 20m long and will be installed to an embedment depth of up to 18m. The piles will weigh between 30 and 40 tonnes each.

As noted above, the eight steel piles will be installed using D3 installation methods. This entails:

1. First driving a hollow cylindrical steel pile into the ground with a hydraulic impact hammer until the point of refusal, where further blows with the hammer can no longer drive the pile further into the ground.
2. Removing the hammer and drilling a pilot hole down through the pile and beyond the pile toe by a certain distance to ease driving.
3. Replacing the hydraulic impact hammer and driving the pile further into the ground.
4. Repeating steps 2. and 3. until the pile is installed to its design depth (18m).

The installation procedure is as follows for each pile:

1. The pile is lifted and held vertical either by a crane or frame.
2. A hammer (starting with a 150kJ hammer before switching to a 600kJ hammer) is placed on top of the pile.
3. The pile is driven and drilled using the D3 method.
4. Pile installation is complete when the piles are embedded 18m into the ground, and therefore visible by up to 2m.

Two different drill units will be used:

1. For the 1.65m piles: a BG 40 H Rotary Drilling Rig, or similar (see Illustration 1).
2. For the 1.1m piles: a Teredo 3 Pile Top Drill, or similar (see Illustration 2).

The BG 40 H Rotary Drilling Rig drives up beside the pile and inserts its drilling tool into the pile, whereas the Teredo 3 Pile Top Drill is placed on top of the pile by a crane.

Illustration 1 - BG 40 H Rotary Drilling Rig

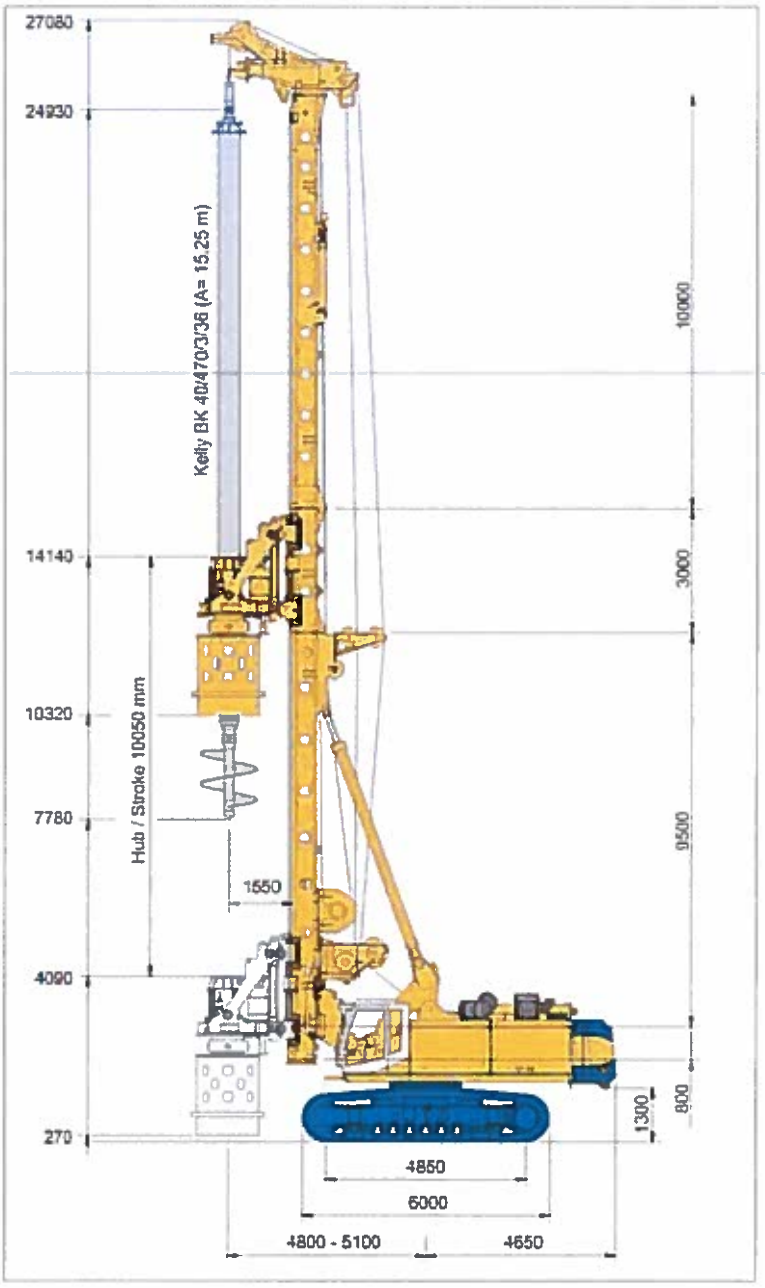
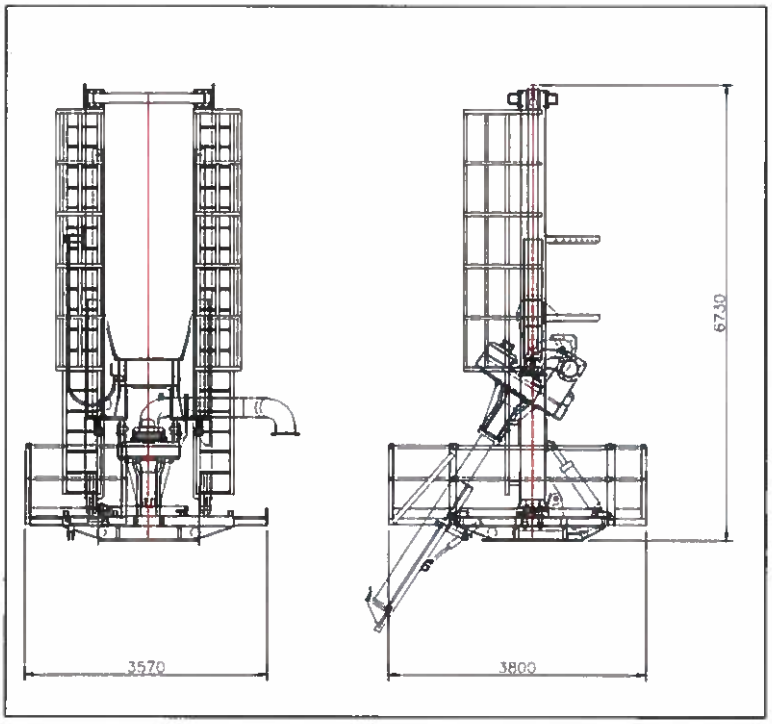
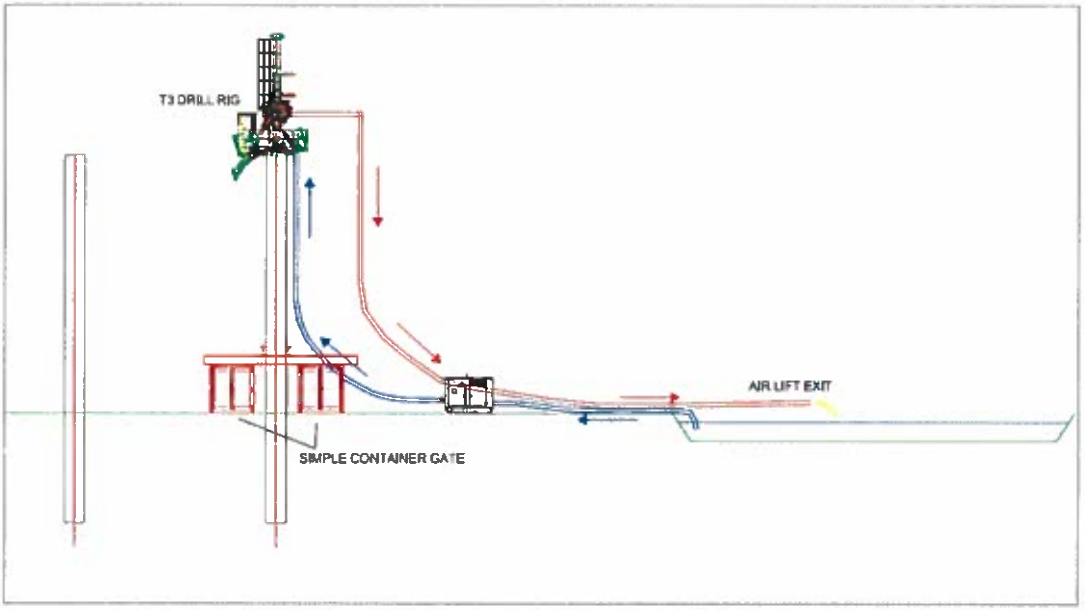


Illustration 2 - Teredo 3 Pile Top Drill





3.4 Water Requirements

The Teredo 3 Pile Top Drill requires water to flush the drill cuttings from the pile. The cuttings will have to be removed from the water before it is re-used by the drill. The cuttings can either be removed by putting the water into a settlement pond or can be separated by filter or mechanical means. The method chosen to remove the cuttings will influence the amount of water required: the settlement pond method will require the most. The amount of water required when using the settlement pond method could be up to 1,500m^3. If a de-sander and de-gaser are used to mechanically remove the drill cuttings from the drilling water, then the volume of water required could be up to 200m^3.

It is proposed that the water required will be trucked in, in tanker HGVs.

Water, either used in drilling or extracted groundwater, will be discharged to ground level. Up to 2,000m^3 could be discharged over up to two months, at a rate of up to 400m^3 per hour.

3.5 Pile Testing

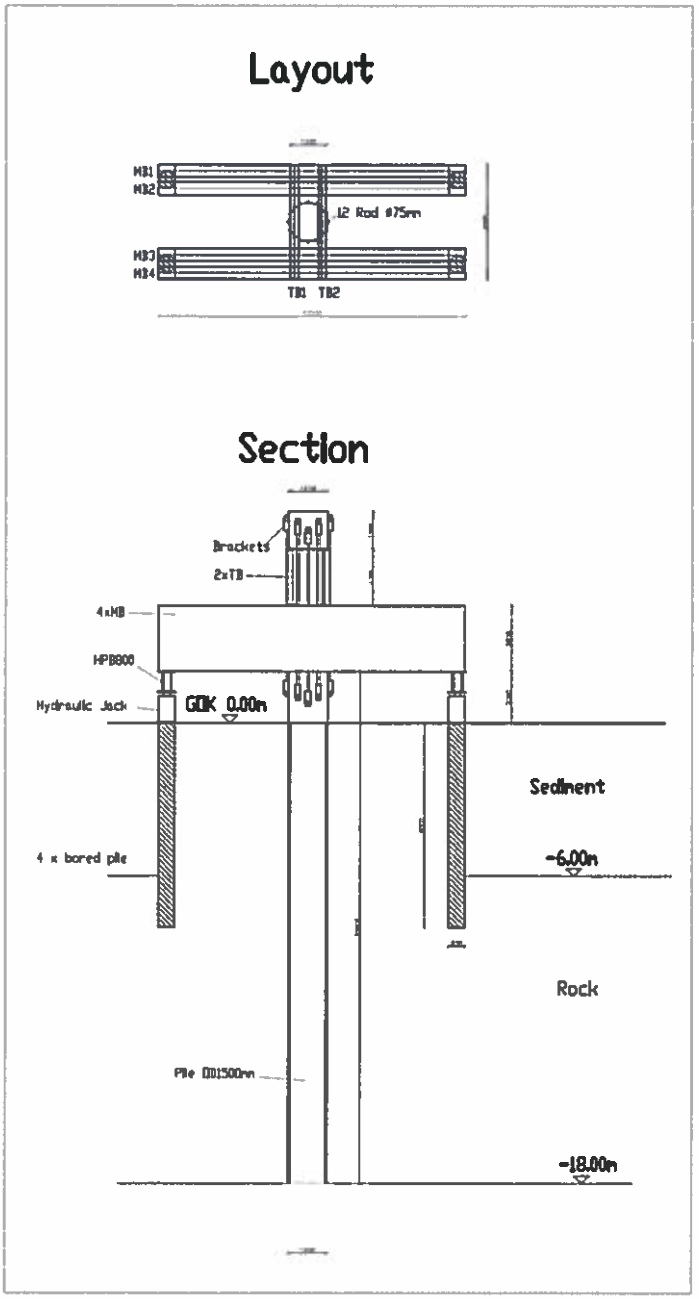
Once the piles are installed, they will be tested by applying a vertical load of up to 30 meganewtons (MN) to the head of the pile. This vertical load can either be applied by an 'H' shaped testing rig that sits over the top of the pile, or an internal beam and jack that is placed in the pile. The movement made by the pile when testing should be only centimetres at most.

The 'H' shaped testing rig, shown in Illustration 3 below and the subsequent photograph, could be founded on either up to four clusters of four piles of 750mm diameter embedded up to 8m deep into the ground or on support mats placed at the corners. The piles would be installed by a drill rig, without the need for any hammering, and removed from site once the pile tests are complete. On top of these piles or mats would sit hydraulic jacks supporting two pairs of main beams ('MBs') of up to 2.6m height. Sitting on top of the MBs would be four transverse beams ('TBs') of up to 2.2m height. The TBs would be welded to the head of the pile being tested by a number of steel bars. When the hydraulic jacks are activated they will push up the entire frame, and through the frame the pile, upwards out of the ground.

If an internal beam and jack are used, a concrete plug will be installed below the toe of each pile. A 20m long vertical steel beam will be placed on the concrete plug such that it sticks up to the top of the pile. A crossbeam will be installed across the top of the pile and a hydraulic jack placed between the vertical and the crossbeam so that it can push the pile up out of the ground.

By installing strain gauges in the piles, it will be possible to measure the strain along the length of the piles whist the vertical loads are being applied. The strain measurements can then be used to calculate the shaft friction between the pile and the soil and bedrock.

Illustration 3 - 'H' Shaped Testing Rig



Photograph of 'H' Shaped Testing Rig (© Bauer Renewables Ltd)

3.6 Demobilisation and Site Reinstatement

Once the Pile Test is completed, the piles will be cut at least 1.5m below ground level and the protruding sections removed from the Pile Test Site. Steel plates will then be welded over the top of the piles and the pre-existing soils put back over the top of them. To remove piles from the ground would require very large scale excavation works, therefore it has been deemed more appropriate for the lower part of the piles to be left in situ. This has been agreed with the landowner.

It is unlikely that mining will be undertaken in this location because the area surrounding the Pile Test Site is scheduled to be reinstated as arable farm land in 2015, following the completion of the Pile Test. Reinstatement has been scheduled by the landowner independently of the Pile Test, following the completion of previous coal mining activity. NnGOWL are working with the contractor to ensure the reinstatement work required for the Pile Test dovetails with the wider reinstatement works. However, should further coal mining be undertaken in the future, the piles could be removed as part of those excavation works.

All equipment and materials will be removed from the Pile Test Site including any hard standing and temporary fencing installed by NnGOWL. Any areas where temporary hard standing has been laid will be reinstated to their previous condition, including reseeding as appropriate. Any pre-existing hard standing and fencing will be left on the Pile Test Site.

3.7 Project Schedule

The project programme is shown in Table 1 and described below:

- Set-up of the Pile Test Site is anticipated to take up to 6 weeks. During this period, the site will be cleared, accesses and parking will be instated or upgraded, fencing and site security set up, areas of hard standing for cranes and equipment built as necessary, and materials and equipment will be delivered to site. These initial works, prior to installation of the piles, will ensure a phased start to the works.
- Installation of the piles is anticipated to take up to 7 weeks. During this period, pile driving with the hydraulic hammer will be undertaken over up to 24 discrete durations of approximately three hours which will occur intermittently. The gaps between these pile driving events could be between one hour and several days. The size of these gaps will be dependent on the final installation methods used, programming of parallel activities on site and the weather. Pile testing may be undertaken partially in parallel with pile installation. In total, testing may take up to 6 weeks. The programme assumes that some of the pile testing (which is a quiet activity) will take place at night.
- Demobilising and site reinstatement works are anticipated to take up to five weeks.
- In total, from the start of work on site to the finish of work on site, the duration of the Pile Test is expected to be 19 weeks.

Task	Weeks																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Pile Test Site set up																			
Installation of piles																			
Pile testing																			
Demobilisation																			
Reinstatement																			

Table 1: Estimated Project Schedule

Throughout the duration of the Pile Test, work will take place onsite between 8am and 6pm, Monday to Friday. The exception to this is some of the pile testing itself as detailed above. Weekend working is not anticipated but there may be a need for abnormal loads to be delivered to the Pile Test Site on Saturdays and Sundays depending on the requirements of Midlothian Council.

There is expected to be a maximum of 31 staff working on the Pile Test Site at any one time, although exact numbers are likely to vary throughout the 19 week programme.

4 Noise and Vibration

4.1 Introduction

An appraisal of potential noise and vibration effects associated with the Pile Test was undertaken by Arup. The full details of the work undertaken and the findings of the assessment are presented in Appendix 3: Acoustic Assessment of Temporary Test Piling Works. The findings are summarised below.

The closest residential receptor to the Pile Test Site is located approximately 120m south of the Pile Test Site boundary and approximately 230m south of the Indicative Pile Test Location. Two other receptors (one located 470m to the south-west and the other 685m to the north-east of the Pile Test location) have also been considered in the appraisal. The location of the residential receptors is illustrated on Figure 4.

4.2 Methodology

No baseline noise or vibration surveys were undertaken. In the absence of background environmental noise survey data near to the residential receptor, the predicted construction noise has been estimated based on the 'ABC' method described in British Standard BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration on open sites – Part 1: Noise*[2]. Following a request from Midlothian Council, an assessment has also been made of the L_{A01} value[3].

The predicted vibration levels have been assessed in terms of peak particle velocity (PPV) and vibration dose value (VDV) using the guidance on effects of vibration levels as detailed in British Standard BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration* and BS 6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting* (BS 6472).

Full details of the assessment criteria and methodology used are provided in Appendix 3: Acoustic Assessment of Temporary Test Piling Works.

4.3 Appraisal Findings

The results of the noise assessment indicate that the Category A noise threshold is not exceeded at any of the nearby receptors during the proposed works and the highest predicted level is 1dB below the threshold at the nearest residential property (64dB L_{Aeq}). It should be noted that the assessment also includes noise from the generator (which is likely to run 24 hours a day); however, the generator noise levels are not considered to be of concern as these are at least 10dB below the threshold levels at all times of the day. Other noise will arise from occasional works at the Pile Test Site (e.g. delivery lorries, roller movements during site preparation etc.). However, again it is anticipated that the noise levels arising from these activities will be considerably lower than the threshold levels.

As noted above, an assessment has also been undertaken of the L_{A01} value. By applying the guidance in BS 5228-1, it is estimated that noise level would be 9dB higher than the L_{Aeq} levels identified in the 'ABC' method. Whilst informative, it should be noted that there are no established criteria to assess against for the L_{A01} index and the ABC thresholds are specifically intended for the consideration of construction noise,

[2] The 'ABC' method defines the thresholds for potential noise effects at residential receptors (dB).

[3] Noise levels can vary widely with time. The L_{A01} value is the noise level exceeded for 1% of the time and is considered to be representative of maximum noise levels.

including piling, and as such, are considered to be the most appropriate measure of the potential noise impacts associated with the Pile Test.

There is limited practical mitigation for the piling works as the dominant noise is elevated above ground level and therefore difficult to screen, and is associated with when the hammer impacts the pile. However, these are short term daytime works (8am to 6pm, Monday to Friday with the exception of quiet pile testing activity which will take place at night) and, based on past experience, concerns from local residents can be managed through liaison e.g. by providing regular notification of the forthcoming activities and providing a point of contact for the duration of the works.

Notwithstanding this, a number of good practice measures will be implemented during the works to minimise the level of noise to which sensitive receptors will be exposed:

- site personnel will receive an induction outlining their responsibilities in relation to noise and vibration management;
- hours of working will be planned taking into account the surrounding land use and duration of the works;
- provision of an out-of-hours works procedure to minimise the effect of any unnecessary works outside daytime working hours;
- notify nearby residents of construction activities likely to affect amenity;
- quiet working methods will be employed where practicable including the use of appropriate plant;
- unnecessary revving of engines will be avoided and equipment switched off when not in use;
- minimise drop height of materials;
- start-up plant and vehicles sequentially rather than in unison;
- use of broadband alarms rather than tonal on reversing vehicles; and
- orientate directional noise generating plant away from noise sensitive receptors where practicable.

In addition to the above measures, a phased start to the works and to piling will be undertaken, e.g. slowly increasing hammer energy over a short period of time at the commencement of piling. A number of other mitigation measures were considered and found not to be appropriate and these are detailed further in Appendix 3: Acoustic Assessment of Temporary Test Piling Works.

The results of the vibration assessment indicate that for receptors within 500m of the Pile Test, vibration will be perceptible for the majority of the piling installation and, in some instances, this could result in complaints (according to the criteria in BS5228-1). Therefore, the predicted levels of vibration at two closest residential receptors can be considered to be of concern. Notwithstanding this, the potential for any cosmetic damage to nearby buildings as a result of vibration is extremely low.

There are limited measures available to mitigate potential vibration effects. However, when the piles are driven to refusal, a pilot hole will be drilled beyond the pile toe to ease progress before piling recommences. This should reduce the amount of time the higher levels of vibration are experienced. In addition, as noted above, these are short term works during daytime periods (8am to 6pm, Monday to Friday with the exception of quiet pile testing activity which will take place at night) and the potential for complaints may be reduced where local sensitive receptors are notified of the on-going works activities.

4.4 Conclusion

The assessment results show that predicted noise levels will not exceed the thresholds set out in the ABC methodology. Within 500m of the Pile Test Site, vibration levels may be noticeable and could cause complaints (according to the criteria in BS5228-1). However, as noted above, these are short term works, with the piling installation taking place only during daytime normal working hours and there will be respite periods between pile driving activity, which could be between one hour and several days. The potential for

damage at the nearest residential buildings due to the proposed works is extremely low as the predicted vibration is well below the threshold for cosmetic damage. Whilst practicable noise and vibration mitigation measures are limited due to the nature of the works, based on past experience as detailed above, there will be close liaison with occupiers of nearby sensitive receptors, providing regular notification of the forthcoming activities and providing a point of contact for the duration of the works.

5 Ecology

5.1 Introduction

An ecological appraisal of the Pile Test Site was undertaken by LUC. The full details of the work undertaken and the findings of the assessment are presented in Appendix 4: Extended Phase 1 Habitat Survey of Pile Test Site. The findings are summarised below.

5.2 Methodology

The ecological appraisal was informed by an extended Phase 1 Habitat Survey which comprised a desk study and a field study.

The desk study involved a review of existing records of designated sites and protected species activity at the Pile Test Site and in the surrounding area. This involved a search of all existing protected species records available within the 10km square in which the Pile Test Site is located, through the National Biodiversity Network Gateway[4]. The desk study also included a search for statutory and non-statutory designated sites through MAGIC[5] and non-statutory designated sites through the Midlothian Local Plan[6].

The field study involved an Extended Phase 1 Habitat Survey and also comprised an assessment of the potential of the Pile Test Site to support protected species including otter, badger, nesting birds, great crested newts and bats. The most common non-native invasive species (Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam) were also searched for.

5.3 Appraisal Findings

5.3.1 Designated Sites

Five statutory sites were identified as being located within 5km of the Pile Test Site. The closest one, Roslin Glen Site of Special Scientific Interest (SSSI), designated for the presence of upland mixed ash woodland, is located approximately 2.4km away. None of the sites are connected structurally or functionally to the Pile Test Site, therefore no effect on designated sites are predicted to occur.

5.3.2 Habitats

The site is dominated by hard standing and is surrounded by large arable fields. There are mixed woodland and ponds present within the 150m buffer area which convey an ecological value for their ability to support foraging, commuting and sheltering wildlife. However, overall, the habitats within the Pile Test Site and 150m buffer are considered to be of low ecological value and no specific mitigation is required. The findings of the Phase 1 Habitat Survey are illustrated on Figure 5.

5.3.3 Protected Species

Records of bats, otter, badger, red squirrel and pine marten were identified within the 10km square in which the site is located, suggesting that the surrounding area provides suitable habitat for these species. The absence of forestry from the site and buffer negated the need for red squirrel and pine marten surveys.

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[4] Available at www.searchnbn.net. Square NT26 Accessed on 12th August 2014

[5] Available at http://www.natureonthemap.naturalengland.org.uk/ Accessed on 12th August 2014

[6] Available at http://www.planvu.co.uk/mc/ Accessed on 13th August 2014

5.3.3.1 Otters

The ponds identified during the survey are likely to provide very limited seasonal foraging opportunities for otters, if any. The ponds have no bank structure suitable for sheltering otters, and no evidence of otters was found during the field survey; therefore, this species is unlikely to be affected by the Pile Test.

5.3.3.2 Badgers

The majority of the habitats within the Pile Test Site and 150m buffer area are considered to be sub-optimal for badger and no evidence of badger was identified during the survey. As such, the species is unlikely to be affected by the Pile Test. In the event that badgers may be found foraging in the Pile Test Site and surrounding area when works commence, a number of good practice working measures to avoid disturbance and potential effects on the species would be implemented, as set out in Appendix 4: Extended Phase 1 Habitat Survey of Pile Test Site.

5.3.3.3 Great Crested Newts

Of three ponds which were assessed for great crested newt suitability, only one proved to be suitable for the species. This pond lies adjacent to the main A6094 road. Suitable woodland habitat is adjacent to the pond, but is transected by the main A6094 road, which reduces its suitability to support great crested newt populations. Furthermore, no historic records of this species were identified by the desk study. Therefore, this species is unlikely to be affected by the Pile Test.

5.3.3.4 Nesting Birds

The woodland habitat to the north and the south-west of the site provides nesting habitat for breeding birds. Whilst the exact timing of the start of works onsite (and consequently the start of the Pile Test itself) has yet to be determined, it is likely that works will commence during the breeding bird season (i.e. between March and September 2015). It is therefore possible that nesting birds will be disturbed by noise associated with the Pile Test. Noise disturbance can cause breeding birds to abandon their nests, resulting in failed breeding attempts.

To minimise the risk of disturbance, mitigation measures have been included as part of the project, including the use of a phased start approach by which the scale of the works will gradually be increased as the project progresses. This approach allows for a period of 'habitation' should and breeding birds be present onsite or in the woodland areas nearby. Further to this approach, it is also possible to reduce the likelihood that birds will establish nests. Established techniques, such as the use of flicker tape in wooded areas, will be used to discourage birds from establishing nests. This would be installed at the start of the breeding season (March 2015) and left in place for the duration of the works.

Bats

No suitable features for roosting, foraging or commuting bats were identified within the site. The 150m buffer area supports mixed woodland which forms part of a larger, albeit loosely connected, network of woodland in the wider landscape which may provide good commuting routes, foraging and roosting opportunities for bats. No direct evidence of bats was found during the survey, but areas of woodland are likely to have bat roosting potential. Some cracks, holes and broken limbs observed within individual trees may provide limited opportunistic roosting potential for a small number of bats. It is unlikely that these areas of woodland will be affected by the proposed works; however, bats may be subject to disturbance from the piling activities. The proposals are unlikely to cause any new level of disturbance as the Pile Test Site is within an area currently used by heavy farm machinery and formerly used by heavy mining traffic.

5.4 Conclusion

The habitats within both the Pile Test Site and 150m buffer area are common and widespread throughout the local area and no evidence of protected species was identified. The Pile Test is not considered likely to have an adverse effect on ecology.

6 Archaeology and Cultural Heritage

6.1 Introduction

A desk-based archaeological appraisal was undertaken by CFA Archaeology. The full details of the work undertaken and the findings of the assessment are presented in Appendix 5: Archaeology and Cultural Heritage Assessment. The findings are summarised below.

6.2 Methodology

Details of the locations and extents of Scheduled Monuments, Listed Buildings, and Inventory Gardens and Designed Landscapes within 500m of the Pile Test Site were obtained from Historic Scotland in a digital GIS format (Historic Scotland 2014). Information on the character and condition of known archaeological sites and monuments and previous archaeological assessments was obtained from Midlothian Council HER and from Canmore, maintained by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). Information from these sources was used to assess the likely archaeological potential of the Pile Test Site.

Historic Ordnance Survey maps and other early maps held by the Map Library of the National Library of Scotland were examined, to provide information on sites or locations of potential archaeological importance within or adjacent to the Pile Test Site and on historic land-use character and changes. Information on current and historic land-use was obtained from Historic Land-Use Assessment maps for Scotland (HLAmap), maintained by RCAHMS. Modern, and historical, aerial photographic imagery, available on-line (Google™ and Bing™), was examined for information on recent land-use and changes.

In addition to reviewing the sources detailed above, the appraisal also drew on findings of a site walkover survey carried out by CFA Archaeology for the OCCS in 2004 and follow on archaeological evaluation of selected features within the mine undertaken in 2006[7]. It is known that the proposed locations of the piles themselves lie below what was a temporary topsoil storage bund, laid between the office compound area and the public road. This was subsequently taken down and the material dispersed elsewhere within the OCCS.

6.3 Appraisal Findings

Within 500m of the Pile Test Site, there are three cultural heritage records identified within the Midlothian Historic Environment Record including a tile and fireclay works which has no standing remains. The 2004 and 2006 surveys also identified a number of other remains including relict small scale mining features and minor agricultural features, a small prehistoric cremation cemetery (preserved in situ) and the remains of a row of farm buildings of 18th century date. The nearest Scheduled Monument (Newbigging, enclosure 400m WNW of (6264)) is a cropmark enclosure 600m north of the Pile Test Site. This heritage asset is of National importance. The nearest Listed Building is Category C Listed Shewington Farmhouse, including bothy (46091), a heritage asset of Local importance 1.3km to the north-east. The locations of cultural heritage assets within the 500m study area are illustrated on Figure 6.

The Pile Test Site has been subject to recent industrial activity during the operation of the OCCS. As such, the Pile Test Site is deemed to be archaeologically sterile and there is no scope for any direct effect from

[7] At the time of the archaeological evaluation, no investigations were required at the Pile Test Site which was used as the site office and car parking area when the mine was operational.

the Pile Test on cultural heritage or buried archaeology and the Pile Test Site has no residual archaeological potential.

Potential indirect effects on cultural heritage arising from the Pile Test are restricted to possible damage to standing structures arising from vibration from piling operations or to short term visual effects from the presence of plant and offices accommodation. None of the assets within the vicinity of the Pile Test Site would be affected by vibrations from piling operations due to the separation distances involved.

6.4 Conclusion

There are no cultural heritage assets within the Pile Test Site and the area is deemed to be archaeologically sterile as a consequence of recent land use as the location of a surface mine office compound. No direct or indirect effects arising from the Pile Test are predicted upon cultural heritage assets in the vicinity of the Pile Test Site.

7 Transport and Access

7.1 Introduction

The transport and access appraisal was undertaken by JMP Consultants. The detailed assessment findings are presented in Appendix 6: Transport and Access Report and the findings are summarised below.

Access to the site will be off the A6094 via an existing junction to the Newbigging OCCS. A preferred route to the site for abnormal load vehicles was identified and agreed with Midlothian Council as illustrated on Figure 7. It is proposed that the piles themselves and the majority of plant / material traffic will be transported via the strategic road network (M8, M9 or A1 depending on origin) and then via the A720 (City of Edinburgh Bypass) to the Junction with the A7. From the City Bypass, vehicles would travel south on the A7 to the A6094 roundabout and would pass through two other roundabout junctions. At the A7/A6094 junction, the vehicles would proceed ahead on the A7 before turning right at the A7/B6392 roundabout. Once on the B6392, vehicles would proceed in a south-west direction to join the A6094 and past Rosewell before entering the Pile Test Site. This route was discussed with Midlothian Council Roads department and has been agreed in principle.

The assessment considers the trip generation potential of the Pile Test and also seeks to define the mechanisms to manage the movement of plant / material vehicles, including 'abnormal load' vehicles, delivering the piles and cranes to the site[8].

A detailed swept path analysis of 'pinch points' on the access route to the Pile Test Site associated with the movement of abnormal loads is presented in Appendix 6: Transport and Access Report.

7.2 Methodology

7.2.1 Construction Traffic Movements

Estimates of construction traffic have been undertaken to establish the average HGV and other vehicle trip generation and the potential for effects on the surrounding road networks including associated effects such as noise or dust creation.

7.2.2 Access and Abnormal Load Route

It is considered that there are no perceived pinch points on the strategic road network. As such, specialist software has been used to undertake the assessment of the access for abnormal loads between the A720 and the Pile Test Site access only.

7.3 Appraisal Findings

7.3.1 Construction Traffic Movements

There will be a total of 214 two-way HGV movements associated with the proposed works over the 19 week Pile Test period. This equates to an average of 11.25 two-way HGV movements per week (2.25 two-way HGV movements per day) but the maximum case will be during the Pile Test Site preparation stage where there is likely to be an average of 29 two-way HGV movements per week at the Pile Test Site (5.8 Two-way HGV movements per day). This level of HGV trip generation is not expected to have any notable

[8] When loaded on a transporter, the piles will constitute abnormal loads as the load and transporter combination length will be in excess of 18.5m with some loads extending to 32m. It is envisaged that there will be a total of 20 abnormal load deliveries some of which will be the piles and some of which will be related to machinery with a width of approximately 5m.

effects on the surrounding road network in terms of capacity or in terms of associated effects such as noise or dust creation.

In addition, there will be a maximum of 31 staff on the Pile Test Site at any one time which equates to approximately 18 vehicles (maximum) based on experience of other similar projects and taking account of contractor transport arrangements for staff. This level of trip generation is also not considered to have a notable effect in terms of effects on the surrounding road network.

7.3.2 Access and Abnormal Load Route

Potential pinch points on the route are detailed in Appendix 6: Transport and Access Report, together with a swept path analysis to simulate the movement of an abnormal load through the pinch point. In summary, minor, temporary works will be required at the locations detailed below to allow movement of the abnormal loads. This will include the removal of a small amount of street furniture including bollards, direction signs and chevron signs. Any removal of direction signs will be managed in coordination with the Midlothian Council Roads Department. Temporary paving will also be required in a number of areas to accommodate the overrun of abnormal load vehicles on splitter islands, roundabouts and roadside verges. Full details of the works required at each of the following locations are set out in Appendix 6: Transport and Access Report:

- A7/A772 Roundabout Junction;
- A7/A768 Roundabout;
- A7/A6094 Eskbank Roundabout;
- A7/B6392 Hardengreen Roundabout;
- B6392/B704 Roundabout;
- B6392/Burnbrae Road Roundabout;
- B6392/Burnbrae Terrace Roundabout;
- B6392/A6094 Roundabout;
- A6094/Lindsay Row Roundabout; and
- A6094/Site Access Junction.

7.4 Conclusion

It is considered that the effect of plant / material traffic associated with the Pile Test is not of concern in terms of the capacity of the road network.

The delivery of abnormal loads to the Pile Test Site has been fully assessed and a number of measures have been identified at pinch points on the route from the strategic road network to allow safe transport of the vehicles. With these measures in place along with more general management measures (for example liaison with Midlothian Council in advance of any abnormal load movements, and the use of signage and controlled access to the Pile Test Site at all times during the working day) it is considered that the delivery of abnormal loads can be adequately accommodated.

8 Hydrology

8.1 Introduction

The hydrological appraisal was undertaken by Kaya Consulting and involved both desk based research and field work. The full details of the work undertaken and the findings of the assessment are presented in Appendix 7: Groundwater, Surface Water, Private Water Supplies and Soil Assessment and the findings are summarised below.

8.2 Methodology

A desk based assessment was undertaken using available map data for the Pile Test Site and information provided by Midlothian Council relating to Private Water Supplies (PWS). This was supplemented by a walkover survey to establish the existing conditions at the Pile Test Site.

8.3 Appraisal Findings

8.3.1 Groundwater Quantity and Quality

The groundwater body within which the Pile Test Site is located has 'Poor' water quality status according to SEPA 2011 monitoring results. There are no groundwater dependent PWS close to the Pile Test Site and the depth of drilling is not expected to exceed 18m, so any interactions with groundwater would be expected to be within upper aquifer layers only, with no effect on deeper aquifers.

No groundwater abstraction will be undertaken, but drill holes will have to be flushed to remove drill cuttings and groundwater accumulating in the drill holes will be pumped to the surface. Removal of groundwater is expected to be considerably less than the 50 m^3/day threshold for CAR Registration with SEPA so will be covered by General Binding Rules which will be adhered to. Given the small volumes of groundwater removed during the drilling works, the works are expected to have no effect on groundwater quantity.

During the Pile Test, it is expected that there will be no flow of water from the workings into groundwater. Given the small nature of works, lack of Private Water Supplies relying on groundwater and the 'Poor' groundwater quality status, no effects on groundwater quality are predicted.

8.3.2 Private and Public Water Supplies

As noted above, through consultation with Midlothian Council, it was confirmed that there are no records of PWS within the immediate vicinity of the Pile Test Site.

Scottish Water service drawings show a Scottish Water fresh water pipe running along the western edge of the Pile Test Site. The location of the pipe will be considered during the Pile Test works and measures taken by the Contractor to avoid any damage to the pipe, if it is still operational. With the implementation of appropriate measures taken to avoid exposing or damaging the pipes (e.g. no working on top of piles or digging/drilling near pipes), there is not expected to be any notable risk to the Scottish Water infrastructure.

8.3.3 Surface Water Quantity

The Pile Test Site is not located within an area of flood risk within the SEPA Third Generation Flood Map, and the Pile Test will not require any abstraction of surface water. At present, the Pile Test Site appears to be internally draining to a pond and various pits, with no surface connection to a watercourse.

Although there may be a need to widen existing access roads and improve the existing hard standing areas, the Pile Test is not expected to significantly increase areas of hardstanding and as a result, surface water runoff from the Pile Test Site is not expected to increase compared to existing conditions.

Overall, the total volume of water used on the Pile Test Site to be discharged to the environment (e.g. from flushing drill holes and any excess water pumped to a settlement pond) is expected to be very low at around 2,000m^3 over a two month period. It is proposed that water will be pumped to the existing open pits on the site and water allowed to seep into the ground with care being taken to ensure that significant depths of water do not accumulate within the pits. It should also be noted that there is an existing SEPA consented discharge for the Newbigging OCCS which is from an existing settlement pond located to the north of the Pile Test Site to an unnamed watercourse. This offers an additional discharge option should the pits be considered unsuitable for discharge of water from the settlement pond.

In summary, the Pile Test works are not expected to increase surface water runoff rates or increase risk of flooding to others.

8.3.4 Surface Water Quality

The quality of water in the pits will be monitored prior to discharge, with water quality compared to requirements under the existing SEPA discharge consent for the Newbigging OCCS. If the water is not of sufficient quality to allow direct discharge to the pits, contingency plans will be put in place to truck the water off site to be treated before discharge. As noted above there is an existing SEPA consented discharge for the Newbigging OCCS which offers an additional discharge option for the Pile Test Site if required.

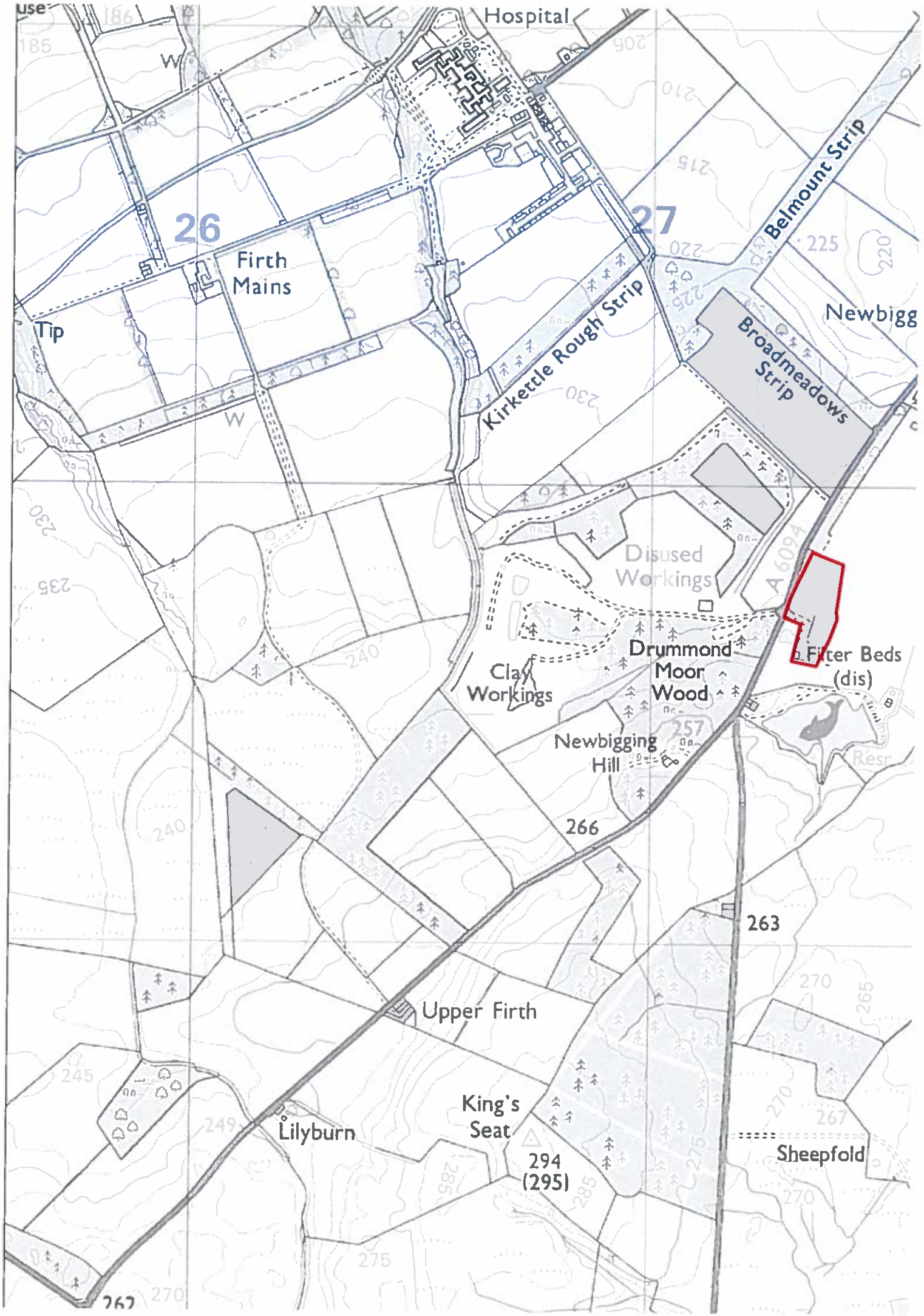
With the implementation of appropriate, standard environmental management measures, any effects on surface water quality in the receiving waters downstream of the Pile Test Site associated with the Pile Test are predicted to be negligible.

8.3.5 Soils

The Pile Test site is located on currently disturbed or reclaimed land and as such, no effects on sensitive soil types (e.g. peat) are predicted.

8.4 Conclusion

Due to the shallow nature of the proposed drill holes, and limited removal of water from the drill holes, the Pile Test is expected to have no effect on groundwater quantity and quality. Similarly, no effect on surface water quantity and quality is likely assuming the implementation of standard mitigation measures. There will be no effects on PWS or sensitive soils due to the lack of these features within the Pile Test Site and surrounding area.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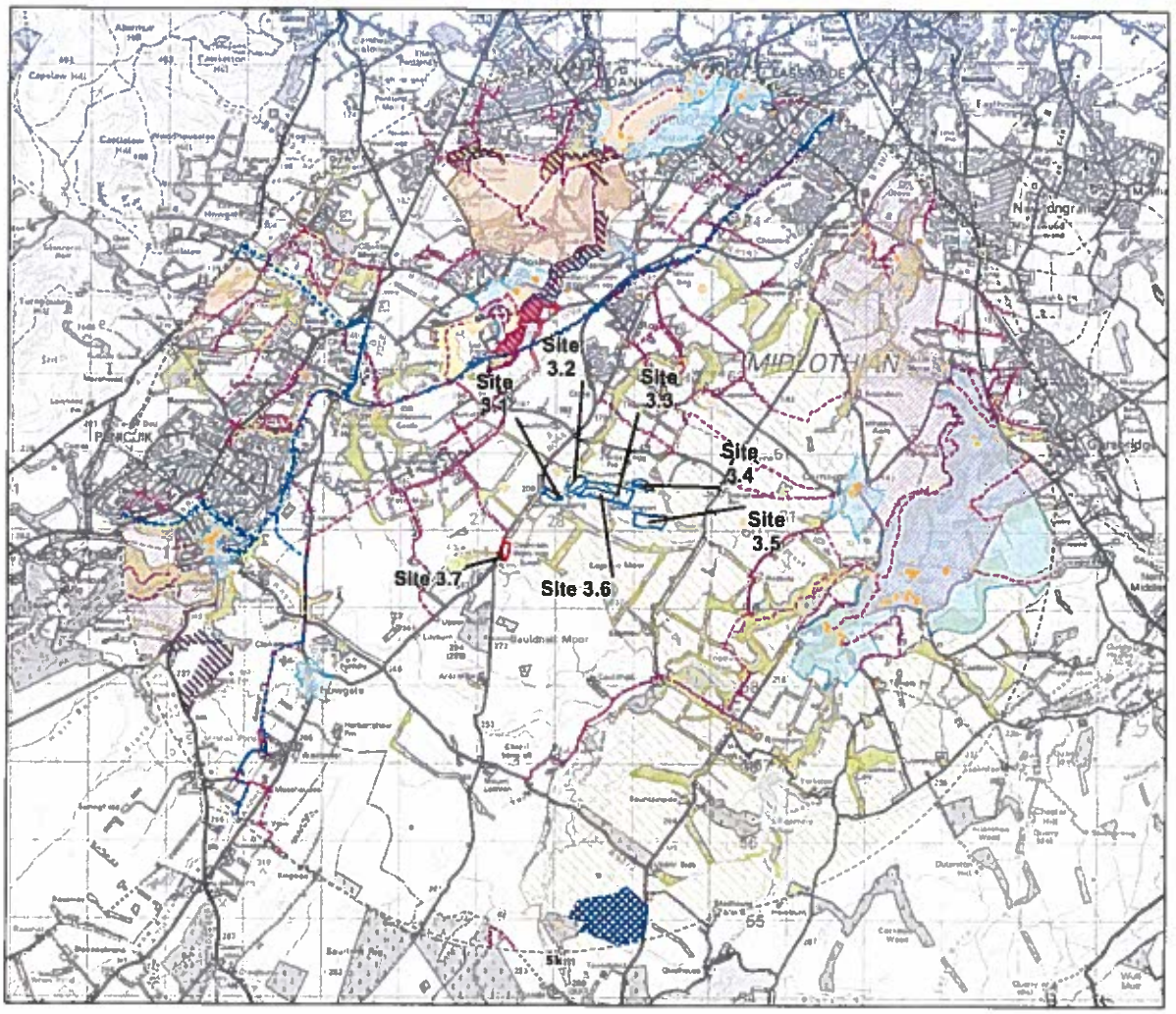

MAINSTREAM RENEWABLE POWER

Project

Neart na Gaoithe Temporary Test Piling Works

Map Title

Fig. 2 : Pile Test Site Location, Alternative Sites and Environmental Constraints

Drawing Number

UK02-0614-046-MRP-OPT_APP_FIG2-DRG-A

Legend

- Pile Test Site Boundary (Site 3.7)
- Alternative Sites
- 5km buffer
- Longer Distance Routes (SNH)
- Core Path (SNH)
- Country Park (SNH)
- SSSI (SNH)
- SAC (SNH)
- Ancient Woodland Inventory (SNH)
- Local Landscape Designation (Area of Great Landscape Value)
- Scottish Wildlife Trust Reserve (SWT)
- Battlefields Inventory (HS)
- Gardens and Designed Landscape (HS)
- Listed Building (HS)
- Scheduled Monument (HS)
- Conservation Area (HS)

Map Details

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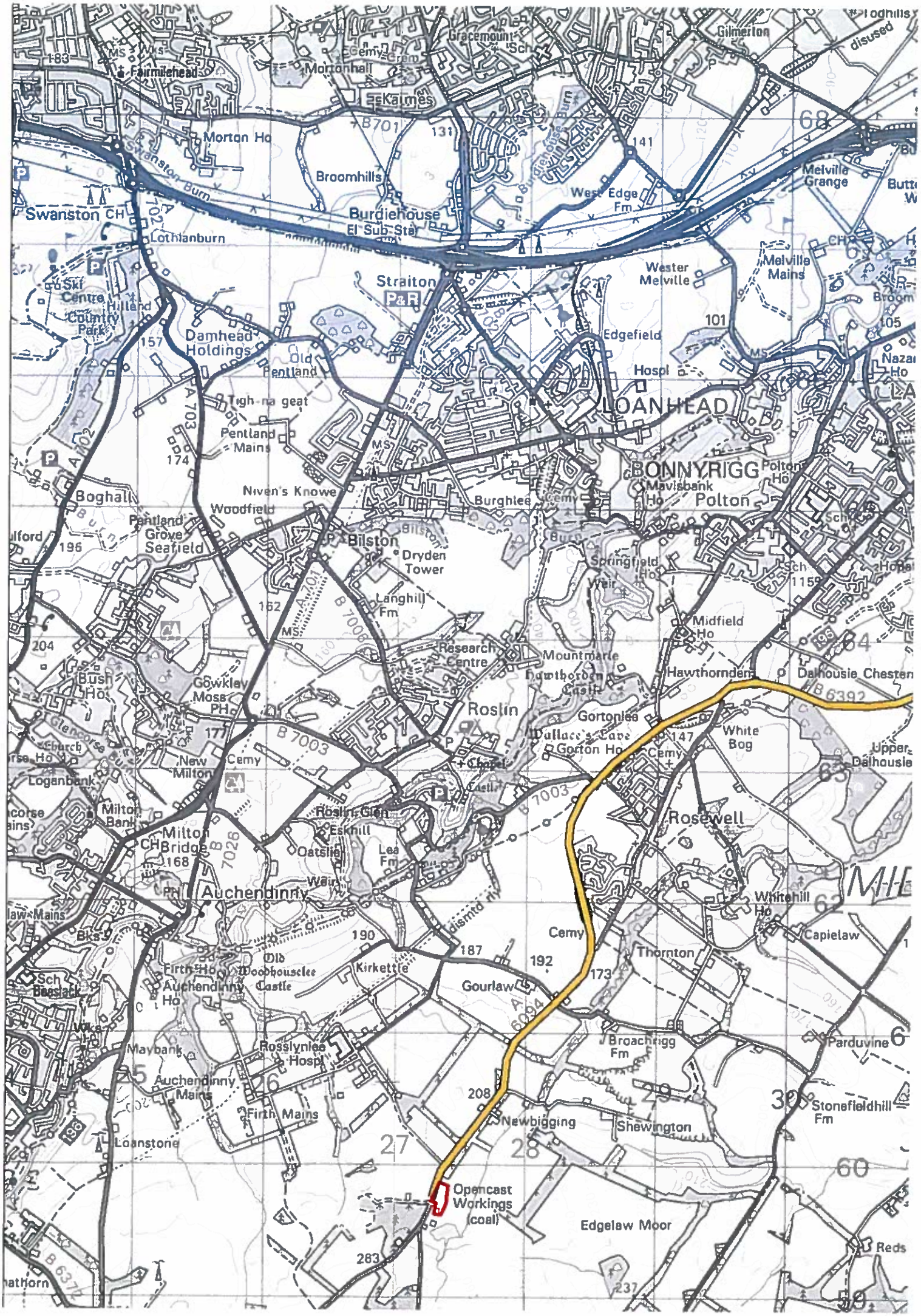
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Melville Grange
Wester Melville
Melville Mains
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Old Pentland
Edgefield
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LOANHEAD
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Woodfield
Burghlee
Pentland Grove
Seafield
Bilston
Dryden Tower
Springfield Ho
Weir
Langhill Fm
Midfield Ho
Research Centre
Mountmarie
Hawthornden Castle
Hawthornden
Dalhousie Chesters
Bush Ho
Gowkley Moss PH
Roslin
Gortonlee
Wallace's Cave
Gorton Ho
White Bog
Upper Dalhousie
Glencorse
Church
New Milton
Cemy
Chapel
Loganbank
Milton Bank
Roslin Glen
Esknill
Rosewell
Milton Bridge
Oatslie
Lea Fm
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Stonefieldhill Fm
Loanstone
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Edgelaw Moor
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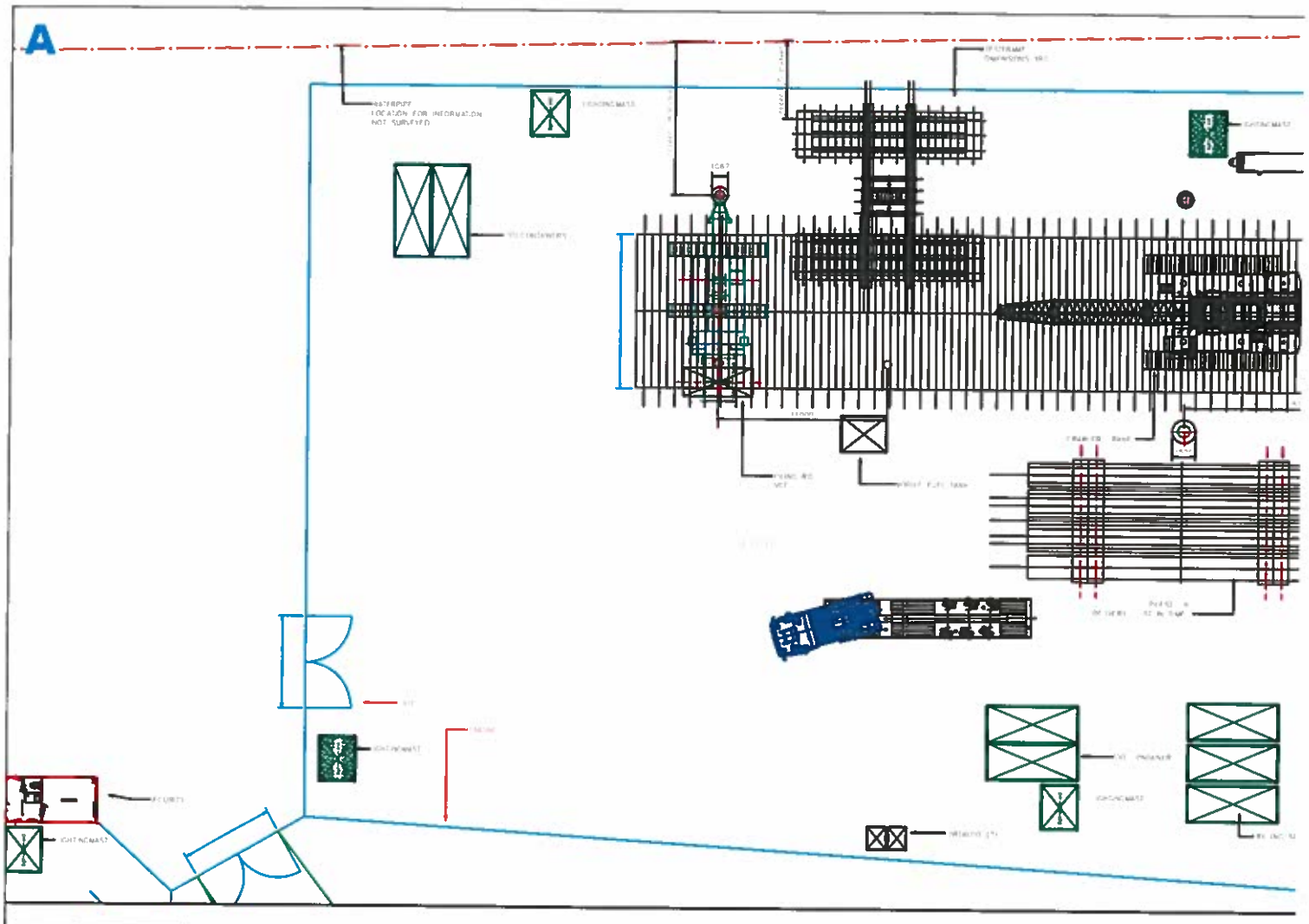

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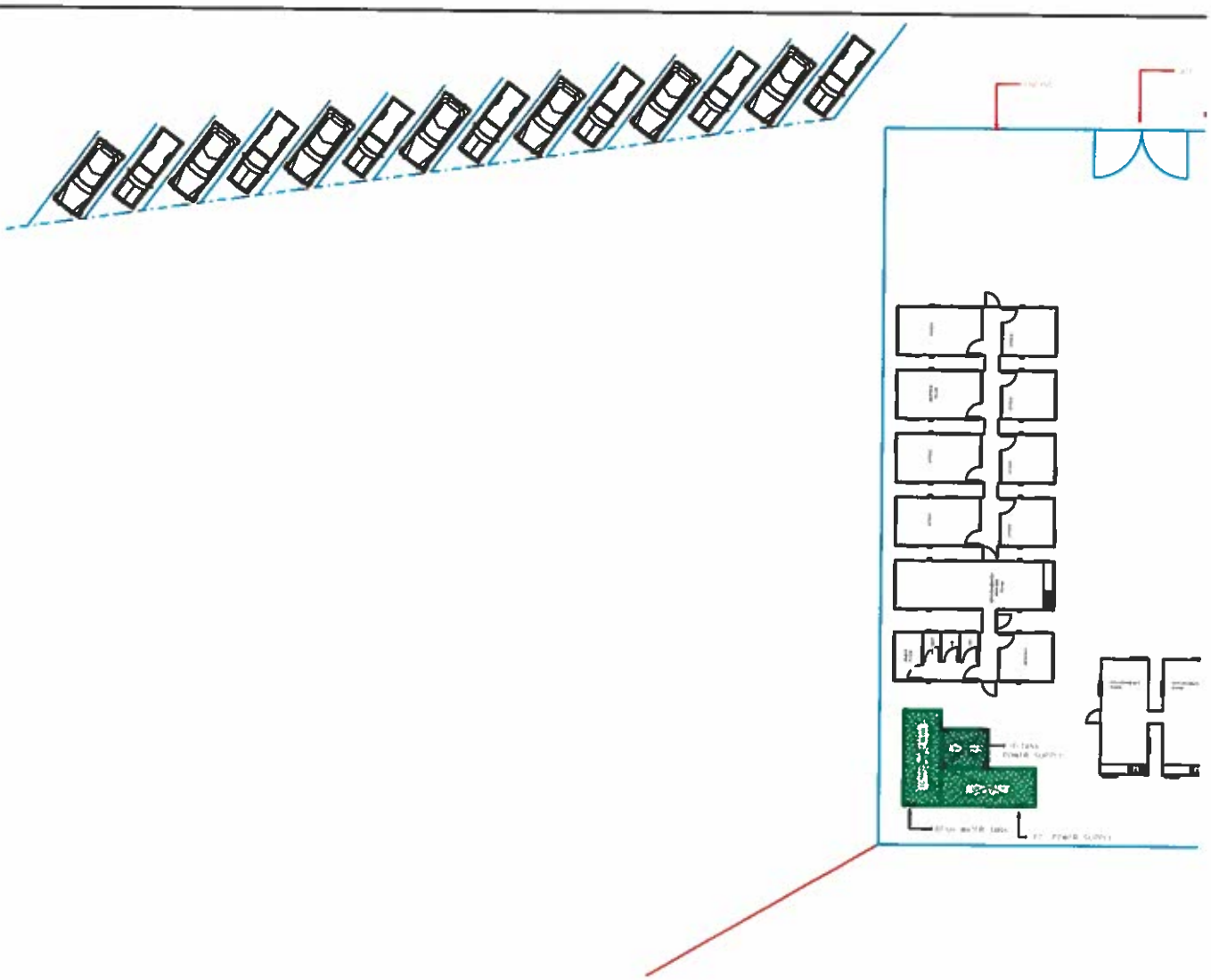

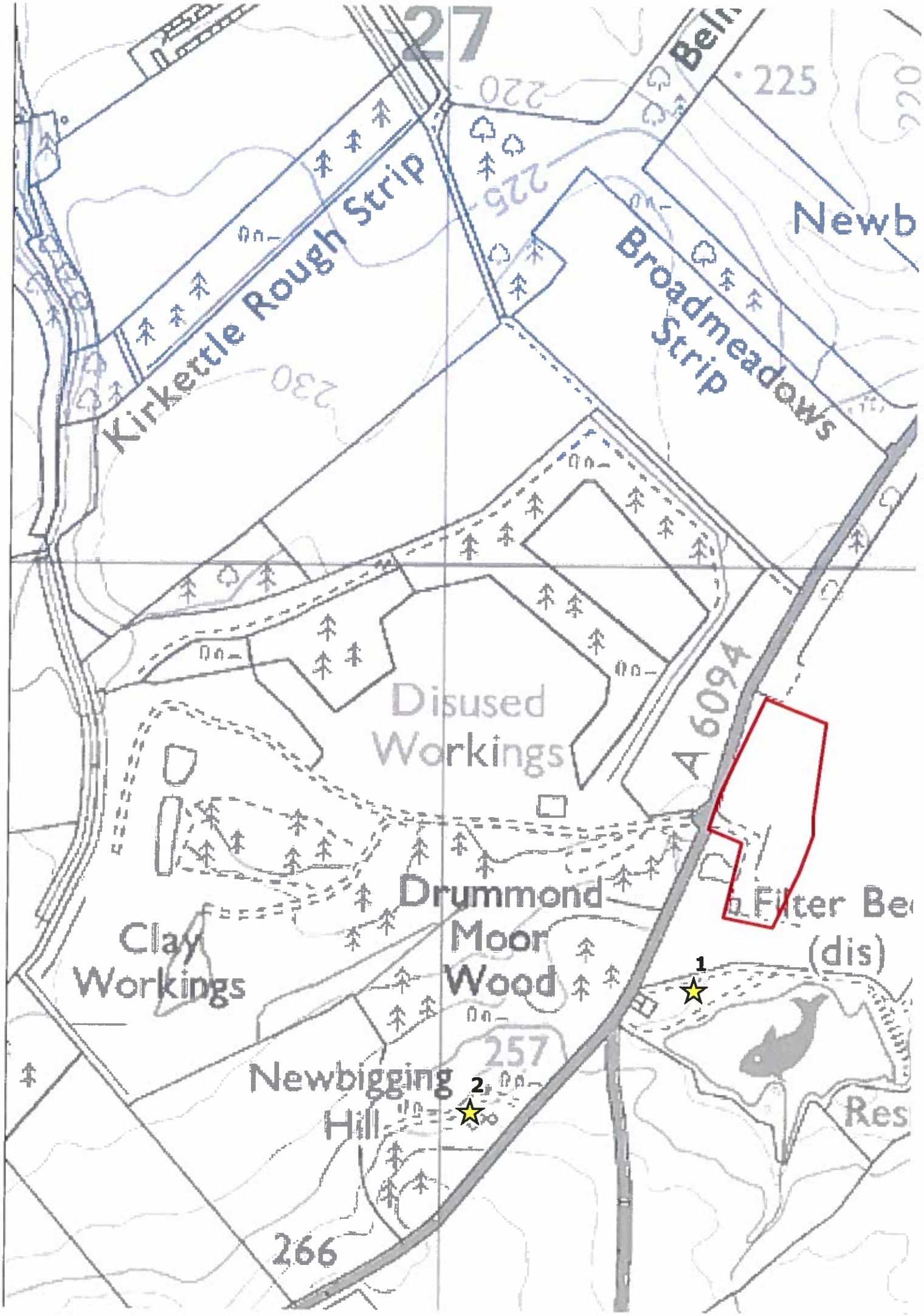
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MAINSTREAM RENEWABLE POWER

Project

Neart na Gaoithe
Temporary Test Piling Works

Map Title

Fig. 5: Extended Phase 1 Habitat Survey of Pile Test Site

Drawing Number

UK02-0814-050-MRP-OPT_APP_FIG5-DRG-A

Legend

- Pile Test Site Boundary
- 150m Pile Test Site Boundary Buffer

Phase1

- Arable
- Mixed plantation woodland
- Standing water
- Hardstanding/quarry
- Hardstanding
- No Access
- Hardstanding and amenity grassland
- Building

Map Details

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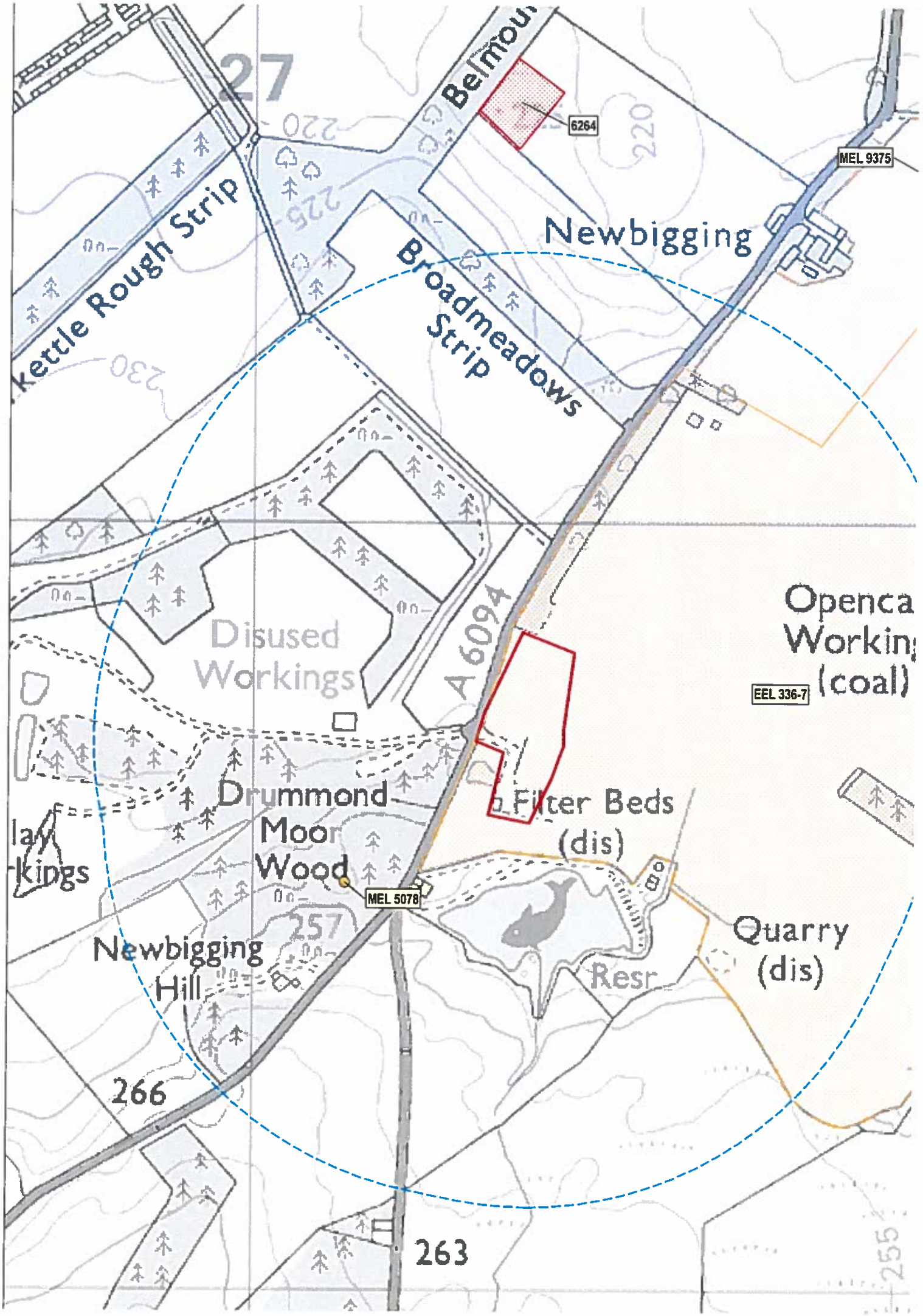
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Environmental Appraisal Appendix 1: Topics Scoped out of Detailed Appraisal

Appendix 1: Topics Scoped out of Detailed Appraisal

1.1 Introduction

1.1 This section outlines the topics which have not been considered in detail in the Environmental Appraisal.

1.2 It is not anticipated that the proposed piling tests will have any significant effects on the following topics:

- Landscape and visual amenity;
- Public access;
- Land use; and
- Utilities.

1.3 A brief overview of these topics and justification for not undertaking a detailed appraisal of these is detailed below.

1.2 Landscape and Visual Amenity

1.4 The Pile Test Site is not covered by any national, regional or local landscape designations. An Area of Great Landscape Value (AGLV) as designated in the Midlothian Local Plan (2008) is located directly to the east of the Pile Test Site within approximately 200m as illustrated on the constraints plan provided as Figure 2 of the Environmental Appraisal. However, it is understood that this AGLV will be redefined as a 'Candidate Special Landscape Area' as detailed in the Midlothian Local Development Plan Main Issues Report 2013, removing a considerable part of the landscape surrounding the Pile Test Site from the designation. Furthermore the Pile Test will be temporary in nature and will not have any lasting effect on the landscape following completion and reinstatement of the Pile Test Site, therefore potential effects on the AGLV are not considered to be of concern. The closest National Scenic Area (NSA) to the Pile Test Site is the Upper Tweeddale NSA over 20km to the south-west.

1.5 During the Pile Test, equipment including cranes and piling rigs will be visible locally but given the temporary nature of the works this is not considered to be a significant effect. No landscape features (i.e. hedgerows) will be removed to allow for transport of the piles and equipment to the Pile Test Site.

1.6 Given that once installed, the piles will be cut to below ground level and any topsoil and material removed from the surface reinstated, there will be no long term landscape and visual effects once the Pile Test is completed.

1.3 Public Access

1.7 Data available on core paths from SNHi[1] was consulted, together with Rights of Way, Long Distance Footpath and cycle route data, to establish the likelihood that the Pile Test Site is used for public access, and proximity to any designated access routes. The location of nearby regional and recreational parks has also been investigated.

1.8 There are no Core Paths or other recreational routes located within or directly adjacent to the Pile Test Site. There are, however, a number of Core Paths located nearby as illustrated on the constraints plan provided as Figure 2 of the Environmental Appraisal. Given the historic use of the Pile Test Site and surrounding area as an OCCS, and the presence of a locked gate at the access to the

[1] SNHi Information Service NaturalSpaces data sets available at https://gateway.snh.gov.uk/natural-spaces/index.jsp

Pile Test Site from the A6094, it can be concluded that the Pile Test Site is not frequented by the general public for recreational purposes.

1.9 Other public access routes and access and recreation areas located close to the Pile Test Site include:

- the Penicuik to Musselburgh Cycle-Walkway which is approximately 2.5km north of the Pile Test Site;
- Roslin Glen Country Park which is located approximately 2km north of the Pile Test Site; and
- Pentland Hills Regional Park which is located approximately 5km north-west of the Pile Test Site.

1.10 Whilst use of the Pile Test Site by the public is considered to be very limited, signage will be displayed at the access to the Pile Test Site to notify the public of the ongoing works.

1.4 Land Use

1.11 The Midlothian Local Plan online Proposals Map was reviewed to identify areas of high quality agricultural land[2] and areas of search for mineral extraction.

1.12 An area to the north of the Pile Test Site is designated as 'Prime Agricultural Land' in the Midlothian Local Plan. The Pile Test Site itself is classified as an Area of Search for opencast coal which is consistent with the historic usage of the area and surroundings for mineral extraction.

1.13 As noted in the Environmental Appraisal, the lower part of the piles below the surface will be left in situ. If the Pile Test Site were to be excavated by future mining activity, the piles could be removed as part of the excavation works. Therefore, this area will not be sterilised as a result of the Pile Test.

1.5 Utilities

1.14 Scottish Water, Scottish Power Energy Networks and Scottish Gas were contacted to establish the potential for any underground utilities which could be affected by undertaking the Pile Test:

- Scottish Water: there is a freshwater supply pipe running along the western and part of the northern edge of the Pile Test Site. There is no waste water infrastructure located within or directly adjacent to the Pile Test Site.
- Scottish Power Energy Networks: high voltage cables have been identified adjacent to the west of the Pile Test Site.
- Scottish Gas: no gas pipes have been identified in proximity to the Pile Test Site.

1.15 The contractor will be made aware of the location of the nearby utilities and this will be confirmed prior to work starting onsite. Care will be taken to ensure that works are undertaken an appropriate distance from the infrastructure identified to ensure that these services will not be affected in any way.

[2] Classes 1, 3 and 3.1 of the Macaulay Institute Land Classification for Agriculture system.

Environmental Appraisal Appendix 2: Coal Mining Risk Assessment

The Coal Authority

COAL MINING RISK ASSESSMENT

FOR TEMPORARY TEST PILING AT NEWBIGGING O.C.C.S

1. INTRODUCTION

Mainstream Renewable Power Ltd is currently developing the Neart na Gaoithe (NnG) Offshore Wind Farm off the east coast of Scotland. Preferred turbine foundation solutions include jacket sub-structures supported by open ended steel piles, which will be driven into the underlying bedrock. To facilitate design optimisation and to develop detailed offshore installation methodology, Mainstream Renewable Power Ltd. proposes to undertake a suite of onshore pile tests within a geological setting similar to that at the NnG Offshore Wind Farm.

Mainstream Renewable Power Ltd has submitted a planning application for temporary test piling works (hereafter referred to as "the Pile Test Site") at Newbigging Open Cast Coal Site (OCCS).

Gavin and Doherty Geosolutions Ltd has been commissioned to prepare a Coal Mining Risk Assessment Report of the Pile Test Site, to provide the Local Planning Authority, Midlothian Council, with information on coal mining and an assessment of its impact on land stability.

Site Location and Description

The Pile Test Site is located in an extensively worked open cast coal site, Newbigging OCCS, which is now largely restored. Newbigging OCCS lies south of Edinburgh, and on the outskirts of Rosewell village. The location within the restored Newbigging OCCS was chosen as it most closely reflects the offshore geological conditions for which onshore testing was required. The Pile Test Site is shown on the Location Plan (Figure 1) included in Appendix 1.

The Pile Test Site lies in the southwest portion of the Newbigging OCCS and to the immediate north east of the access to the former coal processing and dispatch area. The boundary of Drummond Moor Wood is located 25m southwest and a small reservoir/trout fishery is situated approximately 110m south of the Pile Test Site. The Pile Test Site is located in an area that has not been disturbed by coal mining activities and where bedrock was identified within 10 metres (m). According to the BGS 50K Geology map, the underlying geology comprises the Limestone Coal Formation which belongs to the Clackmannan Group and is Namurian in age. Bedrock is overlain by superficial deposits of alluvial sand and gravel in the (palaeo) river areas and till deposits of gravelly clays with cobbles to clayey gravels elsewhere.

Following on from the Newbigging and adjacent Shewington OCCS restoration program, near-surface deposits at the Pile Test Site comprise restored subsoil. Backfill is found to the immediate east of the Pile Test Site and a subsoil mound to the immediate west. Their distribution may be seen in the Site Progress drawings in Appendix 2.

Description and Layout of the Pile Test

The Pile Test will involve installation of 8 piles to a maximum depth of 18m and a plan area of approximately 1.9ha for the associated site activity.

Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the Pile Test Site;
- Use that information to identify and assess the risks to the Pile Test from coal mining legacy, including potential cumulative impacts;

- Set out appropriate mitigation measures to address any coal mining legacy issues affecting the Pile Test Site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposals for the Pile Test; and
- Demonstrate to the Local Planning Authority that the Pile Test Site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

2. SOURCES OF INFORMATION USED TO INFORM THIS REPORT

Past desk-based assessments of ground conditions for the Pile Test Site or adjacent/nearby sites:

- Drawing outlining 'Conceptual Hydrogeological Model' from Shewington OCCS Extension (Wardell Armstrong, 2008).
- Drawings of 'Site Progress as of 25-07-08' and 'Site Progress as of 17-11-2' from Scottish Coal.

These are located in Appendix 2.

Results of past intrusive site investigation works undertaken to assess ground conditions for the Pile Test Site or adjacent/nearby sites include:

- BGS (1951-1952) borehole records, NT25 NE/15 and NT25 NE/18
- Fugro (2014) borehole records, BH3.6A and BH3.6B[1]
- Report 'Onshore Pile Testing: Micro-siting the Testing Location'. Report 13020-04 from Gavin and Doherty Geosolutions.

These are located in Appendix 3.

3. IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

There are no recorded coal mine entries within the Pile Test Site or within 20 metres of its boundary. The Pile Test Site is located in an area that has not been disturbed by coal mining activities and is not in the likely zone of influence of past underground coal mining.

Although the Pile Test Site is within the general boundary of Newbigging OCCS, its position between the main Newbigging OCCS boundary and the access-road between the coal dispatch area, weighbridge and main entrance/exit indicates it is highly unlikely there are unrecorded shallow mine workings or entries.

Since the area is a restored OCCS and no longer operational, the proposed Pile Test Site is:

- not in the zone of influence of any present underground coal workings; and
- not in an area for which the Coal Authority is determining to or has granted a license to remove coal by underground methods.

The Newbigging OCCS has been undergoing a restoration programme, yet it is not clear if the Pile Test Site – or indeed Newbigging OCCS in general – has been subject to remedial works under the Coal Authority's surface hazard call out procedures. There was no record of mine gas emissions within the Pile Test Site. No faults or other lines of weakness due to coal mining are known at the Pile Test Site.

[1] The borehole records use the identifier 3.6 as opposed to 3.7 as no geophysical or geotechnical work was undertaken at potential Site 3.6 (see Section 2.4 of the Environmental Appraisal). The borehole record relates to Site 3.7 as referred to, and identified in, this report and the Environmental Appraisal.

The table below summarises the potential risks associated with coal mining legacy for the Pile Test Site, identified from: the hydrogeological and site progress drawings, the BGS and Fugro borehole logs and from the report from Gavin and Doherty Geosolutions.

Coal Mining Issue	Yes	No	Risk Assessment
Underground coal mining (recorded at shallow depths)		x	None recorded
Underground coal mining (probable at shallow depths)		x	None recorded, low
Mine entries (shafts and adits)		x	None recorded
Coal mining geology (fissures)		x	None recorded
Record of past mine gas emissions		x	None recorded
Recorded coal mining surface hazard		x	None recorded/available
Surface mining (opencast workings)		x	No longer in operation

4. MITIGATION STRATEGY PROPOSED

The Pile Test Site is located in a non-operational OCCS which is under restoration.

Previous coal mining issues have influenced the proposed layout of the Pile Test Site only in their restriction of suitable locations for other test microsites within the Newbigging OCCS itself. Previous coal mining activities indicate that the Pile Test Site is the most suitable area within Newbigging OCCS.

The Pile Test Site is located in an area that has not been disturbed by coal mining activities and has not required pile design amendments. No mitigation strategy is required.

The Coal Authority Permission

The restoration programme, which has been underway for several years, was commissioned by Scottish Coal. For this reason, it is deemed that the Coal Authority has previously been fully engaged at the Newbigging OCCS and is aware that it could be allocated for non-extractive purposes.

6. CONCLUSION

This Coal Mining Risk Assessment Report has presented a desk-based and intrusive investigation-based review of all available information on the coal mining issues relevant to the Pile Test Site.

Using this available information, it was found that no mitigation measures were necessary since the only coal mining legacy issue affecting the Pile Test Site was the restriction of suitable locations for other test microsites within the Newbigging and Shewington OCCS and its subsequent selection.

No remedial work is required as the OCCS is non-operational and has been under a progressing restoration programme for several years.

Borehole records demonstrate the Pile Test Site is suitable as a representative test site for pile installation and research for the NnG Offshore Wind Farm.

RELEVANT APPENDICES

Appendix 1 Figure 1: Pile Test Site Location

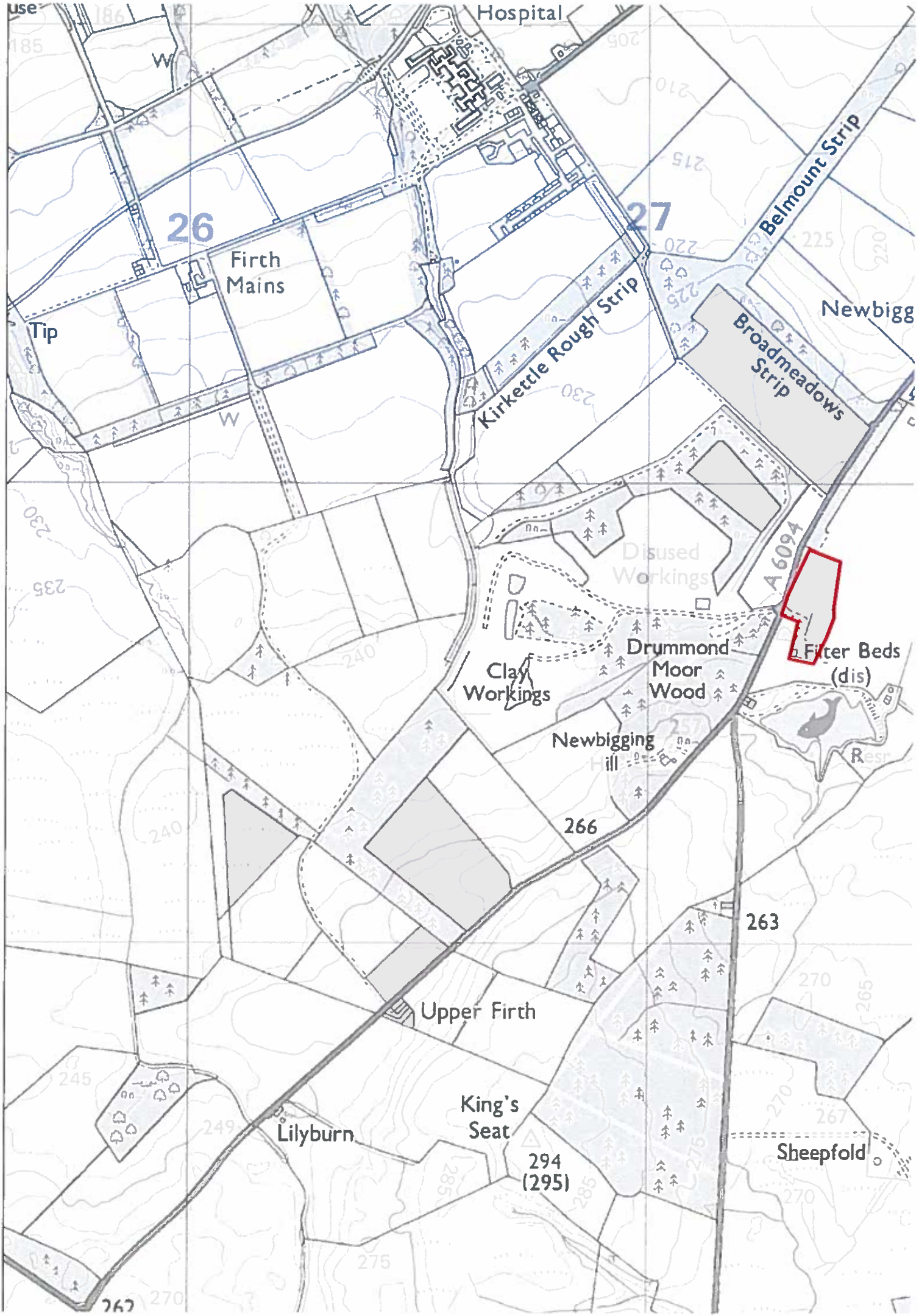
Appendix 2 Drawing outlining 'Conceptual Hydrogeological Model' from Shewington OCCS Extension (Wardell Armstrong, 2008).

Drawings of 'Site Progress as of 25-07-08' and 'Site Progress as of 17-11-2' from Scottish Coal.

Appendix 3 BGS (1951-1952) borehole records, NT25 NE/15 and NT25 NE/18

Fugro (2014) borehole records, BH3.6A and BH3.6B[1]

Selected pages from report 'Onshore Pile Testing: Micro-siting the Testing Location'. Report 13020-04 from Gavin and Doherty Geosolutions.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Environmental Appraisal Appendix 7: Groundwater, Surface Water, Private Water Supplies and Soil Assessment

Kaya Consulting Limited

Neart na Gaoithe Offshore Wind Ltd

Temporary Test Piling Works

Groundwater, Surface Water, Private Water Supplies and Soils Assessment

September 2014

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Kaya Consulting Limited

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Kaya Consulting Job Number:	KC781
Filename:	19749824_2.DOCX
Project Director:	Yusuf Kaya
Author	Michael Stewart

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1 Introduction

Kaya Consulting has undertaken an appraisal of the potential environmental effects of proposed temporary test piling works ('the Pile Test') at the existing Newbigging open cast coal scheme (OCCS) ('the Pile Test Site'). The Pile Test is being undertaken by Neart na Gaoithe Offshore Wind Ltd (NnGOWL). The purpose of the Pile Test is to test drilling techniques and foundation types for offshore wind turbines through the installation of similar foundations on land. The information will be used to inform the piling methods which will be used to construct the Neart na Gaoithe Offshore Wind Farm.

The location of the works is shown in Figure 1 of the main Environmental Appraisal, with the site layout shown in Figure 2 of the main Environmental Appraisal. Details of the Pile Test are outlined in Chapter 3: *Project Description* of the Environmental Appraisal.

This appendix to the Environmental Appraisal includes an assessment of potential environmental effects of the piling works on:

- Groundwater Quantity and Quality;
- Private Water Supplies (PWS) and Public Water Supplies;
- Surface Water Quantity (including flooding);
- Surface Water Quality; and
- Soils.

2 Effect on Groundwater Quantity and Quality

The Pile Test Site is located within the Dalkeith bedrock group and in an area with localised sand and gravel aquifers. SEPA reports that this groundwater body has 'Poor' water quality status according to 2011 monitoring results. As is outlined in the PWS section below, there are no groundwater dependent PWS close to the Pile Test Site. In addition, the depth of drilling is not expected to exceed 18m, so any interactions with groundwater would be expected to be within upper aquifer layers only, with no impact on deeper aquifers.

No groundwater abstraction for use on the Pile Test Site will be undertaken, but drill holes will have to be flushed to remove drill cuttings. During the flushing of the drill holes any groundwater accumulating in the drill holes will be pumped to the surface. Removal of groundwater is expected to be significantly less than the 50 m^3/day threshold for Controlled Activities Regulations (CAR) Registration with SEPA. Initial estimates put groundwater removal from holes during flushing to be similar to a hole volume (<10 m^3), i.e., any groundwater that inflows into the drill hole during drilling. Abstractions of <50 m^3/s are covered by General Binding Rules which will be adhered to. Given the small volumes of water removed from groundwater during the drilling works, the Pile Test is expected to have no effect on groundwater quantity in the Pile Test Site.

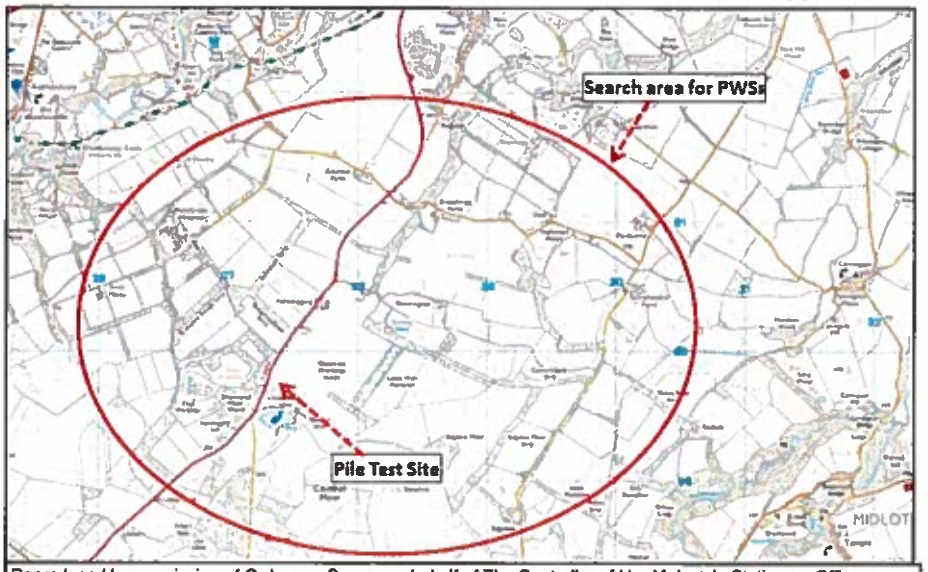
Chapter 3: *Project Description* of the Environmental Appraisal describes the methods used to install and test the piles. During the Pile Test it is expected that there will be no flow of water from the workings into groundwater. The piles will be driven into the ground following a period of drilling. Depending on the method used for the Pile Test, a concrete plug may be used at the base of the piles. The volume of concrete will be limited (estimated to be up to 6.5 m^3). Given the small nature of works, lack of PWS relying on groundwater and the 'Poor' groundwater quality status, no effects on groundwater quality are predicted.

3 Effect on Private and Public Water Supplies

Midlothian Council was contacted for information on any PWS close to the Pile Test Site, and within the area shown in Figure 1 below. Midlothian Council (email from Michael Brunton of 13th August 2014) indicted that they had no records of PWS within the area shown in Figure 1. Midlothian Council indicated there were PWSs within 500m of the edge of the area shown in Figure 1, but given the shallow depth of drilling works and the distance to these PWSs, the Pile Test works are predicted to have no effect on PWS.

Scottish Water service drawings of the area were reviewed for possible Scottish Water infrastructure close to the Pile Test Site. The drawings showed no Scottish Water waste water pipes within the Pile Test Site or along the main road. However, drawings showed a Scottish Water fresh water pipe within the Pile Test Site, running along the western edge of the Pile Test Site. The location of the Scottish Water pipe will be considered during the Pile Test and measures taken by the Contractor to avoid any damage to the pipe, if it is still operational. With appropriate measures taken to avoid exposing or damaging the pipes (e.g. no working on top of pipes or digging/drilling near pipes) there is not expected to be a significant risk to the Scottish Water infrastructure.

Figure 1: Site Location and Search Area for Private Water Supplies[1]



[1] NB. the search area is not centred on the Pile Test Site as the consultation also took into consideration a number of other potential sites in the Newbigging / Shewington OCCS

4 Effect on Surface Water Quantity (Including Flood Risk)

Much of the Pile Test Site is currently hardstanding and/or disturbed ground as illustrated in Photo 1 below. The Pile Test Site area currently drains to the north, towards the main area of the Newbigging OCCM. Bunds or embankments around the edge of the disturbed area retain surface runoff within the disused mine site. Surface water runoff from the Pile Test Site is directed towards a pond or a number of dry pits, illustrated in Photos 1 and 3. The ponds/holes do not appear to have outlets, so it is presumed that runoff is allowed to accumulate within the ponds before seeping into the ground. There does not appear to be a formal outfall from the Pile Test Site to the unnamed stream that flows to the east of the Pile Test Site, with excess water entering the pond and pits seeping into the ground. If bunds were not around the edge of the Pile Test Site, the Pile Test Site would naturally drain to this watercourse.

The Pile Test will not require any abstraction of surface water. Water requirements for the flushing out of the drill holes will be met through recycling of water within the site settlement pond that will be constructed for the Pile Test (Figure 3a and 3b of Chapter 3: *Project Description* of the Environmental Appraisal provides further details on the location of the pond (referred to as 'spoil settlement basin' on the figures)) or through freshwater brought onto the site by water bowsers. Final water volumes in the pond and potential discharge rates of excess water from the ponds are discussed below.

Although there may be a need to widen existing access roads and improve the existing hardstanding areas, the Pile Test is not expected to significantly increase areas of hardstanding and as a result, surface water runoff from the Pile Test Site is not expected to increase compared to existing conditions. At present, the Pile Test Site appears to be internally draining to a pond and various pits, with no surface connection to a watercourse as noted above. It is proposed to maintain the existing drainage measures during the Pile Test, i.e., surface water will drain to pond and pits on site. Given the short duration of the Pile Test and that the Pile Test is not expected to increase surface water runoff this is considered to be the most practical and appropriate solution and is not expected to result in any increase in runoff from the Pile Test Site to any watercourse, compared to current conditions.

The existing car parking area to the south of the Pile Test Site sits close to an open water pond. Pile Test Site ground levels and any drainage from the car parking area will be designed so that runoff from the car parking area is directed north and not towards this pond.

Other potential sources of surface water discharge at the Pile Test Site include the pumping of excess water from the settlement pond to the environment. Water within the settlement pond will result from rainfall as well as water used to flush drill holes of rock cuttings. The water accumulating in the settlement pond will be recycled for use in further drill hole flushing, with the aim of limiting the use of fresh water brought into the Pile Test Site and limiting discharges from the pond to the environment. It is expected that there will be no discharges from the settlement pond until the end of operations, when remaining water will be pumped out of the settlement pond. The predicted total volume of water that could be discharged during the 2 month lifetime of the works is estimated to be 2,000 m^3, at a maximum rate of 400 m^3/hour (110 L/s). The volume will depend on the rate of groundwater inflow,

rainfall on the pond and the amount of recycling that can be achieved, but the estimated volume of 2,000 m^3 includes an allowance for rainfall on the pond.

Based on a total volume of 2,000 m^3 over the 2 month period it is clear that the total volume of water used on the Pile Test Site and discharged to the environment is expected to be very low. Discharges are expected to be intermittent and short-lived (e.g., following rainfall), with sustained discharges required at the end of operations only, when the pond is de-watered.

It is proposed that the water will be pumped to the existing open pits on site and water allowed to seep into the ground. Although there is a maximum pumping rate of 110 L/s (400 m^3/hour), the pumping rate will be adjusted to be in balance with seepage rates so significant depths of water do not accumulate within the pits. It is noted that there is an existing SEPA consented discharge for the Newbigging OCCS (Consent Number WPC/E/71082). This discharge is from an existing settlement pond located to the north of the Pile Test Site to an unnamed watercourse (the pond is at Ordnance Grid NT 2789 6029). This offers an additional discharge option for the site if the pits are not considered suitable for discharge of water from the site Pile Test site settlement pond. Any discharges would have to meet maximum discharge rates and water quality requirements under the discharge consent.

The settlement pond will be decommissioned after the end of operations so it does not continue to retain water once the Pile Test has been completed.

The Pile Test Site is not located within an area of flood risk within the SEPA Third Generation Flood Maps.

In summary, the Pile Test is not expected to increase surface water runoff rates or increase risk of flooding to others.

Photo 1: View of Pile Test Site looking south. Note current condition of Pile Test Site and pond in bottom corner. Runoff from most of the Pile Test Site drains into this pond.

Photo 2: View of drainage pathway heading north from Pile Test Site. Channel flows into pit shown in Photo 3.

Photo 3: Pit into which drainage flows. There is no outlet from pit. There are at least 3 other pits of a similar type on the Pile Test Site.

5 Surface Water Quality

The Pile Test could potentially affect surface water quality in the following ways;

- Releases of sediment during construction;
- Discharges of excess water from settlement pond to receiving environment;
- Surface water runoff from Pile Test Site areas (e.g. car parking, offices); and
- Fuel or other chemical spills from vehicles or drill rig.

A small volume of concrete will be used to form plugs at the base of test holes for one of the two piling options considered. The volume of concrete will be small; estimated to be up to 6.5 m^3.

As detailed above, surface water runoff from the Pile Test Site currently flows to a pond and/or a series of open pits. Water entering these ponds/pits seeps into the ground with no formal outfall to a watercourse.

As the Pile Test Site is currently predominantly hardstanding, little additional construction work is required before the Pile Test commences. During the Pile Test Site preparation work there is a risk of sediment releases and fuel spills to surface water. During operations there is a similar risk of surface water drainage having elevated suspended sediment concentrations and of fuel spills. Existing drainage measures are to be retained on site, so any sediment released with surface runoff will flow to on-site ponds or pits, with water seeping into the ground. As a result, sediment will not be able to flow into any watercourses. Appropriate pollution control and fuel spill management measures will be put in place and will comply with SEPA's Pollution Prevention Guidelines and good practice.

As noted above, water accumulating in the settlement pond will have been used to flush drill holes and could be contaminated with drill cuttings (expected to be removed through settlement), groundwater and drill fluids/oils etc. There is no site-specific information on the groundwater quality within the Pile Test Site, although, as the site is a disused mine site, the quality is not expected to be good, but it should be no different from groundwater elsewhere on site and which currently flows to local watercourses. The settlement pond will be designed to appropriate standards and it will be managed to maintain water levels at an appropriate level (freeboard) below the overtopping level of the pond. The level of freeboard will be determined based on normal operating practice and based on storing a design water volume (based on storm rainfall landing on the pond) before overtopping of the pond.

The pond will be drained and decommissioned at the end of the Pile Test, so that it will not continue to retain water at the end of the Pile Test. Excess water from the ponds will be discharged to the existing ponds or pits, as outlined in Section 5 and allowed to seep into the ground. The quality of water in the ponds will be monitored prior to discharge, with water quality compared to requirements under the existing SEPA discharge consent for the Newbigging OCCS (Consent Number WPC/E/71082). If the water is not of sufficient quality to allow direct discharge to the ponds or pits, contingency plans will be put in place to truck the water off site to be treated before discharge.

As noted in Section 5 there is an existing SEPA consented discharge for the Newbigging OCCS, from an existing settlement pond located to the north of the Pile Test site to an unnamed watercourse. This

offers an additional discharge option for the site if the pits are not considered suitable for discharge of water from the site Pile Test site settlement pond. Any discharges would have to meet maximum discharge rates and water quality requirements under the discharge consent.

Fuel will be kept on the Pile Test Site. All oil and fuel storage will comply with The Water Environment (Oil Storage) (Scotland) Regulations 2006 and no oil storage tanks will be located within 10m of a watercourse. All machinery will be checked regularly to identify oil leakages.

Effluent from any temporary toilet facilities on the Pile Test Site will be retained within the toilets and disposed of off-site.

With the implementation of appropriate, standard environmental management measures, any effects on surface water quality in the receiving waters downstream of the Pile Test Site associated with the construction and operation of the Pile Test are predicted to be negligible.

6 Soils

The Pile Test Site is located on currently disturbed or reclaimed land and as such, no effects on sensitive soil types (e.g. peat) are predicted.

7 Conclusions

The Pile Test Site is located within a disused OCCS and on land that is currently disturbed and/or in hardstanding.

Due to the shallow nature of the proposed drill holes and limited removal of water from the drill holes the Pile Test is expected to have no effect on groundwater quantity and quality.

Due to the nature of the Pile Test Site, and assuming implementation of standard management measures, the Pile Test is expected to have no effect on surface water quantity and quality. At present surface water runoff from the Pile Test Site is diverted into a pond or series of open pits, with excess water allowed to seep into the ground. These drainage measures will be retained during the Pile Test.

Due to the lack of PWS in the vicinity of the Pile Test Site, the works are expected to have no effect on PWS.

Due to the lack of sensitive soils the Pile Test is expected to have no effect on soils.

Environmental Appraisal Appendix 3: Acoustic Assessment of Temporary Test Piling Works

Neart na Gaoithe Offshore Wind Ltd

Neart na Gaoithe Offshore Wind Farm

Acoustic Assessment of Temporary Test Piling Works - Revised

AAc/216954-00/R05

Final Issue | 18 February 2015

Job number 18 February 2015

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Contents

Executive Summary

Arup has been appointed by LUC, on behalf of Neart na Gaoithe Offshore Wind Ltd, to assess the noise and vibration effects arising from the proposed temporary test piling works (hereafter referred to as 'the Pile Test') to be carried out at the now disused Newbigging opencast coal site approximately 3km east of Penicuik in Midlothian ('the Pile Test Site').

Noise and vibration levels arising from the Pile Test have been assessed at the residential receptors within 800m of the Pile Test Site.

At the residential receptors, predicted noise levels will not be significant as no thresholds with respect to British Standard BS5228-1, ABC method are anticipated to be exceeded.

Within 500m of the Pile Test Site the assessment results show that predicted vibration levels will be noticeable and are assessed as being likely to cause complaints (according to the criteria in BS 6472-1:2008 and BS 5228-2). As such, the works would be considered to cause a significant vibration effect at residential receptors within 500m of the Pile Test Site. However, BS 5228-2 suggests that these levels of vibration can be tolerated if prior warning and explanation has been given to residents.

At the residential receptors between 500m and 800m from the Pile Test Site (i.e. at the two Newbigging Cottage locations) vibration may still be occasionally perceptible but there is low probability of adverse comments. Therefore vibration levels are considered not significant at these properties.

Whilst some significant vibration effects are predicted, it should be noted that these are short term works, take place only during normal daytime working hours and there will be respite periods between pile driving activity, which could be between one hour and several days. The potential for damage at the nearest residential building due to the Pile Test is extremely low as the predicted vibration is well below the threshold even for cosmetic damage (as detailed in BS 7385).

Whilst practicable noise and vibration mitigation measures are limited due to the nature of the works, there will be close liaison with occupiers of sensitive receptors, providing regular notification of the forthcoming activities and providing a point of contact for the duration of the Pile Test. Such regular contact will allow the occupiers the opportunity to plan their own domestic activities thus avoiding and minimising potential disruption.

1 Introduction

Arup has been appointed by Neart na Gaoithe Offshore Wind Ltd to assess the noise and vibration effects arising from the Pile Test to be carried out at the decommissioned Newbigging opencast coal site adjacent to the A6094 and approximately 3km east of Penicuik in Midlothian.

The acoustic assessment has been undertaken with respect to noise and vibration emission to the nearby residential receptors up to 800m of the Indicative Pile Location (see Figure 1 and Figure 2). A distance of 800m was selected for the study area as potential properties of interest were identified within this area.

No baseline environmental noise survey has been carried out. In the absence of baseline environmental noise survey data near to the residential receptor, the predicted construction noise has been assessed based on the 'ABC' method described in British Standard BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration on open sites – Part 1: Noise.*

A baseline vibration survey has also not been carried out. The predicted vibration levels have been assessed in terms of peak particle velocity (PPV) and vibration dose value (VDV) using the guidance on effects of vibration levels as detailed in British Standard BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration* and BS 6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting* respectively.

This report details the results of the predicted noise and vibration levels of the Pile Test and the associated effect at the nearby residential receptors.

A glossary of acoustic terminology can be found in Appendix A.

2 Assessment Criteria

2.1 Noise

British Standard BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration on open sites – Part 1: Noise* (BS 5228-1) provides practical guidance on the control of construction site noise and includes piling activities. Annex E of BS5228-1 describes the 'ABC' method, which defines the threshold of potentially significant effects at residential receptors.

The sensitivity of a given receptor can be determined on the basis of the 'ABC' method, where for the appropriate period (night, evening / weekends or day), the ambient noise level is determined and rounded to the nearest 5dB. This is then evaluated in relation to the threshold values set out in Table 1, which are dependent on the ambient levels. These values are applied to residential receptors only.

In the absence of baseline environmental survey data, the assessment will be based on Category A thresholds (the most onerous) by default. If the predicted site noise levels exceed the Category A value for the relevant time period, a potential significant effect is indicated.

Assessment category and threshold value period	Threshold value, dB		
	Category A	Category B	Category C
Night-time (23.00–07.00)	45	50	55
Evenings and weekends	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

Table 1: Example threshold of potential significant effect at dwellings

2.2 Vibration

2.2.1 BS 5228

British Standard BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration* (BS 5228-2) provides criteria and procedures for vibration control for construction works and residential receptors for two purposes:

- to protect the occupants and users of buildings from disturbance; and
- to protect buildings from risk of physical damage.

Table 2 summarises the effect of vibration in terms of peak particle velocity (PPV) when assessed at a residential receptor.

Vibration Level, PPV	Effect
0.14 mms^{-1}	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3 mms^{-1}	Vibration might be just perceptible in residential environments.
1.0 mms^{-1}	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.
10 mms^{-1}	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

Table 2: Guidance on effects of vibration levels (from BS5228-2)

2.2.2 BS 6472

BS 6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting* (BS 6472) provides guidance on assessing likely levels of disturbance from vibration within buildings. The assessments are based on the measured or calculated levels of vibration dose value (VDV) experienced by an individual over a given time period.

Table 3 below provides VDV values which may result in various probabilities of adverse comment within residential buildings.

Place and Time	Low Probability of Adverse Comment ($m \cdot s^{-1.75}$) 1)	Adverse Comment Possible ($m \cdot s^{-1.75}$)	Adverse Comment Probable ($m \cdot s^{-1.75}$) 2)
Residential buildings 16 hour day	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential buildings 8 hour night	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8

Table 3: Vibration dose value ranges and the corresponding probability of adverse comment

1) Below these ranges adverse comment is not expected.

2) Above these ranges adverse comment is very likely.

Note, for offices and workshops and in accordance with BS6472, multiplying factors of 2 and 4 respectively should be applied to the above vibration dose value ranges for a 16 hour day.

2.2.3 BS 7385

British Standard BS7385-2:1993 *Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration* (BS 7385) notes that the risk of damage (even cosmetic damage) to modern robust buildings from transient vibration tends to zero below a peak particle velocity of 12.5mms^{-1}. For convenience, and to err on the side of caution, this value is often rounded down to 12mms^{-1} PPV.

3 Site Description and Piling Activities

Figure 1 shows the Pile Test Site location and Indicative Pile Location relative to the nearest sensitive (residential) receptor, also considered to be representative of a second residential receptor approximately 40m to the west.

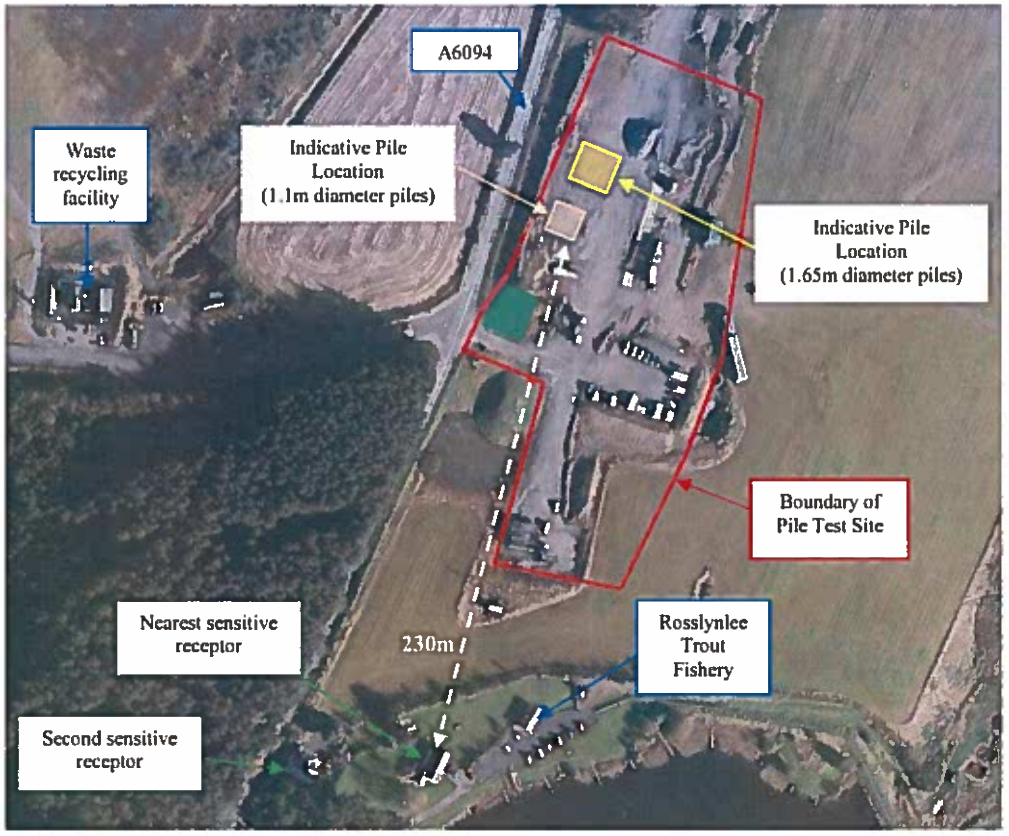

Figure 1: Pile Test Site location and nearest sensitive receptor

Figure 2 shows the Pile Test Site location and Indicative Pile Location relative to the Newbigging Hill residential receptor approximately 470m to the south-west and the two Newbigging Cottages residential receptor approximately 685m to the north-east.

The two Newbigging Cottages assessment location is also considered representative of Newbigging Farm approximately 90m to the east.

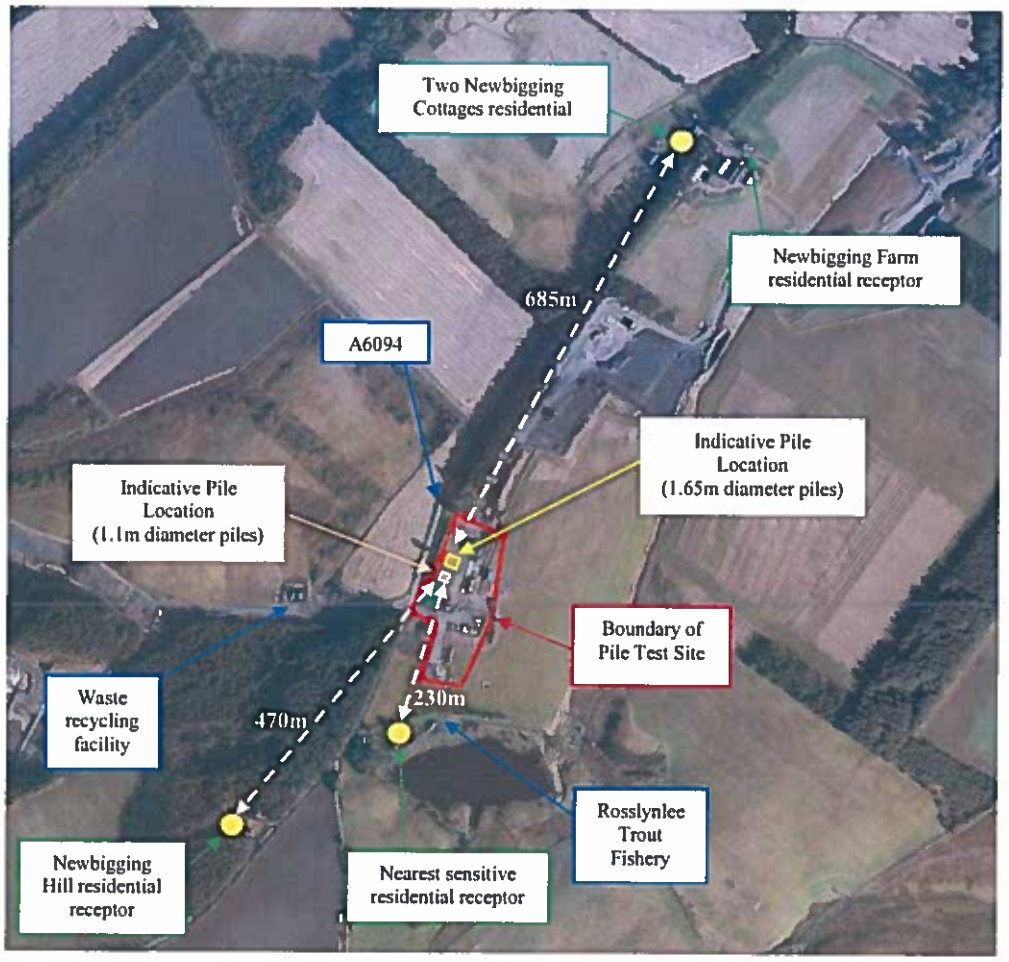

Figure 2: Pile Test Site location and nearest sensitive receptor

The objective of the Pile Test is to install eight steel piles using 'drive-drill-drive' installation methods. Four of the piles will be 1.1m in diameter and four will be 1.65m in diameter. All eight piles will be up to 20m long and will be installed to an embedment depth up to 18m.

A summary of the piling methods is as follows:

1. A hollow cylindrical steel pile is driven into the ground with a hydraulic impact hammer until the point of refusal, where further blows with the hammer can no longer drive the pile further into the ground.
2. The hammer is removed from the pile and a pilot hole is drilled down through the pile and beyond the pile toe by a certain distance to ease driving.
3. The hydraulic impact hammer takes up position again and drives the pile further into the ground.
4. Steps 2 and 3 are repeated until the pile is installed to a depth of 18m.

Two different drill units will be used: for the 1.65m piles it is likely a BG40H rotary drilling rig will be used. However, for the 1.1m piles a Teredo 3 pile top drill will be used.

After the piles are installed to a depth of 18m, instruments will be installed within the piles and the piles will be tested by applying a vertical force to the top of the pile in attempts to move the pile upwards, out of the ground.

The installation of the piles could take up to 7 weeks. During this period, pile driving with the hydraulic hammer will be for up to 24 discrete durations of approximately three hours which will occur intermittently.

The gaps between the pile driving could be between one hour and several days. The length of interval will be dependent on the final installation methods used, programming of parallel activities on site, as well as metrological conditions.

All piling will be carried out Monday to Friday, 08:00-18:00.

A 100kV generator will operate continuously throughout the Pile Test.

It is understood that the testing will be carried out at any time during a 24 hour period but will generate very little noise. As such that the generator will be the dominant noise source during the testing.

4 Assessment

4.1 Noise

Sound power levels and percentage on-times for plant which will generate the most significant noise levels during the Pile Test are detailed in Appendix B.

The predicted noise levels arising from the Pile Test when assessed at the nearby residential receptors are summarised in Appendix C. The results show that the Category A threshold is not exceeded for the Pile Test. The highest predicted level is 1dB below the threshold level. As the predicted noise level is less than the assessment threshold value (in this case Category A) at the nearest sensitive receptor, this is considered to be not significant. The predicted noise levels are even lower at all other assessed locations and can therefore be considered not significant noise effects.

Whilst the generator (which is likely to operate 24hrs a day) has been included in the assessment, the predicted noise level from the generator only at all the residential receptors is more than 10dB below the Category A threshold for all day, evening and night-time periods. As such the contributing noise from the generator is negligible when compared with noise levels arising from the piling activities and will be unlikely to be disturbing when the piling rig is not operating.

The noise assessment has been based on what are considered to be the noisiest plant activities. There will be other occasional works activities on the Pile Test Site (e.g. delivery lorries, roller and dozer movements during site preparation etc.). It is anticipated that noise levels arising from these other activities will be substantially less than the Category A threshold due to lower source noise level (i.e. 10dB or greater), the mobile nature of the works and/or infrequent operations.

4.1.1 Prediction of L_{A01} values

In consultation with Midlothian Council, the Environmental Health Officer has asked that the assessment include the consideration of the L_{A01} value. BS 5228-1 suggests the following approximate relationship $L_{A01,T} = L_{Aeq,T} + 9$ for pile drivers using hydraulic hammers with an intermediate striking rate (typically 40 to 50 blows per minute). Therefore the $L_{A01,T}$ values would be 9dB higher than the $L_{Aeq,T}$ values reported in Appendix. Whilst this information is informative, there are no established criteria to assess against for the L_{A01} index, which is the reason that the BS5228-1 ABC method, using the L_{Aeq} scale, is widely used for the assessment of construction noise effects. The ABC $L_{Aeq,T}$ thresholds are specifically intended for the nature of construction activity noise (of which piling is included) and do take account of the character of the variable noise sources.

Building Bulletin 93, Dec 2014: *Acoustic design of schools: performance standards* includes the statement '*In order to protect students from regular discrete noise events, e.g. aircraft or trains, indoor ambient noise levels should not exceed 60 dB $L_{A1,30mins}$*'. This is not directly relevant to the domestic situation, or a temporary impact such as that associated with the Pile Test, but as no other particular guidance is pertinent for this situation it may be considered informative. Predicted internal noise levels may exceed 60dBL_{A01} in the worst case situation with windows open at the closest point of the closest property. Predicted internal

noise levels with typical thermal double glazed windows closed are well below 60dBL_{A01}. Further details are provided in Appendix C.

4.1.2 Potential Noise Mitigation Measures

There is limited practical mitigation for the Pile Test as the dominant noise is elevated above ground level, i.e. the location where the hammer impacts the pile, it is more difficult to screen. However, these are short term daytime works and, based on past experience, concerns can often be managed through liaison with nearby residents, providing regular notification of the forthcoming activities and providing a point of contact for the duration of the Pile Test.

General principles of construction site noise control would be followed according to the guidance given in BS 5228-1:2009+A1. This requires that noise control measures would be adopted according to 'Best Practicable Means' (BPM) to prevent and reduce significant adverse effects that may arise during the Pile Test. BPM is defined as those measures which are reasonably practicable having regard amongst other things to local conditions and circumstances, to the current state of technical knowledge and to programme implications.

To minimise the level of noise to which sensitive receptors will be exposed, BS 5228 recommends the following measures as guidance on best available techniques to be implemented on site. Construction will be undertaken in accordance with this guidance.

General measures:

- provide an induction to site personnel addressing their responsibilities with regard to noise and vibration management;
- plan hours of working, taking into account the nature of land use in the areas concerned and duration of the work;
- provide an out-of-hours works procedure to minimise the effect of any necessary works outside daytime working hours;
- notify potentially affected residents of construction activities likely to affect amenity due to noise or vibration in advance.

Construction plant an d equipment measures:

- where practicable, employ quiet working methods, including the use of the most suitable plant, and suitably sized plant;
- avoid unnecessary revving of engines and switch off equipment when not required;
- minimise drop height of materials;
- start-up plant and vehicles sequentially rather than all together;
- use of broadband (i.e. white noise) reversing alarms on mobile rather than tonal; and
- use and siting of plant – orientate plant from which the noise generated is known to be directional, where practicable, so that the noise is directed away from noise sensitive receptors (for example, generators for site power will be located in a position that provides maximum shielding to noise sensitive receptors).

Other potential mitigation measures that could be investigated include no simultaneous start of plant but phased initiation, i.e. 'phased start' to piling activity, a shroud on the derrick, the use of a dolly and the use of noise barriers. The suitability and practicability of these measures have been discussed with the piling contractor and summarised as follows:

- phased start to piling will be undertaken, e.g. slowly increase hammer energy over a short period of time at the commencement of piling;
- shroud impractical due to engineering limitations;
- a dolly would not be used offshore and their use onshore would render test 10
- piling unrepresentative; and
- the use of noise barriers in the form of temporary hoarding, stacks of materials such as top soil, provide screening to nearby sensitive receptors is considered impractical as the dominant noise from the piling activity is reasonably elevated above ground level. This would mean that the noise barriers would have to be substantial to provide any substantive noise mitigation.

4.2 Vibration

The piling will be the only activity being carried out on site which is likely to generate appreciable levels of vibration at the nearby sensitive receptors. As such, both the Hydro hammers (150kJ and 600kJ) have been assessed based on the PPV calculation methodology detailed in Table E.1 in BS5228-2. Whilst this prediction method in the standard is robust, it is based on measured data up to 111m from the pile and for hammer energies up to 85kJ. The proposed plant and Pile Test Site are therefore outwith the range of parameters for which the predictors are proven. They therefore need to be applied with caution.

VDV have also been predicted[1] and these are based on the following:

- Ground conditions assumed to be 'very stiff cohesive soils' for a majority of the Pile Test Site based on the *Interpretative Geotechnical for Onshore Pile Testing Site* commissioned for the Pile Test Site.
- Given the propagation distances involved the impulsive nature of the piling vibration is expected to become more continuous.

Appendix D summarises the predicted vibration levels (PPV and VDV) arising from piling activities when assessed at the residential receptors.

Based on the guidance presented in Section 2.2, the results suggest that vibration will be perceptible for a majority of the piling activities and in some instances, vibration levels are assessed as being likely to cause complaints (according to the criteria in BS 6472-1:2008 and BS 5228-2). As such, the Pile Test would be considered to cause a significant vibration effect at residential receptors within 500m of the site. However, BS 5228-2 suggests that these levels of vibration can be tolerated if prior warning and explanation has been given to residents.

However for residential receptors at greater distances from the Pile Test Site (i.e. two Newbigging Cottages), whilst vibration may still be occasionally perceptible

[1] Using calculation methodology detailed in *The Association of Noise Consultants – Measurement & Assessment of Groundborne Noise & Vibration.*

it is predicted there will be a low probability of adverse comments and therefore not a significant vibration effect.

However, the potential for damage at all the nearby residential buildings due to the Pile Test is extremely low as the predicted vibration is well below the threshold even for cosmetic damage (as detailed in BS 7385).

4.2.1 Potential vibration mitigation measures

For the assessed Pile Test and methods, there are limited measures available to mitigate the vibration experienced at the receptor. However when the piles are driven to refusal, a pilot hole will be drilled beyond the pile toe to ease progress before piling recommences. This should reduce the amount of time the higher predicted levels of vibration are experienced. Also as previously discussed in the Section 4.1, these are short term works during daytime periods and there will be close liaison with nearby residents who will be notified of the on-going activities at the Pile Test Site.

5 Conclusion

Noise and vibration arising from the Pile Test have been assessed at the residential receptors within 800m of the Pile Test Site.

At the residential receptors, predicted noise levels will not be significant as no thresholds with respect to British Standard BS 5228, ABC method are anticipated to be exceeded.

Within 500m of the Pile Test Site the assessment results show that predicted vibration levels will be noticeable and are assessed as being likely to cause complaints (according to the criteria in BS 6472-1:2008 and BS 5228-2). As such, the Pile Test would be considered to cause a significant vibration effect at residential receptors within 500m of the Pile Test Site. However, BS 5228-2 suggests that these levels of vibration can be tolerated if prior warning and explanation has been given to residents.

At the residential receptors between 500m and 800m from the Pile Test Site (i.e. at the two Newbigging Cottage locations) vibration may still be occasionally perceptible but there is low probability of adverse comments and therefore vibration levels are also considered not significant.

These are short term works, taking place only during daytime normal working hours and there will be respite periods between pile driving activity, which could be between one hour and several days. The potential for damage at the nearest residential building due to the Pile Test is extremely low as the predicted vibration is well below the threshold even for cosmetic damage (as detailed in BS 7385).

Whilst practicable noise and vibration mitigation measures are limited due to the nature of the works, there will be close liaison with occupiers of sensitive receptors, providing regular notification of the forthcoming activities and providing a point of contact for the duration of the Pile Test. Such regular contact will allow the occupiers the opportunity to plan their own domestic activities thus avoiding and minimising potential disruption.

Appendix A

Acoustic Terminology

Acoustic Terminology

Decibel (dB)

The ratio of sound pressures which we can hear is a ratio of 10^6:1 (one million:one). For convenience, therefore, a logarithmic measurement scale is used. The resulting parameter is called the 'sound pressure level' (L_p) and the associated measurement unit is the decibel (dB). As the decibel is a logarithmic ratio, the laws of logarithmic addition and subtraction apply.

dB(A)

The unit used to define a weighted sound pressure level, which correlates well with the subjective response to sound. The 'A' weighting follows the frequency response of the human ear, which is less sensitive to low and very high frequencies than it is to those in the range 500Hz to 4kHz.

Statistical noise levels

For levels of noise that vary widely with time, for example road traffic noise, it is necessary to employ an index which allows for this variation. The L_{10}, the level exceeded for 10% of the time period under consideration, and can be used for the assessment of road traffic noise (note that L_{Aeq} is used in BS 8233 for assessing traffic noise). The L_{90}, the level exceeded for 90% of the time, has been adopted to represent the background noise level. The L_{01}, the level exceeded for 1% of the time, is representative of the maximum levels recorded during the sample period. A weighted statistical noise levels are denoted L_{A01}, L_{A10}, dBL_{A90} etc. The reference time period (T) is normally included, e.g. $dBL_{A10,\ 5min}$ or $dBL_{A90,\ 8hr}$.

Equivalent Continuous Sound Level

An index for assessment for overall noise exposure is the equivalent continuous sound level, L_{eq}. This is a notional steady level which would, over a given period of time, deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating levels can be described in terms of a single figure level.

Frequency

Frequency is the rate of repetition of a sound wave. The subjective equivalent in music is pitch. The unit of frequency is the hertz (Hz), which is identical to cycles per second. A 1000Hz is often denoted as 1kHz, e.g. 2kHz = 2000Hz. Human hearing ranges approximately from 20Hz to 20kHz. For design purposes the octave bands between 63Hz to 8kHz are generally used. The most commonly used frequency bands are octave bands, in which the mid frequency of each band is twice that of the band below it. For more detailed analysis, each octave band may be split into three one-third octave bands or in some cases, narrow frequency bands.

Sound Power Level

The sound power level (L_w) of a source is a measure of the total acoustic power radiated by a source. The sound power level is an intrinsic characteristic of a source (analogous to its volume or mass), which is not affected by the environment within which the source is located.

Sound Pressure Level

The sound power emitted by a source results in pressure fluctuations in the air, which are heard as sound.

The sound pressure level (L_p) is ten times the logarithm of the ratio of the measured sound pressure (detected by a microphone) to the reference level of 2 x 10^{-5}Pa (the threshold of hearing).

Thus L_p (dB) = 10 log $(P_1/P_{ref})^2$ where P_{ref}, the lowest pressure detectable by the ear, is 0.00002 pascals (i.e. $2x10^{-5}$ Pa).

The threshold of hearing is 0dB, while the threshold of pain is approximately 120dB. Normal speech is approximately 60dBL_A and a change of 3dB is only just detectable. A change of 10dB is subjectively twice, or half, as loud.

Typical Levels

Some typical dB(A) noise levels are given below:

Noise Level, dB(A)	Example
130	Threshold of pain
120	Jet aircraft take-off at 100m
110	Chain saw at 1m
100	Inside disco
90	Heavy lorries at 5m
80	Kerbside of busy street
70	Loud radio (in typical domestic room)
60	Office or restaurant
50	Domestic fan heater at 1m
40	Living room
30	Theatre
20	Remote countryside on still night
10	Sound insulated test chamber

Vibration

Vibration may be expressed in terms of displacement, velocity and acceleration. Velocity and acceleration are most commonly used when assessing human comfort or structureborne noise issues.

Vibration amplitude may be quantified as a peak value, or as a root mean squared (rms) value. The rms value is of benefit because it takes into account both time history variation and energy content. The rms value is equal to 0.707 times the peak value and experience has shown that the overall rms value of vibration velocity, over the range of 10Hz to 1kHz, gives the best indication of vibration severity.

Vibration amplitude can be expressed as an absolute value e.g. $1 mms^{-1}$ or as a ratio on a logarithmic scale in decibels, i.e.

vibration velocity level, dB = 20 log (V/V_{ref}),

where the preferred reference level, V_{ref}, for vibration velocity = $1x10^{-9}$ ms^{-1}.

For example; $1 mms^{-1}$ = 120dB

Note that the reference level for acceleration, a_{ref}, is $1x10^{-6} ms^{-2}$.

The decibel approach has advantages for manipulation and comparison of data and the definition of descriptors such as L_{eq} and L_{max} given above will also be applicable.

Generally humans are more sensitive to changes in vibration amplitude than they are to changes in the duration of the exposure to vibration.

Vibration dose value (VDV)

This is a complex metric that has been identified as being the best objective measure of human disturbance from intermittent/transient vibration. The VDV is the fourth root of the time integral of the fourth power of the weighted acceleration. VDV are measured in units of $ms^{-1.75}$. The frequency weightings are defined in BS 6472-1: 2008 and in BS 6841: 1987.

The VDV doubles in magnitude with a doubling of vibration amplitude. However, a 16-fold increase in the duration of exposure to the vibration is required to double the VDV (without any change in amplitude).

Appendix B

Plant Acoustic Data

Plant Acoustic Data

The acoustic data and percentage on-times that have been used when assessing the noise emission arising from the piling activities are detailed below.

VolkerGround Engineering

Project: P14-018 - Onshore Pile Test NNG, Rosewell, UK
Subject: Sound Levels

Date: December 12 - 2014
Revision: 1

Sound levels during piling.
Monday - Friday: 08.00 - 18.00 (see also programme)

nr	Item	Sound power level* at source Lwa in dB(A)	Duration of sound during working hours %
1	Hydro hammer S 150	129	15%
	Powerpack IHC S 150	111	15%
2	Hydro hammer S 600	130	5%
	Powerpack IHC S 600	116	5%
3	Piling Rig Hitachi KH 300 GLS	109	35%
4	Crawler crane Lierherr 1250	109	45%

note: item 1 and 2 will never occur at the same time
All other combination can occur at the same time
* Sound levvel hammers based on different configuration of soil and pile

Sound level during all days
Monday - Sunday: 00.00 - 24.00

nr	Item	Sound power level at source Lwa in dB(A)	Duration of sound %
1	100kV generator	61	100%

calculation uptime piling

piling distance [m]	average blowrate [bl/min]	average blowcount [bl/25 cm]	duration piling/pile [min]	piles per day [pcs]	piling noise [hours]	daily equivalent [%]	
7	45	40	24,9	4	1,66	13,8%	1 step (S150)
3	40	60	18,0	2	0,60	5,0%	4 steps (S600)

Appendix C

Noise Assessment Results

Noise Assessment Results

Piling Activity Location	Description of Piling Activity	BS5228 $L_{Aeq,T}$ assessment		L_{A01} assessment	
		Predicted piling noise at nearest residential receptor façade, $dBL_{Aeq,T}$	Predicted piling noise relative to Category A threshold limit ($65dBL_{Aeq,T}$)	Predicted piling noise at nearest residential receptor façade, $dBL_{A01,T}$	Predicted internal level with windows open*
1.1m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling rig, Hitachi KH 300 GLS Crawler crane Liebherr 1250 100kV generator (24hr operation)	64	-1	73	58-63
	Hydro hammer S 600 with associated powerpack. Piling rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	61	-4	70	55-60
1.65m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling Rig, Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	63	-2	72	57-62
	Hydro hammer S 600 with associated powerpack. Piling Rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	59	-6	68	53-58

*10-15dB reduction has been allowed for an open window. A closed thermal double glazed window would have a reduction of around 32dB.

Table 4: Predicted noise levels ($dBL_{Aeq,T}$) arising from the Pile Test when assessed at the nearest residential receptor

Piling Activity Location	Description of Piling Activity	BS5228 $L_{Aeq,T}$ assessment		L_{A01} assessment	
		Predicted piling noise at Newbigging Hill residential receptor façade, $dBL_{Aeq,T}$	Predicted piling noise relative to Category A threshold limit ($65dBL_{Aeq,T}$)	Predicted piling noise at nearest residential receptor façade, $dBL_{A01,T}$	Predicted internal level with windows open*
1.1m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling rig, Hitachi KH 300 GLS Crawler crane Liebherr 1250 100kV generator (24hr operation)	57	-8	66	51-56
	Hydro hammer S 600 with associated powerpack. Piling rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	53	-12	62	47-52
1.65m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling Rig, Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	56	-9	65	50-55
	Hydro hammer S 600 with associated powerpack. Piling Rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	53	-12	62	47-52

*10-15dB reduction has been allowed for an open window. A closed thermal double glazed window would have a reduction of around 32dB.

Table 5: Predicted noise levels ($dBL_{Aeq,T}$) arising from the Pile Test when assessed at the Newbigging Hill residential receptor

Piling Activity Location	Description of Piling Activity	BS5228 $L_{Aeq,T}$ assessment		L_{A01} assessment	
		Predicted piling noise at Newbigging Cottages residential receptor, $dBL_{Aeq,T}$	Predicted piling noise relative to Category A threshold limit ($65dBL_{Aeq,T}$)	Predicted piling noise at nearest residential receptor façade, $dBL_{A01,T}$	Predicted internal level with windows open*
1.1m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling rig, Hitachi KH 300 GLS Crawler crane Liebherr 1250 100kV generator (24hr operation)	51	-14	60	45-50
	Hydro hammer S 600 with associated powerpack. Piling rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	48	-17	57	42-47
1.65m diameter pile nearest to receptor	Hydro hammer S 150 with associated powerpack. Piling Rig, Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	52	-13	61	46-51
	Hydro hammer S 600 with associated powerpack. Piling Rig – Hitachi KH 300 GLS Crawler crane Lierherr 1250 100kV generator (24hr operation)	49	-16	58	43-48

*10-15dB reduction has been allowed for an open window. A closed thermal double glazed window would have a reduction of around 32dB.

Table 6: Predicted noise levels ($dBL_{Aeq,T}$) arising from the Pile Test when assessed at the two Newbigging Cottages residential receptors

Appendix D

Vibration Assessment Results

Vibration Assessment Results

Piling Location	Example of Ground Conditions	Hammer Size, kJ	Predicted PPV, mms^{-1}	Predicted VDV at Ground Floor*, $ms^{-1.75}$
1.1m diameter piles	Soft cohesive soils, loose fill	150	0.27	
		600	0.55	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.82	1.17
		600	1.64	
	Pile driven to refusal	150	1.37	
		600	2.73	
1.65m diameter piles	Soft cohesive soils, loose fill	150	0.33	
		600	0.66	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.98	1.41
		600	1.97	
	Pile driven to refusal	150	1.64	
		600	3.28	
*This includes a transfer function of x2 (external freefield to internal ground floor)				

Table 7: Predicted PPV arising from piling activities when assessed at the nearest residential receptor

Piling Location	Example of Ground Conditions	Hammer Size, kJ	Predicted PPV, mms^{-1}	Predicted VDV at Ground Floor*, $ms^{-1.75}$
1.1m diameter piles	Soft cohesive soils, loose fill	150	0.12	
		600	0.24	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.36	0.51
		600	0.72	
	Pile driven to refusal	150	0.60	
		600	1.39	
1.65m diameter piles	Soft cohesive soils, loose fill	150	0.13	
		600	0.26	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.39	0.56
		600	0.78	
	Pile driven to refusal	150	0.65	
		600	1.30	
*This includes a transfer function of x2 (external freefield to internal ground floor)				

Table 8: Predicted PPV arising from piling activities when assessed at the Newbigging Hill residential receptor

Piling Location	Example of Ground Conditions	Hammer Size, kJ	Predicted PPV, mms^{-1}	Predicted VDV at Ground Floor*, $ms^{-1.75}$
1.1m diameter piles	Soft cohesive soils, loose fill	150	0.08	
		600	0.16	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.24	0.35
		600	0.49	
	Pile driven to refusal	150	0.41	
		600	0.81	
1.65m diameter piles	Soft cohesive soils, loose fill	150	0.08	
		600	0.15	
	Very stiff cohesive soils, fill containing obstructions which are large relative to the pile cross-section	150	0.23	0.33
		600	0.46	
	Pile driven to refusal	150	0.39	
		600	0.77	
*This includes a transfer function of x2 (external freefield to internal ground floor)				

Table 9: Predicted PPV arising from piling activities when assessed at the two Newbigging Cottages residential receptor

Environmental Appraisal Appendix 4: Extended Phase 1 Habitat Survey of Pile Test Site

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Neart na Gaoithe Offshore Wind Farm

Extended Phase 1 Habitat Survey of Pile Test Site

Prepared by LUC
February 2015

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Project Title: Neart na Gaoithe Offshore Wind Farm, Extended Phase 1 Habitat Survey of Pile Test Site

Client: Mainstream Renewable Power Ltd

Version	Date	Version Details	Prepared by	Checked by	Approved by Principal
V0.1	13/08/14	First Draft	CG	SJM	SJM
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Final	02/09/14	Further draft following detailed comments from MRP	SJM	SJM	SJM
Update	12/09/14	Updated report following boundary amendment	SRP	SJM	SJM
Final revision	6/01/14	Final review and update of report	JC	JC	SJM

Contents

Tables

1 Executive Summary

1.1 LUC was commissioned by Neart na Gaoithe Offshore Wind Ltd. (NnGOWL) in August 2014 to undertake an Extended Phase 1 Habitat Survey to inform a planning application to carry out temporary test piling works (hereafter referred to as 'the Pile Test') at Newbigging, Midlothian.

1.2 The key findings of the survey are summarised in **Table 1**.

Table 1: Summary of Key Findings

Ecological Feature	Key Findings
Habitats	The Pile Test Site is part of land formerly used as a coal mine and quarry. Surrounding land use comprises common and widespread habitats, dominated by arable crops, mixed plantation woodland and an area used as a landfill site. Three ponds were located within 150m of the Pile Test Site. The habitats within the Pile Test Site pose no ecological constraints to the Pile Test.
Protected species	No evidence of protected species was identified within the Pile Test Site or within a 150m buffer. The habitats within the Pile Test Site are unlikely to support any protected species. The buffer area may provide suitable habitat for nesting birds, badgers, roosting, foraging and commuting bats, and great-crested newts. Protected species are unlikely to pose constraints to the Pile Test.

2 Introduction

Remit

2.1 LUC was commissioned by Neart na Gaoithe Offshore Wind Ltd. (NnGOWL) to undertake an Extended Phase 1 Habitat Survey at Newbigging, Midlothian. The survey was requested to inform a planning application to carry out temporary test piling works (the Pile Test) at a small area of land which is part of a former coal mine and quarry (the Pile Test Site).

2.2 This report sets out the methods adopted, the baseline findings and an interpretation of the Pile Test Site's ecological features.

Site Description

2.3 The Pile Test Site is at the main entrance to the former Newbigging open cast coal scheme (OCCS) and quarry, to the south of Rosewell, Midlothian. Surrounding the Pile Test Site are large arable fields and an area of mixed plantation woodland. The A6094 runs directly adjacent to the west of the Pile Test Site, and beyond this road is further mixed plantation woodland and an operational landfill site.

2.4 Photographs of the Pile Test Site are provided in **Appendix 1**, and a Phase 1 habitat map is provided in **Appendix 2**.

Proposed Works

2.5 The Pile Test will involve temporary piling works to test the 'drive-drill-drive technique' at an onshore location with similar bedrock conditions to those where wind turbines are proposed to be installed offshore.

2.6 Two separate pile installation techniques will be tested during the Pile Test, each with its own installation and testing equipment rig. Each technique will comprise the installation of four steel piles of up to 1.1m or 1.65m diameter and approximately 20m in length. The aim is to drive the piles 18m into the ground, with 2m left above ground during the testing period. It is anticipated that the piles will be retained in the ground on the completion of the test and will then be below ground level and the protruding sections removed from site.

2.7 In addition to the two test piling rigs, the development will include welfare facilities, offices, parking and marshalling areas and equipment and materials storage. Access to the Pile Test Site will require modification to facilitate the transport of vehicles and equipment required to undertake the Pile Test.

2.8 It is anticipated that the Pile Tests will be undertaken over an up to 19 week period, with work commencing onsite in spring/summer 2015, and the Pile Test itself commencing shortly thereafter.

Policy and Legislation

2.9 This report has been prepared in cognisance of relevant legislation and policy, including European and domestic environmental legislation, UK nature conservation policy and local biodiversity guidance.

2.10 European and National legislation along with Planning Policy and guidance relevant to the Pile Test Site is listed below:

- The Conservation (Natural Habitats, &c,) Regulations 1994 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992 (as amended);
- Scottish Planning Policy; and
- Local Biodiversity Action Plans.

3 Methods

Overview

3.1 The Extended Phase 1 Habitat Survey comprised two main components:

- **Desk Study** – a review of existing records of designated sites and protected species activity at the Pile Test Site and in its vicinity; and
- **Field Study** – based on an Extended Phase 1 Habitat Survey, the field study comprised various elements, including an assessment of the Pile Test Site's potential to support protected species.

Desk Study

3.2 The desk study involved a search of all existing protected species records available within the 10km square in which the Pile Test Site is located, through the National Biodiversity Network Gateway[1]; a repository of biological data used by national agencies and records centres across Scotland.

3.3 The desk study also included a search for statutory and non-statutory designated sites through MAGIC[2] and non-statutory designated sites through the Midlothian Local Development Plans[3].

Field Study

3.4 An Extended Phase 1 Habitat Survey within the Pile Test Site and immediately surrounding habitats within 150m was completed in accordance with JNCC methodology[4] on 5th August 2014 and 11th September 2014, during dry and sunny weather conditions.

3.5 This survey method provides a rapid and standardised approach to documenting and classifying habitats together with any evidence of, and potential for, legally protected and notable fauna. Flora was identified in accordance with Stace (2010)[5].

3.6 The following were searched for within the Pile Test Site and a 150m buffer, as informed by the results of the desk study, and by LUC's professional knowledge of protected species in Central Scotland:

- Signs of otter activity including spraints, tracks, feeding remains and holts along the banks of any watercourses or water bodies;
- Signs of badger activity including setts, tracks, snuffle holes and latrines;
- Suitable habitats for nesting birds (including old nests);
- Suitable aquatic and terrestrial habitat for great crested newts. Where ponds were identified within 150m of the Pile Test Site, the Habitat Suitability Index[6] (HSI) was employed. HSI scores are calculated using a scoring system, whereby ponds and other bodies of water are

[1] Available at www.searchnbn.net Square NT26 Accessed on 12th August 2014
[2] Available at http://www.natureonthemap.naturalengland.org.uk/ Accessed on 12th August 2014
[3] Available at http://www.planvu.co.uk/mc/ Accessed on 13th August 2014
[4] Handbook for Phase 1 Habitat Survey http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
[5] Stace, C.A. (2010). New Flora of the British Isles
[6] ARG (2010). Habitat Suitability Index for Great Crested Newts

assigned a number for each of ten individual factors: geographic location; pond area; permanence of water body; water quality; pond shading; presence of waterfowl; presence of fish; number of ponds within 1km of the pond in question; surrounding terrestrial habitat; and macrophyte cover (%). From this, the final HSI value is calculated. This value gives an indication as to whether a water body may be; poor, below average, average, good, or excellent habitat for great crested newts.

- The most common non-native invasive species (Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam) which are subject to strict legal control.

3.7 A Bat Roost Potential (BRP) survey was undertaken of trees within the Pile Test Site and 150m buffer area. The BRP is designed to identify and assess trees which may provide suitable roosting opportunities for bats and may therefore require targeted survey effort.

3.8 The survey takes into account the range of roosting conditions required by bats throughout the year and follows assessment criteria set out by standard guidance prepared by the Bat Conservation Trust[7].

3.9 The criteria used to categorise bat roost potential (BRP) are summarised in **Table 2**. The table also summarises, in italics, what actions, if any, are required following classification.

Table 2: Bat Roost Potential Categories

Category	Description
Known or confirmed bat roost	Bats or evidence of bats recorded, both of recent and/or historic activity. *Works affecting a roost are licensable. Further survey (e.g. dusk emergence/dawn re-entry survey in accordance with best practice) is required to determine the bat species present, nature of roost and level of use before mitigation can be determined. Seasonal constraints may apply.*
1 High BRP Trees with features capable of supporting a bat roost.	Features include holes, cracks or crevices that extend or appear to extend back to cavities suitable for bats. This may include rot holes, woodpecker holes, splits and flaking or raised bark which could provide roosting opportunities. Any ivy cover is sufficiently well-established and matted so as to create potential crevices beneath. *Further survey is required to determine whether or not bats are present and if so, the bat species present, nature of roost and level of use. Appropriate mitigation and potentially licensing requirements may then be determined. Seasonal constraints may apply.*
2 Low BRP	From the ground, tree appears to have features (e.g. holes, cavities or cracks) that may extend back into a cavity. However, owing to the characteristics of the feature, they are deemed to be sub-optimal for roosting bats. Alternatively, no features are visible but owing to the size and age and structure, hidden features, sub-optimal for roosting bats, may occur that only an elevated inspection may reveal. In respect of ivy cover, this is not dense (i.e. providing BRP in itself) but may mask presence of BRP features. *No further survey is required. Works may proceed using reasonable precautions (e.g. controlled working methods, supervision of a bat worker. Seasonal constraints may apply).*
3 Negligible	An inspected tree that is considered not to have potential for roosting bats. *No further survey or mitigation required.*

[7] Hundt (2012) Bat Survey Best Practice Guidelines

Constraints to Methods

3.10 Evidence of protected species is not always discovered during a survey. This does not mean that a species is not present; hence the surveys also record and assess the ability of habitats to support protected species. The time frame in which the survey is implemented provides a 'snapshot' of activity within the Pile Test Site and buffer area and cannot necessarily detect all evidence of use by a species.

3.11 All non-native species are legally controlled under the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2011). The extended Phase 1 survey checked, in particular, for the presence of Japanese knotweed (as well as giant knotweed and hybrid knotweed), giant hogweed, rhododendron and Himalayan balsam. There may be other invasive plant species present within the Pile Test Site and buffer area which were not recorded, but it is considered that this survey is sufficient to identify any significant constraints posed by invasive plants.

3.12 Restricted access to the landfill site to the west of the Pile Test Site meant that much of this area had to be surveyed from a distance; therefore species composition of habitats in this area could not be determined during the survey. However, given the current land use of the area, this was considered to be sufficient for the purposes of Phase 1.

4 Results

Desk Study

4.1 There were no records of protected species within the Pile Test Site or 150m buffer.

4.2 The desk study identified records of the following protected species within the 10km square in which the Pile Test Site is located, from the NBN Gateway:

- Pipistrelle bat species;
- Daubenton's bat;
- Brown long eared bat;
- Badger;
- Otter;
- Red squirrel; and
- Pine marten.

4.3 Five statutory designated sites are located within 5km of the Pile Test Site, as shown in **Table 3** below.

Table 3: Statutory Designated Sites Located Within 5km of Pile Test Site

Site name	Designation	Qualifying feature	Approximate distance from Pile Test Site (km)
Roslin Glen	Site of Special Scientific Interest (SSSI)	Upland mixed ash woodland	2.4km
Black Burn	Site of Special Scientific Interest (SSSI)	Upland mixed ash woodland Geological	3.9km
Peeswit Moss	Special Area of Conservation (SAC)/ Site of Special Scientific Interest (SSSI)	Raised bog	4.8km
Hewan Bank	Site of Special Scientific Interest (SSSI)	Geological	4.9km
Bilston Burn	Site of Special Scientific Interest (SSSI)	Upland mixed ash woodland Geological	5km

4.4 No non-statutory designated sites were located within the Pile Test Site or 150m buffer, but three were located within 2km, with the closest one being approximately 1km away. Midlothian Council was unable to confirm the names or qualifying features of the non-statutory sites, however non-statutory sites are normally designated because they represent a high diversity of species or are

particularly interesting examples of habitats within the local context, or as part of a wider network. In many cases, the qualifying features of non-statutory sites are no longer recorded or understood, but retain their designation due to their historical value.

Field Study

Extended Phase 1 Habitat Survey

Habitats

4.5 The Pile Test Site and 150m buffer consists of a small number of common habitats, detailed below along with their JNCC codes. Photographs in **Appendix 1** and the Phase 1 Habitat Map in **Appendix 2** should also be referred to when considering these descriptions.

- **Arable (J1.1)**: The majority of the 150m buffer area consists of this habitat type which is split by field boundaries and currently used for the production of cereal crops and silage.
- **Quarry (I2.1)/Hardstanding**: A large proportion of the Pile Test Site consists of this habitat type. The Pile Test Site is part of the Shewington open-cast coal mine and quarry, which is no longer operational. These areas of hardstanding were surrounded by large stone bunds.
- **Mixed Plantation Woodland (A1.3.2)**: Two areas of this habitat type were located to the north and south-west of the Pile Test Site respectively. Species present in this habitat included Scot's pine, larch, sycamore, willow sp., beech, birch, elder and rowan; with rosebay willowherb, spear thistle, ragwort and bramble present within the understory.
- **Standing Water (G1)**: Three small man-made bodies of water lie within the Pile Test Site and 150m buffer. These waterbodies are associated with the former mining operations. A further, larger body of water lies on the southern edge of the buffer area. This is currently in use as a fishery.
- **Mosaic of Bare Ground and Amenity Grassland (J1.2/J4)**: The car parking and amenities area for the fishery within the southern edge of the buffer zone consists of: hard standing car park; and mown lawn of amenity grassland.

Otter

4.6 The Pile Test Site offers sub-optimal habitat for otters. A survey of the banks of the four water bodies located within the 150m buffer was carried out to identify evidence of otter, but no rocks or other suitable sprainting locations were identified for otters.

4.7 No evidence of otter was located during the Extended Phase 1 Habitat Survey.

Badger

4.8 The Pile Test Site offers negligible suitable habitat for badgers. Habitats within the 150m buffer area offered sub-optimal habitat for the species, in the form of intensively managed arable crops and hardstanding unsuitable for sett excavation.

4.9 However, there were areas of mixed woodland located at the north and south-west of the 150m buffer area. Furthermore, these areas of woodland are loosely connected to others in the wider landscape.

4.10 No evidence of badger activity was identified during the survey.

Nesting Birds

4.11 Seasonal constraints dictated that nesting bird surveys could not be conducted, however the mixed woodland to the north and south-west is likely to provide suitable habitat for nesting birds and this is further discussed in **Section 5**.

Great Crested Newts

4.12 Three ponds located within 150m of the Pile Test Site with assessed with regard to their potential to support this species. **Table 4** shows the Habitat Suitability Index calculated following findings from the survey. The large fishery pond at the far south of 150m buffer area was immediately discounted from further assessment on account of its size and known fish population.

Table 4: Great Crested Newt Habitat Suitability of Ponds

Pond	National Grid Reference	HSI Score	Suitability
1	NT 27291, 59669	0.79	Good
2	NT 27373, 59672	0.46	Poor
3	NT 27404, 59860	0.31	Poor

4.13 The vast majority of the Pile Test Site and 150m buffer area consists of arable land and hardstanding. These habitats are unsuitable for supporting great crested newts either during the summer breeding season or during the winter hibernation period.

4.14 There is suitable woodland habitat adjacent to pond number 1; however, the main A6094 road transects this woodland and the pond, reducing its suitability to support great crested newts.

Non-Native Invasive Species

4.15 No evidence of non-native invasive species was identified during the Extended Phase 1 Habitat Survey.

Bat Roost Potential

4.16 The Pile Test Site does not support mature trees and consequently no evidence of bats was recorded. However, woodland within the 150m buffer area was also searched. Some cracks, holes and broken limbs within individual trees may provide limited opportunistic roosting potential for a small number of bats. The trees were assessed to have negligible to low bat roost potential (Category 3/2).

4.17 Abandoned Portakabin-style structures remain in the former mine's site compound, but these are unlikely to support roosting bats given the lack of internal roof space within them. No evidence of bats was identified on these structures.

4.18 In the wider context, the Pile Test Site is located within a large area of open hardstanding, surrounded by arable fields, which in its own right is considered to be unsuitable for bats. However, the mixed woodland located to the north and south-west of the Pile Test Site form parts of a larger, albeit loosely connected, network of woodland which may provide good commuting routes, foraging and roosting opportunities for bats. Furthermore, the small ponds within the Pile Test Site and 150m buffer area, and the Roslynlee Trout Fishery Reservoir adjacent to the Pile Test Site, are likely to provide foraging habitat in the wider habitat which increases the overall bat roost potential.

5 Discussion

Desk Study

5.1 Records of bats, otter, badger, red squirrel and pine marten were identified within the 10km square in which the Pile Test Site is located, suggesting that the surrounding area provides suitable habitat for these species. The absence of forestry from the Pile Test Site and buffer negated the need for red squirrel and pine marten surveys.

5.2 Five statutory designated sites were identified within 5km of the Pile Test Site, but as the closest one, Roslin Glen SSSI, is located approximately 2.4km away from the Pile Test Site and is not connected structurally or functionally to the Pile Test Site, it should pose no constraints to the Pile Test.

Field Study

Extended Phase 1 Habitat Survey

Habitats

5.3 The Pile Test Site is dominated by hardstanding as detailed above. This habitat is common and widespread and its removal to accommodate the Pile Test does not pose any particular ecological constraint. However, the mixed woodland and ponds within the 150m buffer area convey an ecological value for their ability to support foraging, commuting and sheltering wildlife.

Otter

5.4 The ponds on the Pile Test Site and within the 150m buffer are likely to provide very limited seasonal foraging opportunities for otters, if any. The ponds have no bank structure suitable for sheltering otters, and no evidence of otters was found during the Extended Phase 1 Habitat Survey; therefore, this species is unlikely to be affected by the Pile Test.

Badgers

5.5 The majority of the habitats within the Pile Test Site and 150m buffer area are considered to be sub-optimal for badger.

5.6 No evidence of badger activity was identified during the survey, therefore this species is unlikely to be affected by the Pile Test. Further recommendations regarding badger disturbance are provided in **Section 6**.

Great Crested Newts

5.7 The Pile Test Site lies within an area of hardstanding, which is considered to be unsuitable habitat for this species.

5.8 Of the four ponds assessed for great crested newt suitability, only one proved to be suitable for the species. This pond lies adjacent to the main A6094 road. Suitable woodland habitat is adjacent to the pond, but it is transected by the main A6094 road, which reduces it suitability to support great crested newt populations.

5.9 In addition to the above, no historic records of this species were identified by the desk study. Therefore this species is unlikely to be affected by the Pile Test.

Nesting Birds

5.10 The woodland habitat to the north and the south-west of the Pile Test Site provides nesting habitat for breeding birds. This habitat is unlikely to be directly affected by the Pile Test.

5.11 Whilst the exact timing of the start of works onsite (and consequently the start of the Pile Test itself) is yet to be determined, it is likely that works will commence during the breeding bird season (i.e. between March and September 2015). It is therefore possible that nesting birds will be disturbed by noise associated with the Pile Test. Noise disturbance can cause breeding birds to abandon their nests, resulting in failed breeding attempts. . Recommendations in this regard are provided in **Section 6**.

Bats

5.12 There were no suitable features for roosting, foraging or commuting bats within the Pile Test Site.

5.13 The 150m buffer area supports mixed woodland which forms part of a larger, albeit loosely connected, network of woodland in the wider landscape which may provide good commuting routes, foraging and roosting opportunities for bats.

5.14 No direct evidence of bats was found during the survey, but areas of woodland area are likely to have bat roosting potential. Some cracks, holes and broken limbs observed within individual trees may provide limited opportunistic roosting potential for a small number of bats. It is unlikely that these areas of woodland will be affected by the Pile Test, however bats may be subject to disturbance from the piling activities. However, the Pile Test is unlikely to cause any new level of disturbance as the Pile Test Site is within an area currently used by heavy farm machinery and formerly used by heavy mining traffic. Further recommendations regarding bats are provided in **Section 6**.

6 Recommendations and Mitigation

Habitats

6.1 The habitats located within both the Pile Test Site and the 150m buffer area are common and widespread within the local area. Although a large proportion of the Pile Test Site and buffer are currently vegetated, the habitats are considered of low ecological value, which require no specific mitigation.

Badger

6.2 Badgers are protected under the Protection of Badgers Act 1992 (as amended) which makes it an offence to damage or destroy a sett, or disturb a badger whilst it is occupying a sett.

6.3 No evidence of badger was identified during the survey, therefore the species should pose no constraint to the development, and no disturbance licences will be required.

6.4 However, in the event that badgers may be foraging in the area of the Pile Test Site, and to prevent any further unnecessary disturbance, the following measures will be followed:

- Where night working is necessary, works may disturb foraging or commuting badgers. To ensure badgers have an opportunity to safely move away from areas of disturbance, light spill should be minimised in woodland areas. Site staff should not access wooded areas at night-time.
- While Heras fencing around the site will reduce the likelihood of badgers accessing operational areas, as a further precaution, any excavations should be covered in the evening to prevent animals falling in. All trenches, trial pits, excavations and especially sewers and manholes will be covered to prevent a badger casualty on site. Where pits and trenches cannot be closed or filled on a nightly basis, a plank will be placed into the excavation so an animal can use this as a means of escape if necessary.
- Contractors should ensure all rubbish and construction materials are collected and removed from the Pile Test Site on a regular basis to prevent attraction, trapping or injury to badgers.
- If stockpiles of materials especially loose material such as topsoil are to be used, then these should not be left *in situ* for long periods of time to prevent badgers excavating a sett in these.

6.5 As badger is a transient, very mobile species, contractors should be made aware of potential field signs of the species. If, at any stage during the works, it becomes apparent that badgers are active within the Pile Test Site, expert advice should be sought immediately from a suitably qualified ecologist.

Nesting Birds

6.6 Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and destruction.

6.7 It is possible that nesting birds may be found in the mixed woodland to the north and south-west of the Pile Test Site. It is unlikely that any of this vegetation will require removal, however if this changes at any stage, then it should be undertaken between September-February (inclusive,

subject to geographical and seasonal variations) to avoid the season during which birds are most likely to nest.

6.8 If it is not possible to undertake clearance outside of the nesting bird season, vegetation should be checked by an ecologist (or an appointed competent person) for bird nests either 24 hours, or immediately, prior to commencement of clearance. Any nest identified to be active or being built during this survey will need to be left undamaged, undisturbed and *in situ* for the entire nesting period (with sufficient attendant vegetation) and alternative approaches taken to the proposed works.

6.9 On the assumption that works will commence during the breeding bird season, it is possible that nesting birds will be disturbed by noise. As such, mitigation measures have been included as part of the project, including the use of a 'phased start' approach by which the scale of the works will gradually be increased as the project progresses. This approach allows a period of 'habituation' should any breeding birds be present onsite or in the woodland areas nearby. Further to this approach, it is also possible to reduce the likelihood that birds will establish nests. Established techniques, such as the use of flicker tape in wooded areas, will be used to discourage birds from establishing nests. This would be installed at the start of the breeding season (March 2015) and left in place for the duration of the works.

Bats

6.10 There were no suitable features within the Pile Test Site; however the proximity of the Pile Test Site to the mixed woodland to the north of the Pile Test Site may mean that bats will likely be commuting and foraging close by. This is, however, unlikely to cause any new level of disturbance as the Pile Test Site is within an area currently used by heavy farm machinery and formerly used by heavy mining traffic.

6.11 It is unlikely that any vegetation will require removal to facilitate the Pile Test, however if this changes at any stage, and removal of any vegetation is required, then this should be kept to a minimum as required for any vehicular access and visibility splay.

6.12 No further survey work in relation to bats is required, however in the unlikely event that any signs of bats are found during the construction period, works should stop in that area and an ecologist should be contacted.

7 Conclusion

7.1 The habitats within both the Pile Test Site and 150m buffer area are common and widespread throughout the local area and as no evidence of protected species was identified, there are no constraints to the Pile Test.

7.2 The Pile Test is unlikely to be constrained by ecological features, and the Pile Test is unlikely to compromise nature conservation legislation or planning policy.

Appendix 1: Site Photographs

Photograph 1: Area of hardstanding proposed for the Pile Test

Photograph 2: Mixed woodland to the north of the Pile Test Site

Photograph 3: Arable fields to the east of the Pile Test Site

Appendix 2: Phase 1 Habitat Map

Neart na Gaoithe
Temporary Test Piling Works

Extended Phase 1 Habitat Survey of Pile Test Site

- Pile Test Site Boundary
- 150m Pile Test Site Boundary Buffer

Phase1

- Arable
- Mixed plantation woodland
- Standing water
- Hardstanding/quarry
- Hardstanding
- No Access
- Hardstanding and amenity grassland
- Building

Map Scale @ A3:1:2,250

LUC

Environmental Appraisal Appendix 5: Archaeology and Cultural Heritage Assessment

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Neart na Gaoithe
Temporary Test Piling Works

Archaeology and Cultural Heritage Assessment

CONTENTS

APPENDICES

FIGURES (bound at rear)

1. INTRODUCTION

Neart na Gaoithe Offshore Wind Ltd (NnGOWL) are proposing to undertake temporary test piling works (herein the 'Pile Test') on an area of ground near Newbigging in Midlothian (NGR NT 277 604). This report outlines the potential effects on archaeology and cultural heritage in the vicinity of the Pile Test Site.

Initially, several locations were considered and trial boreholes sunk at a number of those locations. Consultation with Midlothian Council's Archaeological Advisors (East Lothian Archaeology Service) at that time identified a need to undertake archaeological monitoring at one location (in the vicinity of a prehistoric cremation cemetery) (Site 3.1, see Figure 2 of main Environmental Appraisal) deemed to be archaeologically sensitive. Other locations, including the site finally chosen for the Pile Test did not require archaeological monitoring.

Subsequent to the borehole trials, one location was chosen for the Pile Test. The following section provides an archaeological assessment of the location of the Pile Test. The General Arrangement Plan (Figure 3 of main Environmental Appraisal) shows the location and extent of the Pile Test Site and the locations of the associated temporary supporting infrastructure.

An archaeological desk-based assessment of the site was undertaken (August 2014) with the following specific objectives:

- to identify the archaeological and cultural heritage baseline within the Pile Test Site, and identify any key cultural heritage assets in the immediate vicinity that might be affected by the piling operations;
- to assess the Pile Test Site in terms of its archaeological potential, within the context of relevant legislation and planning policy guidelines;
- to consider the potential and predicted effects of the Pile Test on the baseline cultural heritage resource; and
- to propose measures, where appropriate, to mitigate any predicted adverse effects.

2. PLANNING AND LEGISLATIVE BACKGROUND

2.1 National Legislation and Policy

Scottish Historic Environment Policy (SHEP) (Historic Scotland 2011)

This sets out the Scottish Ministers' policies for the historic environment, and provides policy direction for Historic Scotland and a framework that informs the day to day work of a range of organisations that have a role and interest in managing the historic environment. Through the implementation of the SHEP, Scottish Ministers wish to achieve three outcomes for Scotland's historic environment: that the historic environment is cared for, protected and enhanced for the benefit of our own and future generations; to secure greater economic benefits from the historic environment;

and that the people of Scotland and visitors to Scotland value, understand and enjoy the historic environment.

Scottish Planning Policy (SPP) (The Scottish Government 2014)

In SPP (para. 136) the historic environment is recognised as a key cultural and economic asset and a source of inspiration that should be seen as integral to creating successful places.

Historic environment assets include statutory and non-statutory designations, as defined in SHEP and SPP.

Key policy principles set out in SPP are to:

- promote the care and protection of the designated and non-designated historic environment (including individual assets, related settings and the wider cultural landscape) and its contribution to sense of place, cultural identity, social well-being, economic growth, civic participation and lifelong learning; and
- enable positive change in the historic environment which is informed by a clear understanding of the importance of the heritage assets affected and to ensure their future use. Change should be sensitively managed to avoid or minimise adverse impacts on the fabric and setting of the asset, and ensure that its special characteristics are protected, conserved or enhanced.

Heritage assets relevant to the Pile Test are:

Scheduled Monuments

Under the Ancient Monuments and Archaeological Areas Act 1979 (1979 Act), the Scottish Ministers are required to compile and maintain a schedule of monuments considered to be of national importance. The consent of the Scottish Ministers is required before any works are carried out which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up a Scheduled Monument. In addition, impacts of proposed development works upon the setting of a Scheduled Monument form an important consideration in the granting or refusal of planning consent to conduct development works.

Listed Buildings

Under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (1997 Act), the Scottish Ministers are required to compile a list of buildings of special architectural or historic interest. Such buildings are classified into Categories A, B and C, in decreasing order of importance. Planning authorities and the Scottish Ministers are required to have special regard for the desirability of preserving Listed Buildings and their settings, and any features of special architectural or historic importance they possess.

Non-statutory designations relevant to this study are:

Other Historic Environment Interests

There is a range of other non-designated archaeological sites, monuments and areas of historic interest, including other (non-inventory) battlefields, historic landscapes, other (non-inventory) gardens and designed landscapes, woodlands and routes such as drove roads that do not have statutory protection. Sites without statutory protection are curated by the local planning authority, and SPP and PAN 2/2011 provide national planning policy guidance and advice on the treatment of such resources.

Planning Advice Note (PAN) 2/2011: Planning and Archaeology (The Scottish Government 2011)

PAN 2/2011 advises that, in determining planning applications, planning authorities should take into account the relative importance of archaeological sites (para. 5). It also notes that in determining planning applications that may impact on archaeological features or their setting, planning authorities may on occasion have to balance the benefits of development against the importance of archaeological features (para. 6). The desirability of preserving a monument (whether scheduled or not) is a material consideration and the objective should be to assure the protection and enhancement of monuments by preservation in situ, in an appropriate setting. When preservation in situ is not possible, recording and / or excavation followed by analysis and publication of the results may be an acceptable alternative (para. 14).

2.2 Regional and Local Policy

Archaeological resources are also considered within the framework of the following regional and local planning policies.

South East Scotland Strategic Development Plan (SESPlan) 2013
Under the terms of the Planning etc. (Scotland) Act 2006, the six member authorities (City of Edinburgh, East Lothian, Fife, Midlothian, Scottish Borders and West Lothian) that make up the SESplan Strategic Development Planning Authority (SDPA) are required to prepare a Strategic Development Plan (SDP) for South East Scotland. The SESPlan replaces the Edinburgh and The Lothians Structure Plan 2015.

The Strategic Development Plan aims to ensure that the City Region, underpinned by its high quality built and natural environment, continues to be internationally recognised as an outstanding area in which to live, work and do business.

Policy 1B The Spatial Strategy: Development Principles states that Local Development Plans will ensure that there are no significant adverse impacts on the integrity of international and national built or cultural heritage sites, in particular World Heritage Sites, Scheduled Ancient Monuments, Listed Buildings, Royal Parks and Sites listed in the Inventory of Gardens and Designed Landscapes.

Policy 1B also states that Local Development Plans will have regard to the need to improve the quality of life in local communities by conserving and enhancing the natural and built environment to create more healthy and attractive places to live.

Midlothian Local Plan (2008)

Under Policy RP24 (Listed Buildings), development will not be permitted which would adversely affect the character or appearance of a Listed Building, its setting, or any feature of special architectural or historic interest that it possesses. New development within the curtilage of a Listed Building or its setting will only be permitted where it complements its special architectural or historic character.

Under Policy RP26 (Scheduled Ancient Monuments (Scheduled Monuments)), development which could have an adverse effect on a Scheduled Ancient Monument, or the interpretation of its setting, will not be permitted.

Under Policy RP27 (Other Important Archaeological or Historic Sites), development will not be permitted where it could adversely affect an identified regionally or locally important archaeological or historic site or its setting unless the applicant can show that:

- there is a public interest to be gained from the proposed development which outweighs the archaeological importance of the site;
- there is no alternative location for the proposal; and
- the proposal has been sited and designed to minimise damage to the archaeological interest.

Under Policy RP28 (Site Assessment, Evaluation and Recording), where any development proposal could affect an identified site of archaeological importance, the applicant will be required to provide an assessment of the archaeological value of the site and of the impact of the proposal on the archaeological resource.

Unless Midlothian Council is satisfied to the contrary, such an assessment will require a field evaluation of the site to determine:

- the character and extent of the archaeological remains;
- the likely impact of the proposed development on the features of archaeological interest; and
- ways in which the proposed development can be designed to preserve the archaeological interest.

Where the development is considered to be acceptable and it is not possible to preserve the archaeological resource in situ, the developer will be required to make arrangements for an archaeological investigation. The scope of this will be appropriate to the physical character of the site and proportionate to the importance of the information expected to be recoverable. Except for sites of minor local interest, this investigation will normally include excavation and recording prior to the start of development, followed by analysis and publication of the field data.

3. APPROACH TO THE ASSESSMENT

The assessment has been conducted in accordance with the Institute for Archaeologists' '*Code of Conduct*' (IfA 2014) and '*Standard and Guidance for Historic Environment Desk-based Assessment*' (IfA 2012).

3.1 Desk-Based Assessment

Information was obtained from appropriate sources on the locations of archaeological sites and cultural heritage assets with statutory protection and non-statutory designations within 500m of the Pile Test Site.

Up-to-date details of the locations and extents of Scheduled Monuments, Listed Buildings, and Inventory Gardens and Designed Landscapes within 500m of the Pile Test Site were obtained from Historic Scotland in a digital GIS format (Historic Scotland 2014).

Up-to-date information on the character and condition of known archaeological sites and monuments and previous archaeological assessments was obtained from Midlothian Council HER and from Canmore, maintained by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS 2014a). Information from these sources was used to assess the likely archaeological potential of the Pile Test Site.

Historic Ordnance Survey maps and other early maps held by the Map Library of the National Library of Scotland were examined, to provide information on sites or locations of potential archaeological significance within or adjacent to the Pile Test Site and on historic land-use character and changes.

Up-to-date information on current and historic land-use was obtained from Historic Land-Use Assessment maps for Scotland (HLAmap), maintained by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS 2014b).

Modern, and historical, aerial photographic imagery, available on-line (Google™ and Bing™), was examined for information on recent land-use and changes.

3.2 Assessment of Potential Effects

Heritage assets are sensitive to both direct and indirect effects. Criteria for assessing effects are detailed below.

The Pile Test's effect on cultural heritage interests have been assessed using the criteria detailed below (**Tables 1** and **2**) and in the following categories:

- Direct effects: where there would be a physical effect on a site or feature caused by the Pile Test.

- Indirect effects: where there may be an effect on a site or feature arising as an indirect consequence of the Pile Test; in this case vibration resulting from piling operations.
- Adverse effects: are those that detract from the value of a receptor through a reduction in, or disruption of, valuable characterising components or patterns, or the introduction of new inappropriate characteristics. In terms of cultural heritage, adverse effects include those that detract from an appreciation of a cultural heritage site and/or its setting.
- Beneficial effects: are those that contribute to the value of a cultural heritage site through enhancement of desirable characteristics or the introduction of new, positive attributes. In terms of cultural heritage, beneficial effects include those that add to an appreciation of the cultural heritage site and/or its setting.
- Neutral effects: occur where the works can be accommodated comfortably by the receiving environment while neither contributing to nor detracting from the value of the cultural heritage asset.

Heritage Importance

The importance of historic environment assets has been determined from the relative weight given to them in SPP and SHEP. **Table 1** summarises the relative importance of all heritage assets.

Table 1: Importance of Cultural Heritage Assets

Importance	Definition/Criteria
National / International	• World Heritage Sites • Scheduled Monuments • Archaeological sites proposed for scheduling or of demonstrable schedulable quality • Category A Listed Buildings • Inventory status Gardens and Designed Landscapes • Inventory Historic Battlefields • Designated Wrecks
Regional	• Archaeological sites and areas of distinctive regional importance • Category B Listed Buildings • Conservation Areas.
Local	• Archaeological sites and areas of local importance • Category C Listed Buildings. • Non-inventory designed landscapes
Lesser	• Archaeological sites and areas of little or no importance • Other historic environment features • Artefact find-spots

Those that are relevant in the context of this assessment are: Scheduled Monuments; Listed Buildings; archaeological sites of regional or local importance; and, other historic environment features.

Magnitude of Effect

Magnitudes of effect are assessed in the categories high, medium, low, imperceptible and none, as defined in **Table 2**.

Table 2: Magnitude of Effect

Level of Magnitude	Definition
High	Major effect fundamentally changing the baseline condition of the asset, leading to total or major alteration of character or setting
Medium	Moderate effect changing the baseline condition of the asset materially but not fundamentally, leading to partial alteration of character or setting
Low	Minor detectable effect which does not alter the baseline condition of the asset materially
Imperceptible	A very slight and barely distinguishable change from baseline conditions
None	No discernible change to the baseline condition of the character or setting of the asset

Where a proposal would have an effect of more than imperceptible magnitude on an asset of local or greater importance, mitigation may be required to avoid or reduce, or, if an effect is unavoidable, to offset that effect, in accordance with the requirements of planning policy as expressed in PAN2/2011 and Local Plan Policy.

4. CULTURAL HERITAGE BASELINE

Figure 1 shows the Pile Test Site along with the location of archaeological and cultural heritage records (derived from the Midlothian Historic Environment Record) in the vicinity. **Figure 1** also shows the extent of areas of previous archaeological surveys and excavations in proximity to the Pile Test Site. **Appendix 1** provides a gazetteer of these assets and records, along with an indication of the heritage importance of each.

4.1 Baseline within the Pile Test Site

The Pile Test Site has recently been exploited by Scottish Coal as a surface mine.

A desk-based assessment and site walk-over survey was carried out for the surface mine area, defined on **Figure 1**, in 2004. Follow on archaeological mitigation, through archaeological evaluation of selected features within the surface mine was carried out in 2006. At that time, no archaeological investigations were required in the area of the Pile Test Site; an area that was, during the operation of the surface mining enterprise, used as the site of office and car parking accommodation.

The Indicative Pile Location itself lies below what was a temporary topsoil storage bund, laid between the office compound area and the public road. This was subsequently taken down and the material dispersed elsewhere within the surface mine site.

4.2 Overall Archaeological Potential of the Pile Test Site

As a consequence of the prior land-use as a surface coal mine and the use of the Pile Test Site as an office compound and car parking area, the Pile Test Site is deemed to be archaeologically sterile and to have no residual archaeological potential.

4.3 Baseline within 500m of the Pile Test Site

There are three cultural heritage records in the Midlothian HER within 500m of the Pile Test Site (**Figure 1**): Newbigging Opencast Coal Scheme - Survey (**EEL336; EEL337**); Newbigging Opencast Coal Scheme - Evaluation (**EEL338**); and, Whitehill Tile and Fireclay Works (**MEL5078**), a site that no longer survives as standing buildings and which lies within a woodland plantation (Drummond Moor Wood).

Heritage assets identified by the 2004 survey (**EEL336; EEL337**) included various features of 19th and 20th century date including relict small scale mining features and minor agricultural features, all of which were of Lesser or Local importance and none of which now survives; as a consequence these are categorised as being of lesser heritage importance. The 2006 archaeological investigations (**EEL338**) discovered a small, prehistoric, cremation cemetery (**MEL9375**) of Regional heritage importance (preserved in situ) and the remains of a row of farm buildings of 18th century date and of Local heritage importance (recorded by excavation, no longer surviving and therefore categorised as of lesser heritage importance).

The nearest Scheduled Monument: Newbigging, enclosure 400m WNW of (**6264**) is a cropmark enclosure 600m north of the Pile Test Site. This heritage asset is of National importance. The nearest Listed Building is Category C Listed Shewington Farmhouse, including bothy (**46091**), a heritage asset of Local importance 1.3km to the north-east. Both assets are shown on **Figure 1** for reference. The remains of Whitehill Tile and Fireclay Works (**MEL5078**) lie in woodland 200m to the south-west of the Pile Test Site and are of Local heritage importance.

5 IMPACT ASSESSMENT

5.1 Predicted Direct Effects

Using the criteria detailed in **Tables 1** and **2**, the predicted effects on the cultural heritage assets identified by the assessment within and in the vicinity of the Pile Test Site are discussed below.

Ground breaking activities (e.g. topsoil removal, subsoil excavation, etc) associated with the Pile Test have the potential to disturb or destroy cultural heritage assets or buried archaeological remains. Other construction activities, such as vehicle movements, soil and overburden storage and landscaping also have the potential to cause direct, permanent and irreversible effects on the cultural heritage.

The Pile Test Site has been subject to recent industrial activity during the operation of the Newbigging Surface Mine. As such, the Pile Test Site is deemed to be

archaeologically sterile and there is no scope for any direct effect from the Pile Test on cultural heritage or buried archaeology.

5.2 Predicted Indirect Effects

Potential indirect effects on cultural heritage arising from the Pile Test are restricted to possible damage to standing structures arising from vibration from piling operations or to short term visual effects from the presence of plant and offices accommodation.

The nearest Scheduled Monument (**6264**), a heritage asset of National importance, is a cropmark site 600m north of the Pile Test Site. The nearest listed building (**46091**) is a category C listed farmhouse, of local heritage importance, 1.3km to the north-east. Neither asset would be affected by vibrations from piling operations due to the distance of the assets from the Pile Test Site.

6. MITIGATION

There are no predicted direct or indirect effects arising as a consequence of the Pile Test. Therefore, there is no requirement for any archaeological mitigation during the Pile Test.

7. CONCLUSIONS

There are no cultural heritage assets within the Pile Test Site and the area is deemed to be archaeologically sterile as a consequence of recent land-use as the location of a surface mine office compound.

No direct effects arising from the Pile Test are predicted upon cultural heritage assets in the vicinity of the Pile Test Site.

The nearest Scheduled Monument (**6264**) is a cropmark site 600m north of the Pile Test Site. The nearest Listed Building (**46091**) is a Category C Listed Farmhouse 1.3km to the north-east. There are no other cultural heritage assets in the vicinity of the Pile Test Site that raise potential concerns.

There are no predicted indirect effects on cultural heritage assets arising from the Pile Test.

Based on the absence of any archaeological remains within the Pile Test Site and the separation distance between the Pile Test Site and the nearest standing cultural heritage asset, it is recommended that no archaeological mitigation is required in respect of the Pile Test.

8. REFERENCES & SOURCES CONSULTED

Historic maps

Ordnance Survey (1852) '*Edinburghshire, Sheet 12*' - six inches to one mile

Ordnance Survey (1894) '*Edinburghshire, Sheet 013.12*' - 25 inches to one mile

Ordnance Survey (1907) '*Edinburghshire, Sheet 013.12*' - 25 inches to one mile

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Johnson, M. 2007. Newbigging OCCS Extension, Midlothian: Post-Excavation Archive Report. CFA Archaeology Ltd (Unpublished Report No 1284)

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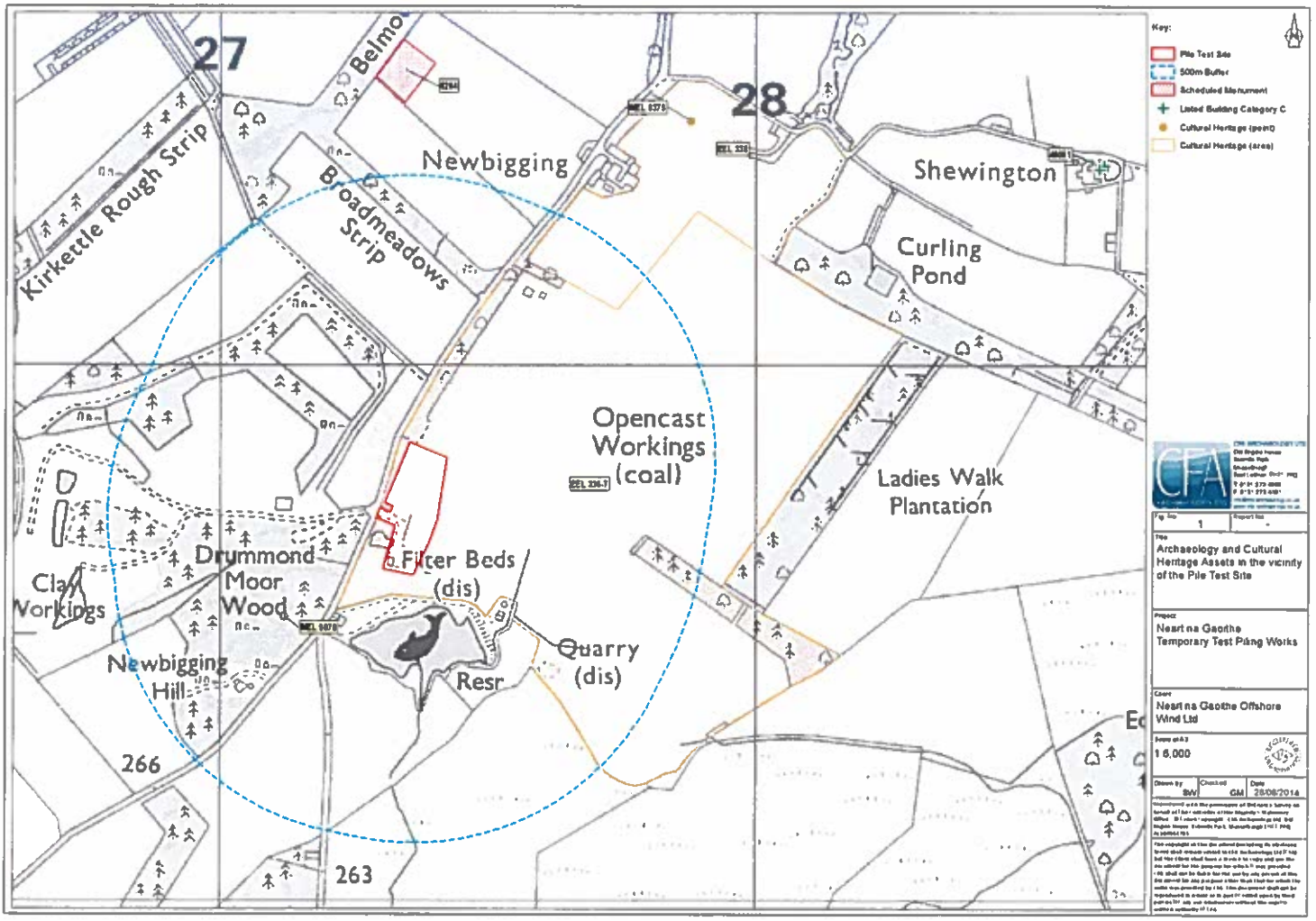
27
28
Belmo
Kirkettle Rough Strip
Broadmeadows Strip
Newbigging
Shewington
Curling Pond
Opencast Workings (coal)
Ladies Walk Plantation
Filter Beds (dis)
Drummond Moor Wood
Clay Workings
Newbigging Hill
Quarry (dis)
Resr
266
263
Key:
Pile Test Site
500m Buffer
Scheduled Monument
Listed Building Category C
Cultural Heritage (point)
Cultural Heritage (area)
CFA
Fig. No. 1
Report No. -
Title
Archaeology and Cultural Heritage Assets in the vicinity of the Pile Test Site
Project
Neart na Gaoithe Temporary Test Piling Works
Client
Neart na Gaoithe Offshore Wind Ltd
Scale at A3
1:6,000
Drawn by SW
Checked GM
Date 28/06/2016

APPENDIX 1: Archaeological and Cultural Heritage Records Referenced in Report (Figure 1)

Heritage Asset No	Asset Name	Asset Type	Easting	Northing	Source(s)	Description	Heritage Importance
EEL336; EEL337	Newbigging Opencast Coal Mine	Field Boundary; Clearance Cairn			Clarke, K (2004); Kirby, M (2004)	A desk-based assessment and subsequent survey identified 15 features, seven of which were recommended for further work: five cairns and two field banks. One of the field boundaries was revealed to be a wall along the northern edge of a shelter-belt; the other was a ditch and bank along the southern edge of the same shelter-belt. It is probable that the features were all of 19th- or 20th-century origin. The remains of these features were removed during surface mining operations and nothing now survives.	Lesser
EEL338; MEL9375	Newbigging Opencast Coal Scheme / Newbigging Farm	Cremation Cemetery (Late Prehistoric, Prehistoric)	327879	660458	Kirby, M (2006); Johnson, M (2007)	An archaeological evaluation carried out in advance of an extension to Newbigging Open Cast Coal Scheme identified a small cremation cemetery and the remains of a rectangular structure (see below). The cremation cemetery consists of four confirmed cremations and eleven possible cremations, and was not excavated and has been preserved in situ. Small quantities of cremated human bone and prehistoric pottery were recovered from the surfaces of four of the cremation pits. These features were not excavated and were preserved in situ. A programme of post-excavation analysis was carried out on the material recovered. Parts of two vessels were recovered, representing the remains of two different cremation urns, both likely to be of Early Bronze Age date.	Regional
EEL338; MEL9375	Newbigging Opencast Coal Scheme / Newbigging Farm	Building (post medieval)	328031	660229	Kirby, M (2006); Johnson, M (2007)	An archaeological evaluation carried out in advance of an extension to Newbigging Open Cast Coal Scheme identified a rectangular structure is thought to be a building annotated 'Fatlips' on the 1766 map by John Laurie. The building comprised a linear stone built row of three	Lesser

Heritage Asset No	Asset Name	Asset Type	Easting	Northing	Source(s)	Description	Heritage Importance
						dwellings, each containing two separate rooms. The building had been built in two phases, although the likelihood is that the second phase followed on immediately from the first. Although map evidence shows a structure in this general area from at least 1763 all of the evidence suggested a later date for this building. The building was in use until the early to mid 20th century. The building was subject to archaeological excavation (Kirby 2004) and the remains were removed during surface mining operations. Nothing now survives of the building.	
6264	Newbigging, enclosure 400m WNW of	Settlement (prehistoric)	327300	660500	Historic Scotland (scheduling document); Midlothian Council HER	The remains of an enclosed settlement of prehistoric date represented by cropmarks visible on oblique aerial photographs. The site comprises a D-shaped enclosure some 60m NE-SW by 50m. The inner and outer ditches are approximately 4-5m wide, separated by about 3m. The NW side of the monument is defined by sloping ground, now wooded. Lighter patches in the SW of the enclosure may indicate the remains of internal features.	National
MEL5078	Whitehill Tile And Fireclay Works	Tile Works (post medieval)	327120	659530	Midlothian Council HER	Site of tileworks shown on 1st edition OS map c. 1855. The map shows two buildings, and is labelled "Whitehill Tile Works". The tileworks is not shown on the 2nd edition map c. 1894 and is assumed to have gone out of use by this time.	Local
46091	Shewington Farmhouse, including bothy	Farmhouse & bothy	328642	660372	Historic Scotland (statutory list); Midlothian Council HER	Early 19th century 2-storey, 3-bay, T-plan farmhouse, with later additions and alterations. Single storey, 3-bay, rectangular-plan bothy. Category C listed.	Local

Environmental Appraisal Appendix 6: Transport and Access Report

Neart na Gaoithe Temporary Test Piling Works

Transport and Access Report

Neart Na Gaoithe Temporary Test Piling Works
Newbigging Open Cast Coal Scheme, Midlothian

Transport and Access Report

Report

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Job No SCT3519

Report No 1

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Verified A Devenny

Approved by A Devenny

Status Final

Issue No. 4

Date January 2015

Neart Na Gaoithe Temporary Test Piling Works
Newbigging Open Cast Coal Scheme, Midlothian

Transport and Access Report

Report

Contents Amendments Record

This document has been issued and amended as follows:

Status/Revision	Revision description	Issue Number	Approved By	Date
DRAFT		1	A.DeVenny	21/08/14
DRAFT		2	A.DeVenny	27/08/14
DRAFT		3	A.DeVenny	04/09/14
FINAL		4	A.DeVenny	12/01/15

Contents

Appendices

1 Introduction

General

1.1 JMP Consultants has been commissioned by Neart na Gaoithe Offshore Wind Ltd to prepare a Transport and Access report in support of proposed temporary test piling works at the decommissioned Newbigging Open Cast Coal Scheme (OCCS) near Rosewell in Midlothian.

1.2 The purpose of the temporary test piling works (hereafter 'the Pile Test') is to test different pile installation methods and equipment for the Neart na Gaoithe Offshore Wind Farm. The test piling site (hereafter 'the Pile Test Site') is therefore temporary and is likely to be in operation for no more than 19 weeks which includes de-mobilisation. On completion of the Pile Test, all equipment and most materials will be removed from the Pile Test Site including any hard standing. The exception to this is the piles themselves which will be cut below ground level with the protruding section removed from the Pile Test Site.

1.3 The purpose of this Transport and Access report is to identify potential traffic effects associated with the Pile Test and to identify measures that will minimise the traffic effects during the Pile Test. The trip generation potential of the Pile Test Site is identified in this report relating to both plant/materials traffic and workforce travel.

1.4 This document seeks to define the mechanisms for managing the movement of construction related vehicular traffic associated with the development and also the process for consultation with parties who may be affected by Pile Test traffic. In particular the report will look at the management and mitigation of traffic effects on the rural road network leading to the Pile Test Site.

1.5 The document looks at the details of the existing site access which will serve the Pile Test Site and consideration is given to the movement of abnormal loads transferring the piles and other equipment to the Pile Test Site including swept path analysis at identified pinch points.

Site Location

1.6 The Pile Test Site is located within the decommissioned Newbigging OCCS and will use the existing site entrance, off the A6094. It is expected that no more than 2Ha will be required for the pile testing area, equipment, storage, and parking. The Pile Test Site will be established just inside the existing entrance and will be secured using gates and temporary fencing.

1.7 The Pile Test Site location and site boundary is shown in Figure 1.1 at the end of this report.

Consultation with Midlothian Council

1.8 JMP Consultants has consulted with the Roads Officer at Midlothian Council with regard to the most suitable routes to the Pile Test Site and the scope of this assessment.

Structure of this Report

1.9 Chapter 2 of this report examines the construction stage details and potential traffic effects of the Pile Test. Chapter 3 looks at the proposed route to site and contains swept path analysis for identified pinch points on the route from the A720 City of Edinburgh Bypass to the Pile Test Site. Chapter 4 contains a summary and conclusions of the report. The report is also supported by the following Appendices:

- Appendix A: Abnormal Load Vehicles; and
- Appendix B: Swept Path Analysis Plans and Site Access Visibility Plans.

2 Construction Phase Details and Potential Traffic Effects

Construction Programme

2.1 Subject to securing the necessary consents, it is proposed that works will commence in Spring / Summer 2015 with the following indicative programme:

- Site Set Up - 6 weeks
- Pile Installation and Testing - 8 weeks
- Demobilising / Site Reinstatement - 5 weeks
- Total Duration - 19 weeks

Construction Effects

Predicted Effects

2.2 The construction traffic will comprise of construction workers, HGVs carrying materials and plant and abnormal loads carrying the piles. There is expected to be a maximum of 31 staff working on the Pile Test Site at any one time.

2.3 Estimates of HGV transport movements associated with the Pile Test have been identified (based on the size and quantities of materials and plant to be transported) and are indicated by Table 2.1. The workforce number and traffic movements are identified by Table 2.2.

Table 2.1 – HGV Transport Movements

Task	HGV movements to Site (Two-way Trips)	Special Transport / Low Loader (Two-way Trips)
Delivery of Piles	4	4
Site Preparation, Installation and Dismantling	172	10
Pile Installation (Piling and Drilling)	28	6
Pile Testing	10	0
Total	214	20

Table 2.2 – Workforce Numbers and Transport Movements

Item	Mob De-Mob (Persons)	Mob De-Mob (Cars)	Pile Install and Testing (Persons)	Pile Install and Testing (Cars)
Earthworks and site (de)mobilisation	20	4		
Excavator	1	1	1	1
Piling rig			4	2
Crawler crane	2	1	2	1
Drilling rig 1 (incl. Supervisor etc)			4	2
Test team 1			3	2
Drilling rig 2 (incl. supervisor etc)			4	2
Test team 2			3	2
Site management	6	4	10	6
Total	29	10	31	18

2.4 Table 2.1 indicates that there will be a total of 214 two-way HGV movements associated with the proposed works over the 19 week works duration. This equates to an average of 11.25 two-way HGV movements per week (2.25 two-way HGV movements per day) but the maximum case will be during the Pile Test Site preparation stage where there is likely to be an average of 29 two-way HGV movements per week at the Pile Test Site (5.8 Two-way HGV movements per day).

2.5 This level of HGV trip generation is not expected to have any significant effects on the A6094, B6392, A7 and the wider road network in terms of capacity or in terms of associated effects such as noise or dust creation.

2.6 Table 2.2 indicates that there will be a maximum of 31 staff on the Pile Test Site at any one time which equates to approximately 18 vehicles based on experience of other similar projects and taking account of contractor transport arrangements for staff. This level of trip generation is also not considered to be significant in terms of effects on the surrounding road network.

2.7 Whilst not included within the numbers above, there is a possibility that fresh water may be required to be brought to site by water bowsers to 'flush' the drill holes of drill cuttings. This would have no effect on the conclusions outlined above and would not result in any significant effects.

3 Site Access and Abnormal Load Route

Access to Site

The Pile Test Site access is located on the A6094 approximately 2.5km south of Rosewell. The general characteristics of the existing site access are indicated by Figure 3.1 below.

Figure 3.1 General Characteristics of Existing Site Access

Site Access Junction

3.2 The existing access is located on a straight section of road and has been used extensively in the past for HGV access to the Newbigging OCCS. Visibility splays of 4.5m by 155m to the right and 4.5m by 190m can be achieved at the junction and are indicated by drawing number SCT3721/I/VS/001 contained within Appendix B. The existing visibility splays and geometry are generally considered suitable to accommodate the vehicles that will be accessing the Pile Test Site although some temporary widening will be required to the mouth of the junction to allow access for abnormal loads. This is explored further in this chapter. Advanced signage for the access will be provided to ensure that it is obvious to other road users that it has been re-activated and to ensure that it is clearly identified as the access point into the Pile Test area.

Movement of Abnormal Loads

3.3 The Pile Test will involve the use of piles with a length of 20m which will be transported to the Pile Test Site via the existing road network. When loaded on a transporter, these piles will constitute abnormal loads as the load and transporter combination length will be in excess of 18.5m with some loads extending to 32m. The characteristics of the abnormal load vehicles associated with the Pile Transporter and Crane Transporter are contained within Appendix A. It is envisaged that there will be a total of 20 abnormal load deliveries some of which will be the piles and some of which will be related to machinery with a width of approximately 5m. The Contractor will provide Midlothian Council with advanced warning of any abnormal load movements as well as local residents that may be affected.

3.4 Initial consultation with Midlothian Council Roads Officer and Structures Team indicates that there will be no access restrictions associated with the weight of the vehicles.

Route to Pile Test Site

3.5 The route to the Pile Test Site from the strategic road network has been discussed with the Roads Officer from Midlothian Council in order to identify the most appropriate route to the Pile Test Site.

3.6 It is anticipated that the piles will be transported via the strategic road network (M8, M9 or A1 depending on the origin of piles and then via the A720 (City of Edinburgh Bypass) to the junction with the A7. It is not envisaged that there will be any issues with transporting the size of loads anticipated along this part of the route. JMP has previously tested these routes for much larger components so it is not anticipated that there will be any issues with transporting the piles via the trunk road network.

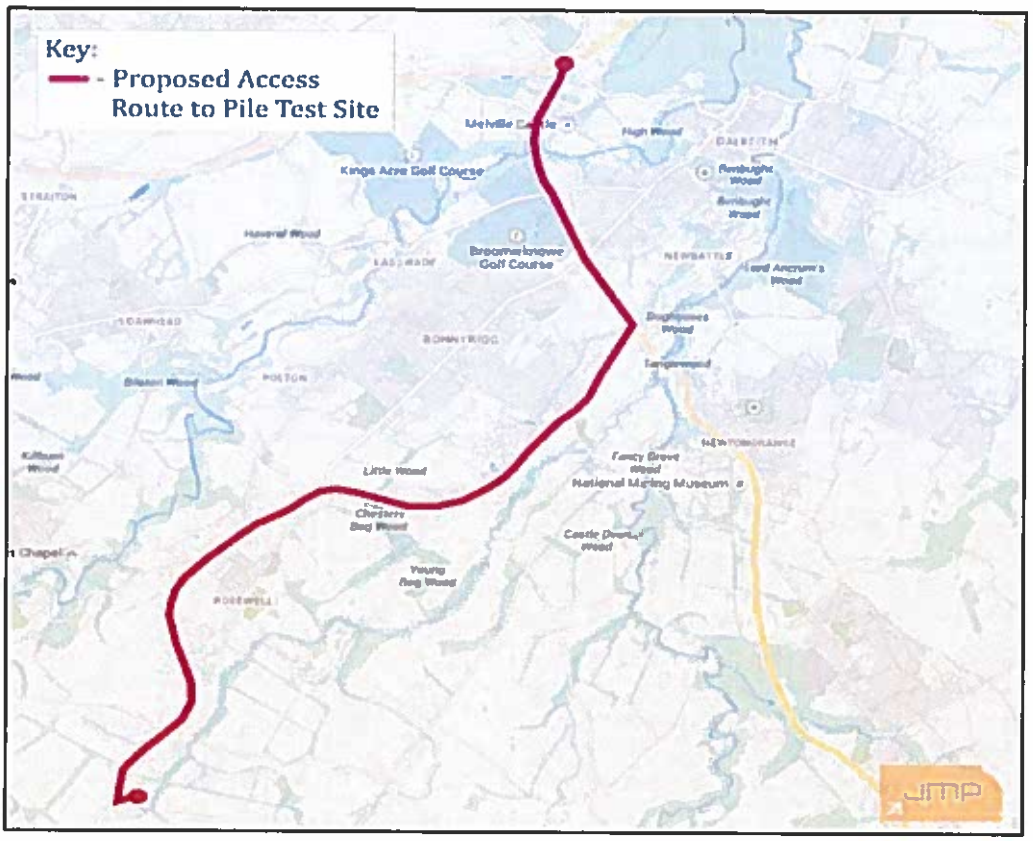
3.7 From the City Bypass, delivery vehicles would route south on the A7 to the A6094 roundabout and would pass through two other roundabout junctions. At the A7 / A6094 junction, the vehicles would proceed ahead on the A7 before turning right at the A7 / B6392 Roundabout. Once on the B6392, vehicles would proceed in a south-west direction to join the A6094 past Rosewell. The route is generally of a good standard but there are a number of pinch points that will need to be negotiated (junctions) on the route. These pinch points are considered in more detail within this section of the report.

3.8 It is noted that the route through Bonnyrigg has been avoided due to concerns expressed by the Planning Case Officer and the Roads Officer.

3.9 The proposed access route to the Pile Test Site from the A720 is indicated by Figure 3.2 below.

3.10 It is of note that the proposed access route is also that which is the approved route for the opencast coal operations at the Pile Test Site.

Figure 3.2 Proposed Access Route to Pile Test Site

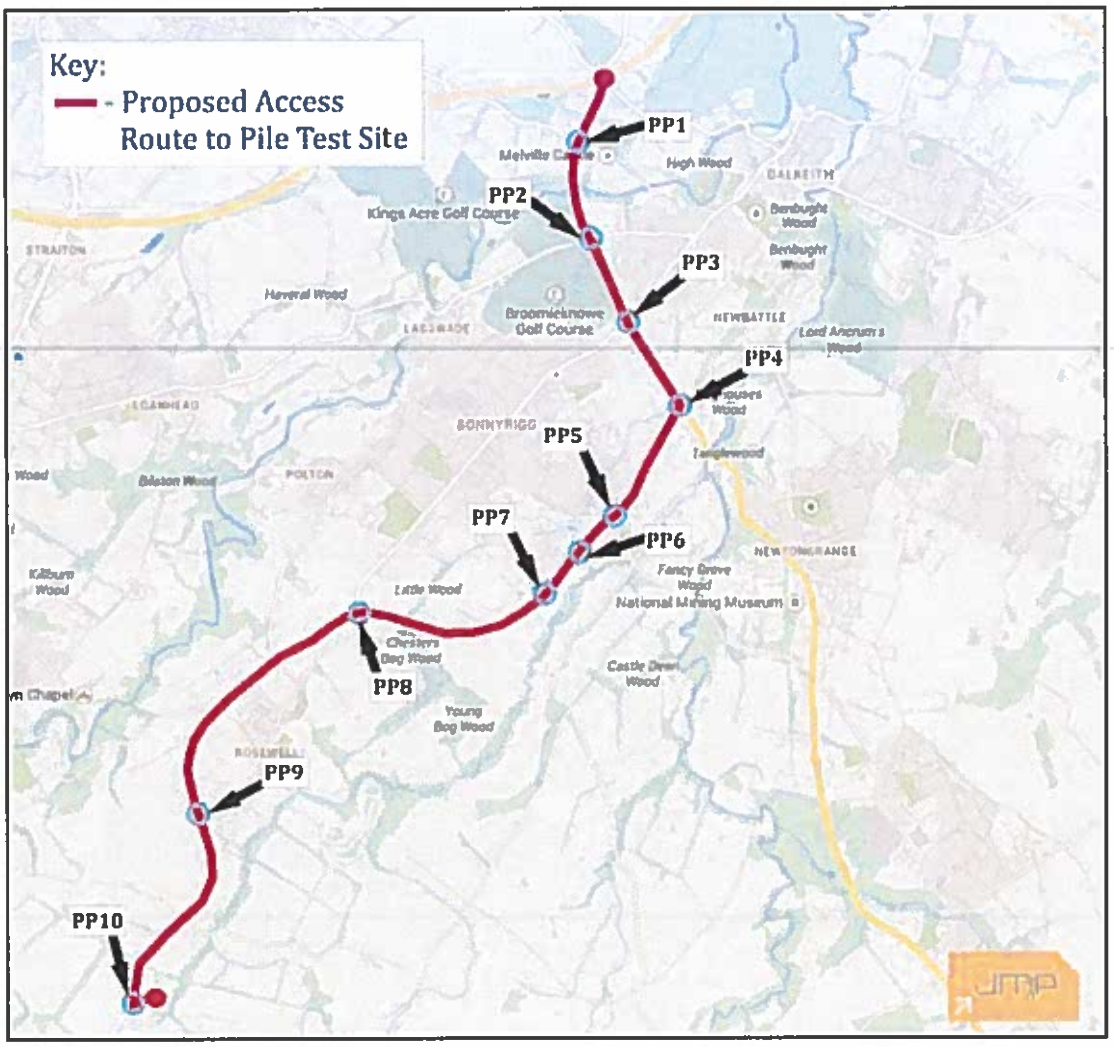


Assessment of Pinch Points

3.11 It is considered that there are no perceived pinch points on the strategic road network so the following assessment is based on the route between the A720 and the Pile Test Site. The following paragraphs identify potential pinch points on the route along with a swept path analysis to simulate the movement of an abnormal load through the pinch point.

3.12 The location of each of the pinch points is indicated by Figure 3.3.

Figure 3.3 Location of Pinch Points



Pinch Point 1 – A7 / A772 Roundabout Junction

3.13 This junction is a 4-arm roundabout to the south of the A720 City of Edinburgh Bypass. The abnormal load vehicles would approach from the north and would continue through the junction to stay on the A7. The general characteristics of the junction are indicated by Figure 3.4 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/001 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/001A contained within Appendix B.

Figure 3.4 A7 / A772 Roundabout Junction

Description of Path

3.14 The abnormal load vehicles would require to continue straight through the roundabout to stay on the A7. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will over-run the splitter island on the entry to the roundabout and the splitter island associated with the Gilmerton Rd (A772) arm of the junction.

3.15 The swept path analysis for the crane transporter indicates that the wheels of the vehicle will follow the same track as the pile transporter. The load however will oversail the verge area on the entry to the pinch point, the central roundabout island, the A772 splitter island and the verge on the exit from the pinch point.

Street Furniture Requiring Temporary Removal

3.16 Two lit bollards and a direction sign will require temporary removal from the splitter island at the entry to the roundabout and one lit bollard, a direction sign and potentially a lighting column from the Gilmerton Road splitter island. A lit chevron sign will also need to be removed from the central island.

Temporary Paving Required

3.17 Temporary paving will be required to form temporary transition ramps to the splitter islands to allow the vehicles to run over the islands.

Infringement on 3rd Party Land

3.18 No third party land is required at this pinch point.

Pinch Point 2 – A7 / A768 Roundabout

3.19 This junction is a 4-arm roundabout approximately 800m south of the previous pinch point. The abnormal load vehicles would approach from the north and would continue through the junction to stay on the A7. The general characteristics of the junction are indicated by Figure 3.5 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/002 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/002A contained within Appendix B.

Figure 3.5 A7 / A768 Roundabout (looking north)

Description of Path

3.20 The abnormal load vehicles would require to continue straight through the roundabout to stay on the A7. The swept path analysis for the pile transporter indicates that the best path for vehicles to take is down the west side of the roundabout (contra-flow). This would be an acceptable manoeuvre under escort. By taking this path, it is possible to keep the wheels of the pile transporter within the carriageway with the exception of small over-run areas onto the splitter island on entry and the splitter island associated with the A768 arm of the junction.

3.21 The swept path analysis for the crane transporter indicates that the wheels of the transporter will generally follow the same path as the pile transporter. The load will however oversail the splitter island on entry to the roundabout, the splitter island associated with the A768 arm of the junction and the central island.

Street Furniture Requiring Temporary Removal

3.22 It is anticipated that one lit bollard will require temporary removal from the entry splitter island along with one lit bollard and a directional sign from the A768 splitter island.

Temporary Paving Required

3.23 Temporary paving will be required to form temporary transition ramps to the splitter islands to allow the vehicles to run over the islands.

Infringement on 3rd Party Land

3.24 No third party land is required at this pinch point.

Pinch Point 3 – A7 / A6094 Eskbank Roundabout

3.25 This junction is a 4-arm roundabout approximately 750m south of the previous pinch point. The abnormal load vehicles would approach from the north and would continue through the junction to stay on the A7. The general characteristics of the junction are indicated by Figure 3.6 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/003 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/003A contained within Appendix B.

Description of Path

3.26 The abnormal loads vehicle would require to continue straight through the roundabout to stay on the A7. The swept path analysis for the pile transporter indicates that the best path for vehicles to take is down the west side of the roundabout (contra-flow). This would be an acceptable manoeuvre under escort. By taking this path, it is possible to keep the wheels of the pile transporter within the carriageway with the exception that the vehicles will over-run the splitter island on entry and the splitter island associated with the A6094 arm of the junction.

3.27 The swept path analysis for the crane transporter indicates that the wheels of the vehicle will generally follow that of the pile transporter. The analysis indicates that the load will over-sail the splitter island on the entry to the roundabout and the A6094 splitter island.

Figure 3.6 A7 / A6094 Roundabout

Street Furniture Requiring Temporary Removal

3.28 It is anticipated that two lit bollards, a direction sign and a lighting column will require temporary removal from the entry splitter island. On the A6094 splitter island, a lit bollard, a lighting column and a direction sign are anticipated to require temporary removal.

Temporary Paving Required

3.29 Temporary paving will be required to form temporary transition ramps to the splitter islands to allow the vehicles to run over the islands.

Infringement on 3rd Party Land

3.30 No third party land is required at this pinch point.

Pinch Point 4 – A7 / B6392 Hardengreen Roundabout

3.31 This junction is a 4-arm roundabout approximately 700m south-east of the previous pinch point. The abnormal load vehicles would approach from the north and would turn right to join the B6392. The general characteristics of the junction are indicated by Figure 3.7 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/004 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/004A contained within Appendix B.

Figure 3.7 A7 / B6392 Roundabout

Description of Path

3.32 The abnormal load vehicles would require to travel contra-flow (around west side of roundabout instead of east) to join the B6392. This would be an acceptable manoeuvre under escort. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will stay within the confines of the carriageway at the roundabout.

3.33 The swept path analysis for the crane transporter indicates that the wheels of the vehicle will stay within the confines of the carriageway but the vehicle will require to negotiate the roundabout (contra-flow). The vehicle / load will oversail the splitter island on exit from the roundabout and the verge on the opposite side of the carriageway.

Street Furniture Requiring Temporary Removal

3.34 One lit bollard may require removal from the exit splitter island to accommodate the oversail of the crane transporter.

Temporary Paving Required

3.35 No temporary paving will be required at this pinch point.

Infringement on 3rd Party Land

3.36 No third party land is required at this pinch point.

Pinch Point 5 – B6392 / B704 Roundabout

3.37 This junction is a 4-arm roundabout approximately 1km south-west of the previous pinch point. The abnormal load vehicles would approach from the north-east and would continue through the roundabout to remain on the B6392. The general characteristics of the junction are indicated by Figure 3.8 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/005 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/005A contained within Appendix B.

Figure 3.8 B6392 / B704 Roundabout

Description of Path

3.38 The abnormal load vehicles would approach from the north-east and the swept path analysis has indicated that the best path for vehicle to take is across the north side of the roundabout (contra-flow). This would be an acceptable manoeuvre under escort. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will cut across the central island of the roundabout as well as running over the splitter island on the entry to the junction.

3.39 The swept path analysis for the crane transporter indicates that the wheels of the vehicle will follow a similar path to the pile transporter. The load and vehicle will over-sail the splitter island and verge on the entry to the roundabout, the central island and the verge on the exit from the roundabout.

Street Furniture Requiring Temporary Removal

3.40 It is anticipated that two lit bollards, a direction sign and a lighting column will require temporary removal from the splitter island on entry to the junction while two lit chevron signs would require removal from the central island.

Temporary Paving Required

3.41 Temporary paving would be required within the central island of the roundabout to accommodate the over-run associated with the abnormal load vehicles.

Infringement on 3rd Party Land

3.42 No third party land is required at this pinch point.

Pinch Point 6 – B6392 / Burnbrae Road Roundabout

3.43 This junction is a 3-arm roundabout approximately 400m south-west of the previous pinch point. The vehicle would approach from the north-east and would continue through the roundabout to remain on the B6392. The general characteristics of the junction are indicated by Figure 3.9 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/006 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/006A contained within Appendix B.

Figure 3.9 B6392 / Burnbrae Road Roundabout

Description of Path

3.44 The abnormal load vehicles would approach from the north-east and would negotiate the south side of the roundabout. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will require to over-run the splitter island on entry to the roundabout and will require to over-run a section of the central island.

3.45 The swept path analysis for the crane transporter indicates that the wheels of the vehicle will follow a similar path to the pile transporter. The vehicle / load will over-sail the verge and splitter island on the entry to the roundabout, the central island and the verge on the exit from the roundabout.

Street Furniture Requiring Temporary Removal

3.46 It is envisaged that a lit bollard and a directional sign will require removal from the entry splitter island.

Temporary Paving Required

3.47 Temporary paving will be required to form transition ramps at the splitter island and temporary paving will be required within the central island to accommodate the over-run of the abnormal load vehicles.

Infringement on 3rd Party Land

3.48 No third party land is required at this pinch point.

Pinch Point 7 – B6392 / Burnbrae Terrace Roundabout

3.49 This junction is a 4-arm roundabout approximately 500m south-west of the previous pinch point. The vehicle would approach from the north-east and would continue through the roundabout to remain on the B6392. The general characteristics of the junction are indicated by Figure 3.10 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/007 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/007A contained within Appendix B.

Description of Path

3.50 The abnormal load vehicles would approach the pinch point from the north-east. The swept path analysis has indicated that the most efficient route for the vehicles to take would be across the north side of the roundabout (contra-flow). This would be an acceptable manoeuvre under escort. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will require to over-run the splitter island on entry to the roundabout and will require to over-run a section of the central island.

Figure 3.10 B6392 / Burnbrae Terrace Roundabout

3.51 The swept path analysis for the crane transporter indicates that the path of the vehicle is similar to the pile transporter. The vehicle / load will over-sail the splitter island and verge on the entry to the roundabout, the central island and the verge on the exit from the roundabout.

Street Furniture Requiring Temporary Removal

3.52 It is envisaged that two lit bollards and a directional sign will require removal from the entry splitter island and one lit chevron sign within the central island of the roundabout.

Temporary Paving Required

3.53 Temporary paving will be required to form transition ramps at the splitter island and temporary paving will be required within the central island to accommodate the over-run of the abnormal load vehicles.

Infringement on 3rd Party Land

3.54 No third party land is required at this pinch point.

Pinch Point 8 – B6392 / A6094 Roundabout

3.55 This junction is a 3-arm roundabout approximately 1.7km west of the previous pinch point. The vehicle would approach from the east and would continue through the roundabout to join the A6094. The general characteristics of the junction are indicated by Figure 3.11 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/008 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/008A contained within Appendix B.

Figure 3.11 B6392 / A6094 Roundabout

Description of Path

3.56 The abnormal load vehicles would approach from the east and would travel through the south side of the junction. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will require to over-run the splitter island on entry to the roundabout and will require to over-run a section of the central island.

3.57 The swept path analysis for the crane transporter indicates that the path of the vehicle is similar to the pile transporter. The vehicle / load will over-sail the splitter island and verge on the entry to the roundabout, the central island and the verge on the exit from the roundabout.

Street Furniture Requiring Temporary Removal

3.58 It is envisaged that two lit bollards and a directional sign will require removal from the entry splitter island and one chevron sign within the central island of the roundabout.

Temporary Paving Required

3.59 Temporary paving will be required to form transition ramps at the splitter island and temporary paving will be required within the central island to accommodate the over-run of the abnormal load vehicles.

Infringement on 3rd Party Land

3.60 No third party land is required at this pinch point.

Pinch Point 9 – A6094 / Lindsay Row Roundabout

3.61 This junction is a 3-arm roundabout approximately 2.3km south-west of the previous pinch point. The vehicle would approach from the north-east and would continue through the roundabout to stay on the A6094. The general characteristics of the junction are indicated by Figure 3.12 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/09 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/009A contained within Appendix B.

Figure 3.12 A6094 / Lindsay Row Roundabout

Description of Path

3.62 The swept path analysis indicates that the abnormal load vehicles would require to travel contra-flow across the west side of the roundabout to remain on the A6094. This would be an acceptable manoeuvre under escort. The swept path analysis for the pile transporter indicates that the wheels of the vehicle will stay within the confines of the carriageway with the exception of over-running the splitter island on the exit from the roundabout.

3.63 The swept path analysis for the crane transporter indicates that the path of the vehicle is similar to the pile transporter. The vehicle / load will over-sail the splitter island and verge on the entry to the roundabout and the verge and splitter island on the exit from the roundabout.

Street Furniture Requiring Temporary Removal

3.64 It is envisaged that one lit bollard at the entry splitter island and two lit bollards, a directional sign and a lighting column at the exit splitter island will require temporary removal.

Temporary Paving Required

3.65 Temporary paving will be required to form transition ramps at the splitter island.

Infringement on 3rd Party Land

3.66 No third party land is required at this pinch point.

Pinch Point 10 – A6094 / Site Access Junction

3.67 This junction is a 3-arm priority junction and is the existing access to the Pile Test Site. The abnormal load vehicles would approach from the north on the A6094 and would make a left turn into the Pile Test Site. The general characteristics of the junction are indicated by Figure 3.13 below while a plan showing the swept path of the pile transporter vehicle travelling through the pinch point is indicated by Drawing Ref: SCT3721/I/OPT/SPA/10 contained within Appendix B. The swept path of the crane transporter is indicated by Drawing Ref: SCT/3721/I/SPA/0010A contained within Appendix B.

Figure 3.13 A6094 / Site Access Junction

Description of Path

3.68 The swept path analysis indicates that the abnormal load vehicles (pile transporter and crane transporter would require to cut the corner of the junction on the inside of the turn in order to access the Pile Test Site. There is also significant oversail on the inside of the turn associated with the crane transporter.

Street Furniture Requiring Temporary Removal

3.69 It will be necessary to remove the existing fence on the north side of the junction to create an over-run area.

Temporary Paving Required

3.70 Temporary paving will be required to form an over-run area on the inside of the turn (north side of junction) to accommodate the swept path of the abnormal loads vehicle.

Infringement on 3rd party land

3.71 No third party land is required at this pinch point.

Measures to Minimise and Mitigate Construction Traffic Effects

Construction Site Operating Hours

3.72 The hours of site operation will generally be 8am – 6pm Monday to Friday. It is not intended for the Pile Test Site to be operational on Saturdays and Sundays but there may be a need to bring Abnormal Loads to site at the weekend (dependent on requirements of Midlothian Council). There will be some quiet pile testing works carried out at night and weekends but this will have a minimal effect on other road users. The purpose of the standard working hours is to find a balance between progressing the Pile Test at an acceptable speed and minimising the effect upon others.

Workforce Travel and Parking Arrangements

3.73 Given the location of the Pile Test Site, it is unlikely that any of the on-site workforce will walk to the Pile Test Site. It is more likely that the majority of the workforce will travel to the Pile Test Site either by private car or via a contractor's works mini-bus. Given that the workforce is expected to not exceed 31 people, the traffic effects associated with commuting to and from the Pile Test Site are not expected to be significant.

3.74 Car parking for the workforce will be provided entirely within the confines of the Pile Test Site and no overspill will be permitted onto the public road network.

Staff Induction

3.75 All site staff will be informed about traffic management arrangements and procedures via site induction literature.

Access Control

3.76 The access point to the Pile Test Site will be controlled by site staff who will control access and egress to the Pile Test Site at all times during the working day. This will reduce the potential for conflict between works traffic and members of the public. Advanced signing will also be provided to inform existing road users that a works access is located ahead.

4 Summary and Conclusions

Summary

4.1 JMP Consultants Limited has been commissioned by Neart na Gaoithe Offshore Wind Ltd to prepare a Transport and Access report to support the Pile Test at the former Newbigging OCCS near Roswell, Midlothian. The purpose of this report is to provide detail on the proposed transport arrangements associated with the Pile Test, assess the potential trip generation from the Pile Test Site, identify arrangements for abnormal loads and set out any required traffic management measures.

4.2 The average number of HGV trips to site in the peak month of construction is estimated to be 5.8 two-way trips per day which should have little effect upon the general traffic levels in the area. The transport arrangements for the delivery of abnormal loads are already an established practice and will take place off peak wherever possible to minimise the disruption caused to general traffic.

4.3 Management measures have been identified for both the movement of general construction traffic and also for the movement of abnormal loads. It is considered that when these measures are implemented, a safe environment will be created for local residents affected by the development, existing road users and also employees at the Pile Test Site.

4.4 The existing Newbigging OCCS site access has been assessed and has been confirmed as being appropriate to serve the Pile Test Site in terms of geometry and its ability to accommodate the anticipated abnormal loads subject to the creation of an over-run area.

Conclusions

4.5 It is considered that the effect of construction traffic associated with the Pile Test is not significant in capacity terms. The delivery of abnormal loads to the Pile Test Site has been fully assessed and a number of mitigating measures have been identified at pinch points on the route from the strategic road network. With these mitigating measures in place along with more general management measures put in place, it is considered that the traffic effects associated with the Pile Test can be adequately accommodated.

Figure 1.1

Site Location

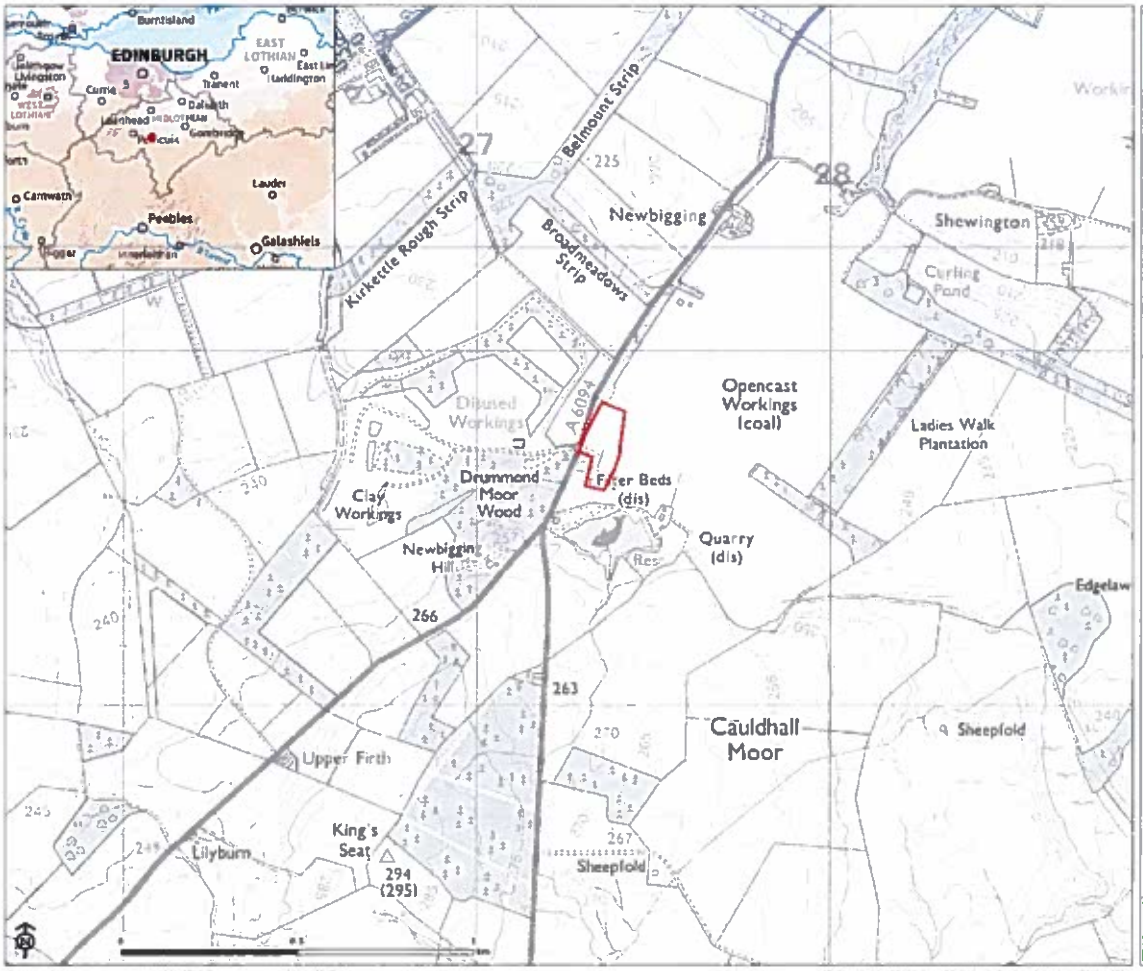


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Figure 1.1: Site Location

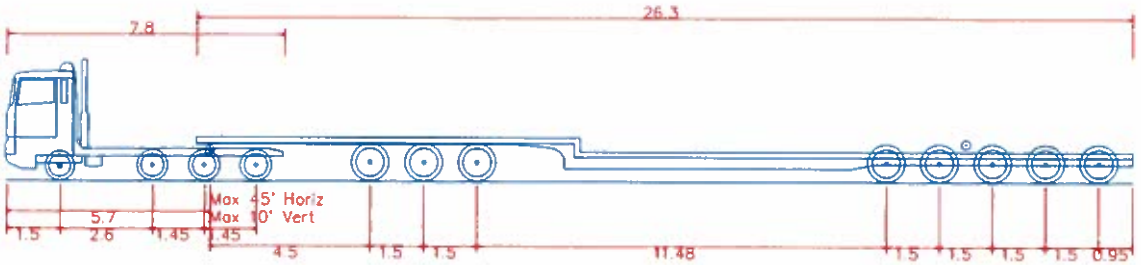
Pile Test Site Boundary

Map Scale @ A3:1:10,000

LUC

Appendix A

Abnormal Load Vehicles



Pile Transporter

Overall Length	31.630m
Overall Width	3.000m
Overall Body Height	3.398m
Min Body Ground Clearance	0.322m
Max Track Width	3.000m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.790m

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Pile Transporter

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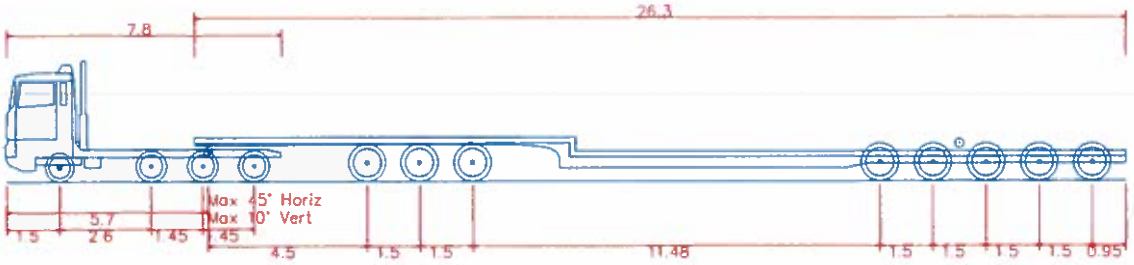
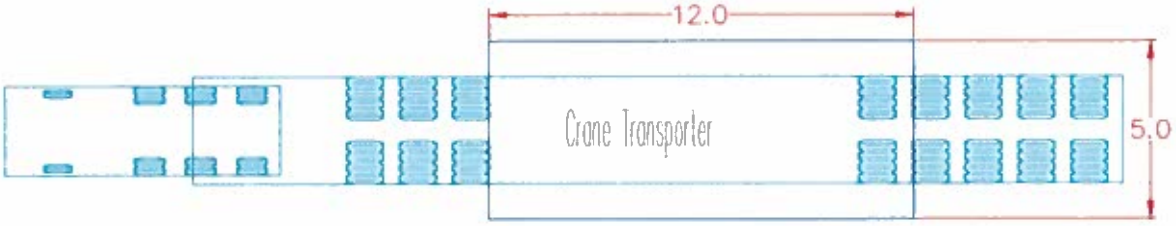
Information	SCT3721A/PT001	



Crane Transporter

Overall Length	31.630m
Overall Width	3.000m
Overall Body Height	3.398m
Min Body Ground Clearance	0.322m
Max Track Width	3.000m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.790m



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Crane Transporter

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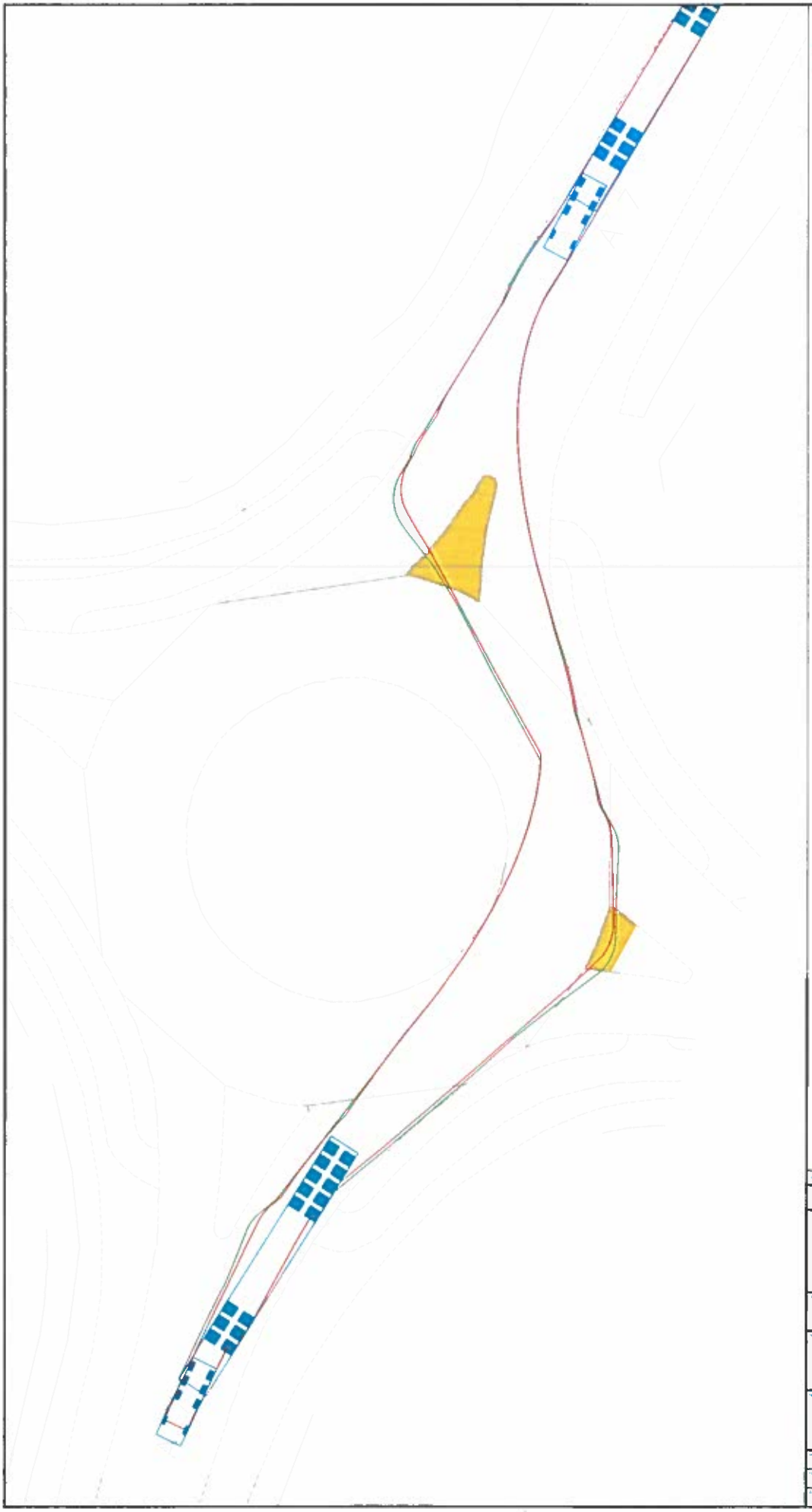
Appendix B

Swept Path Analysis Plans and Site Access Visibility Plan



Key

- Body / Outline of Transporter
- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

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Swept Path Analysis
Pile Transporter
Pinch Point 1

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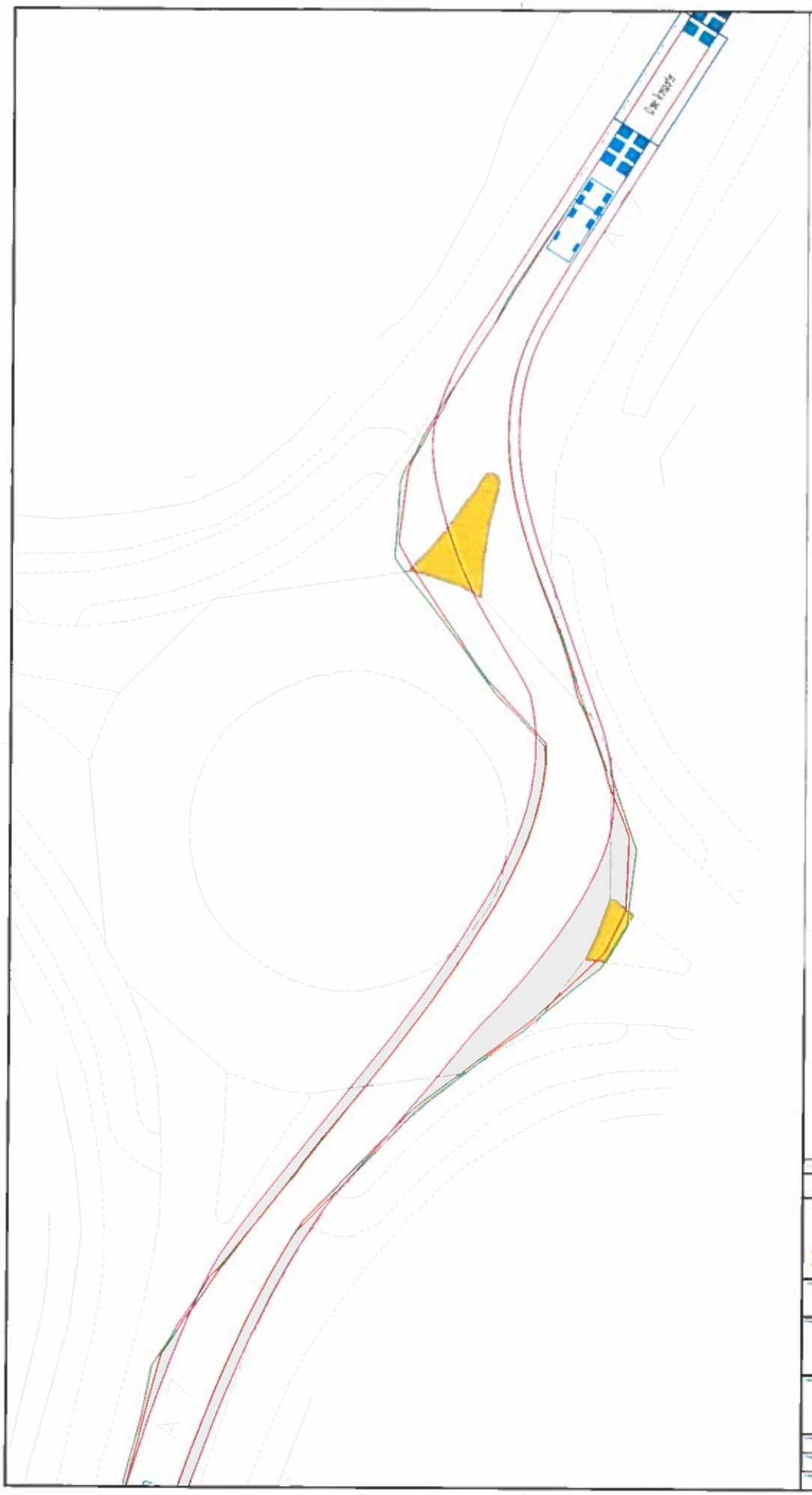

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

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Swept Path Analysis
Crane Transporter
Pinch Point 1

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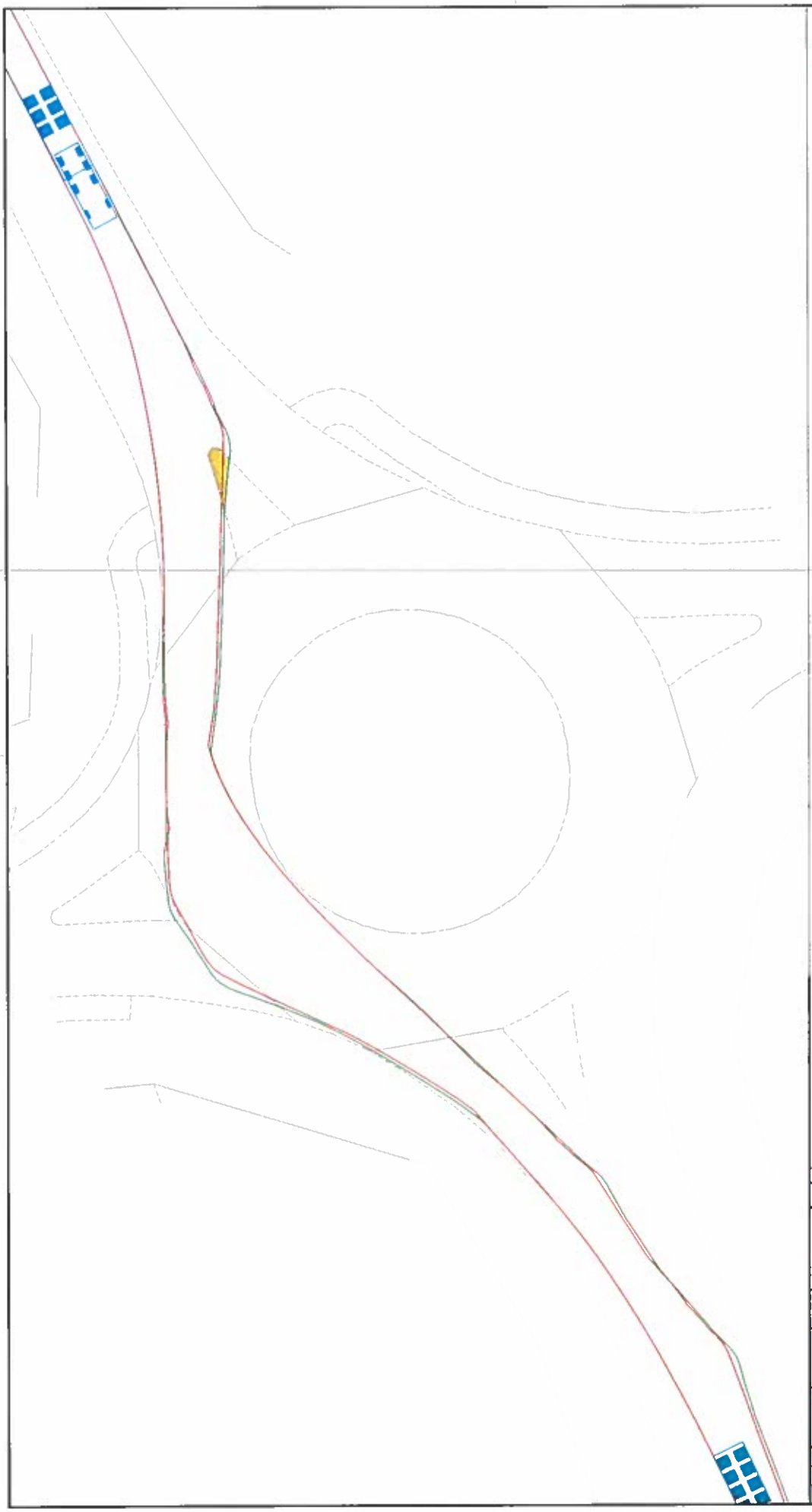

Key

Body / Outline of Transporter

Wheels of Transporter

Area to be temporarily paved or strength of existing paving assessed

JMP

Client

Neart na Gaoithe Offshore Wind Ltd

Project

Neart Na Gaoithe
Temporary Test Piling Works

Title

Swept Path Analysis
Pile Transporter
Pinch Point 2

Drawn	Checked	Approved
DC	DD	ADV
Drawing size	Date	Scale
A2	Aug '14	1:250
Status	Drawing Number	Rev
Information	SCT3721/I/OPT/SPA/002	

Key

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

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Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 2

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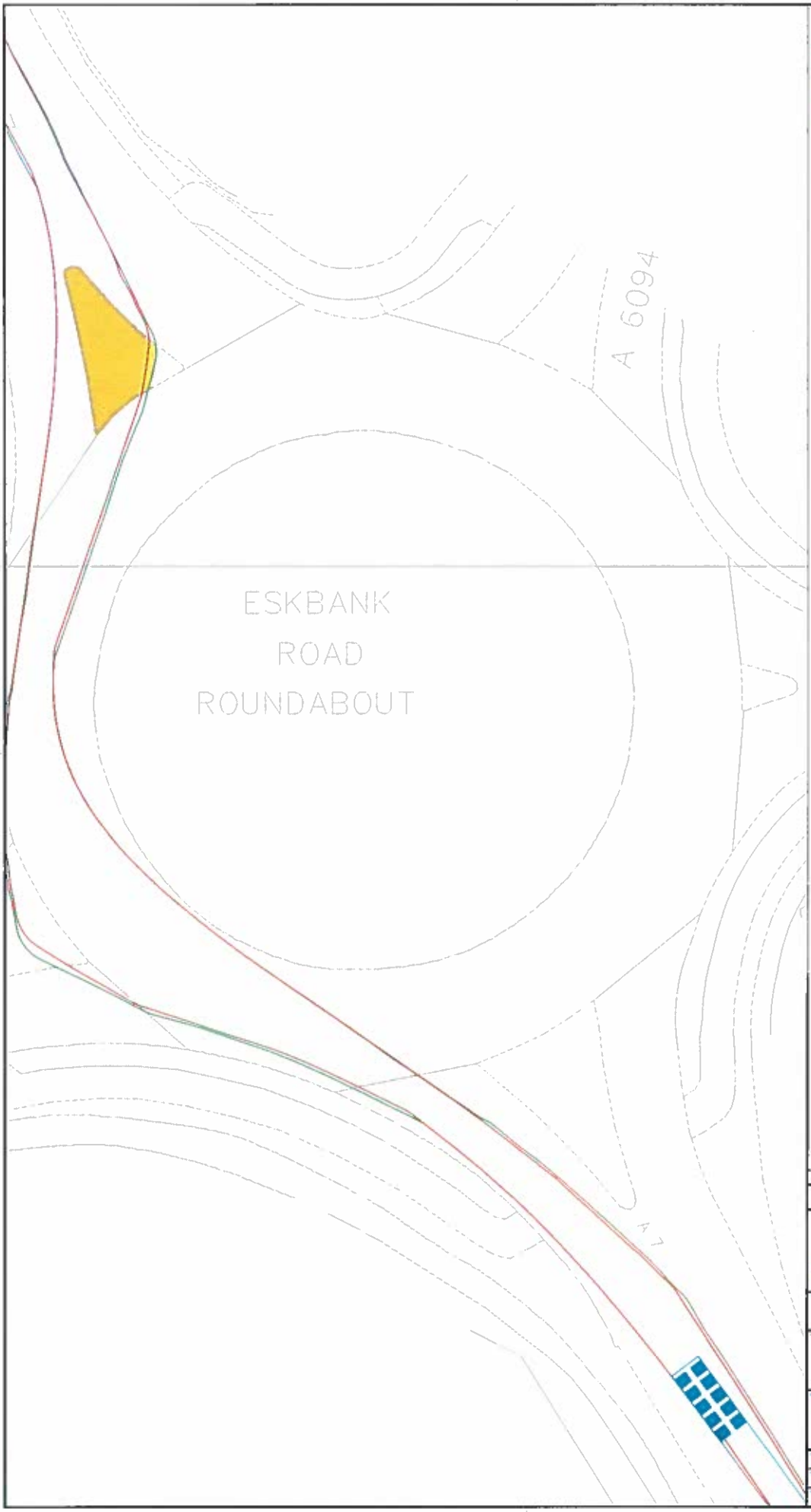

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

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Swept Path Analysis
Pile Transporter
Pinch Point 3

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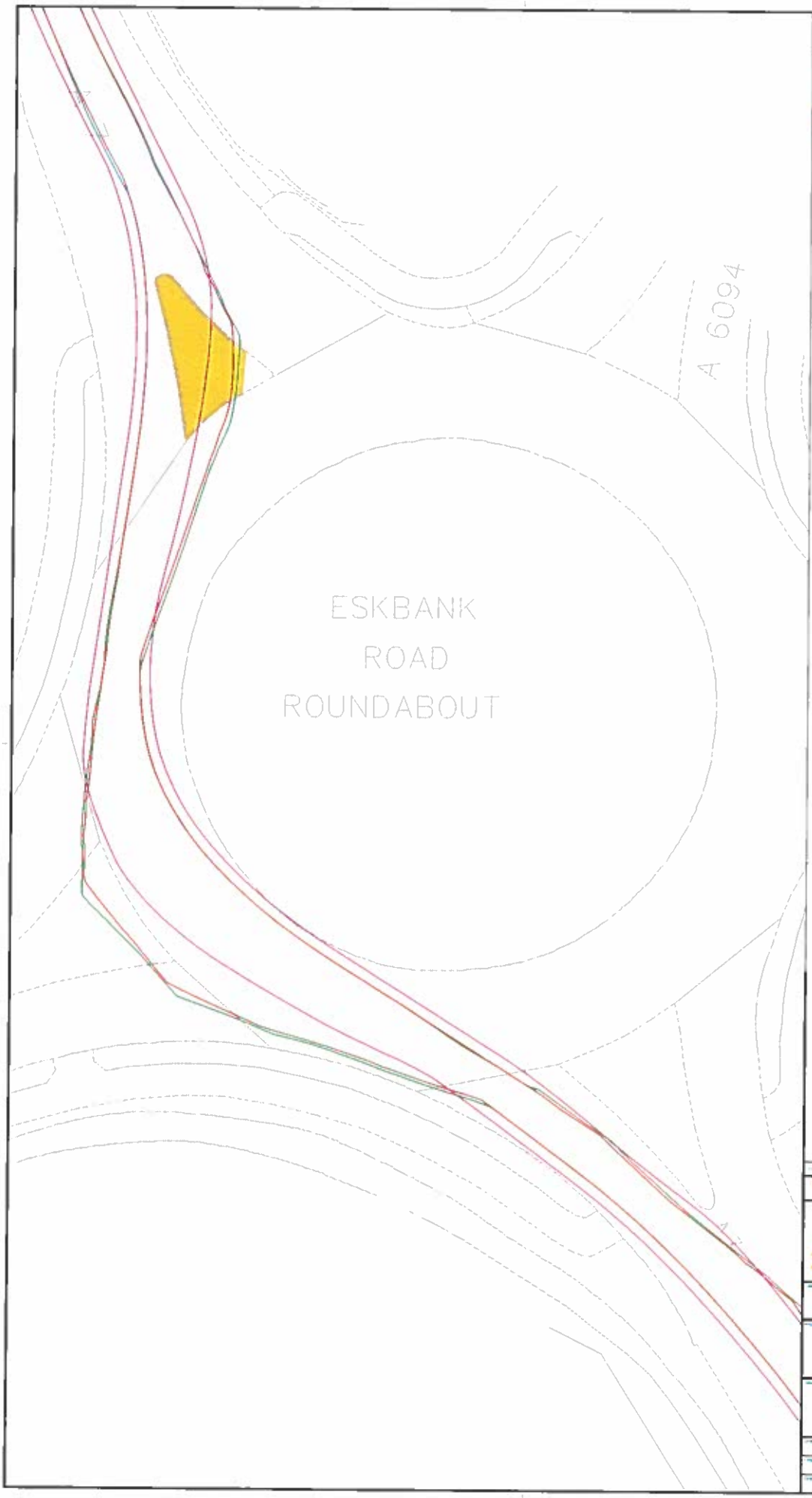

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- Load Outline
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JMP

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Swept Path Analysis
CraneTransporter
Pinch Point 3

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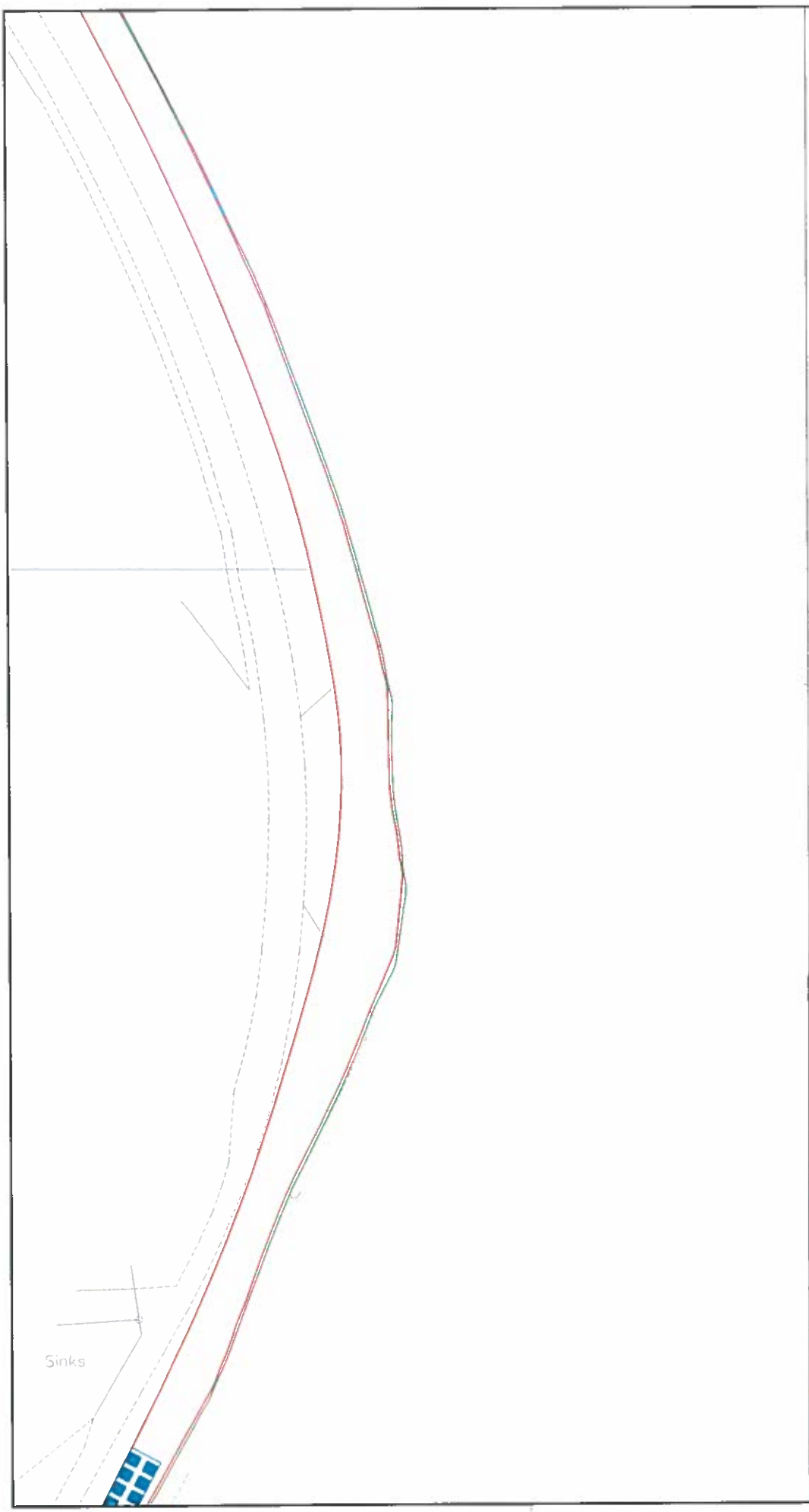

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

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Swept Path Analysis
Pile Transporter
Pinch Point 4

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Information	SCT3721/I/OPT/SPA/004	

Key

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

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Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 4

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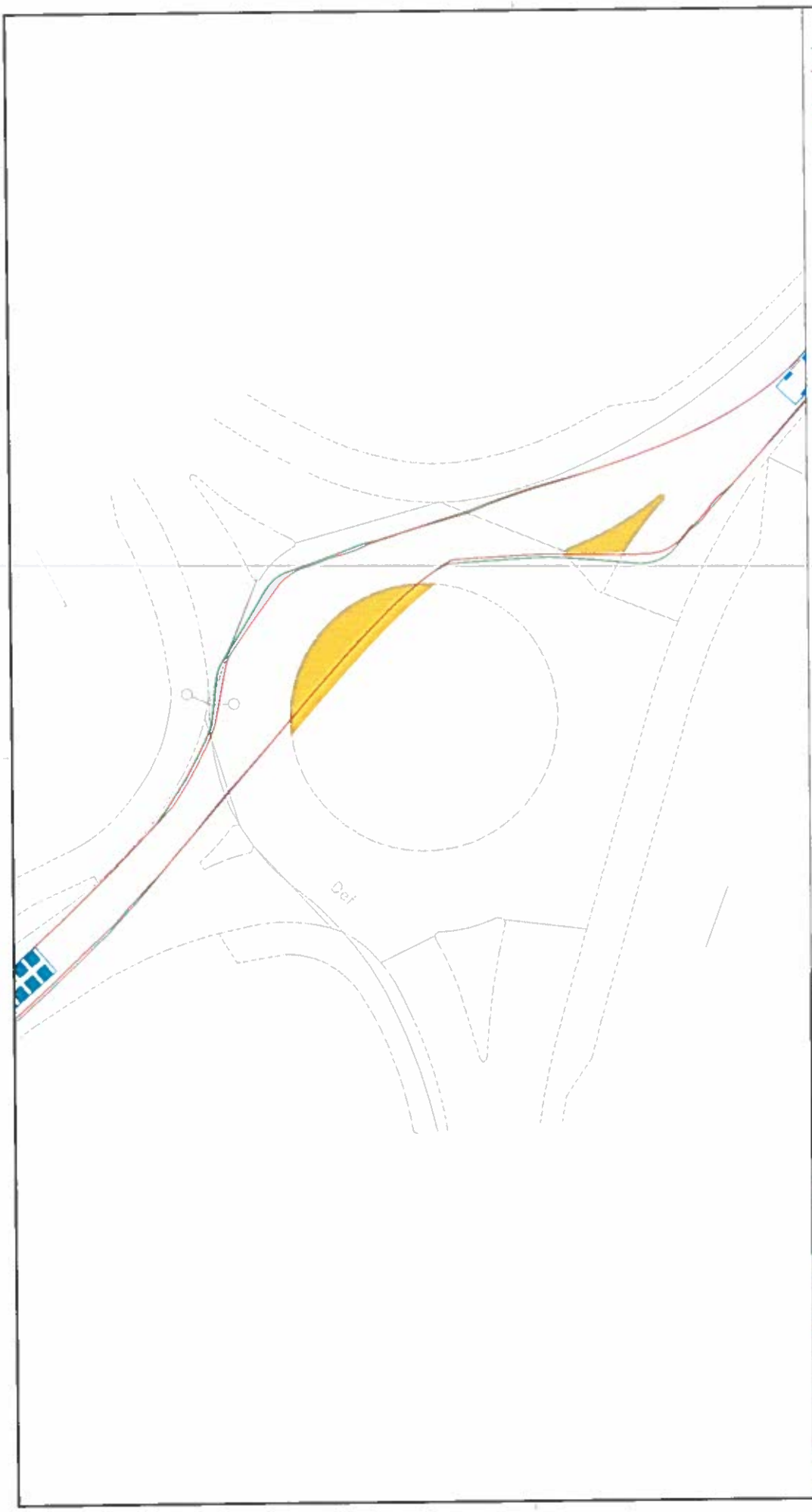

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- Area to be temporarily paved or strength of existing paving assessed

JMP

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Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 5

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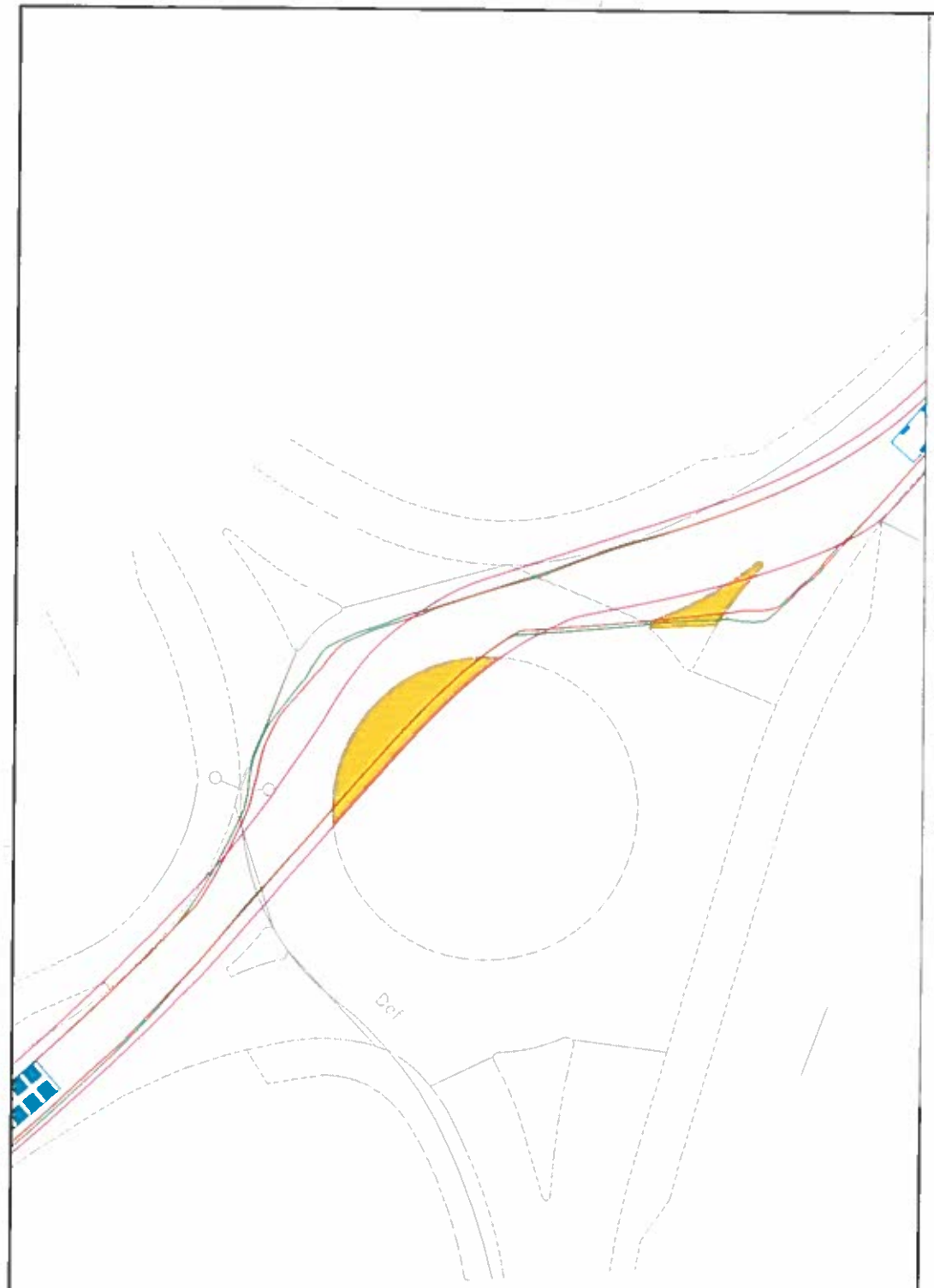

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

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Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 5

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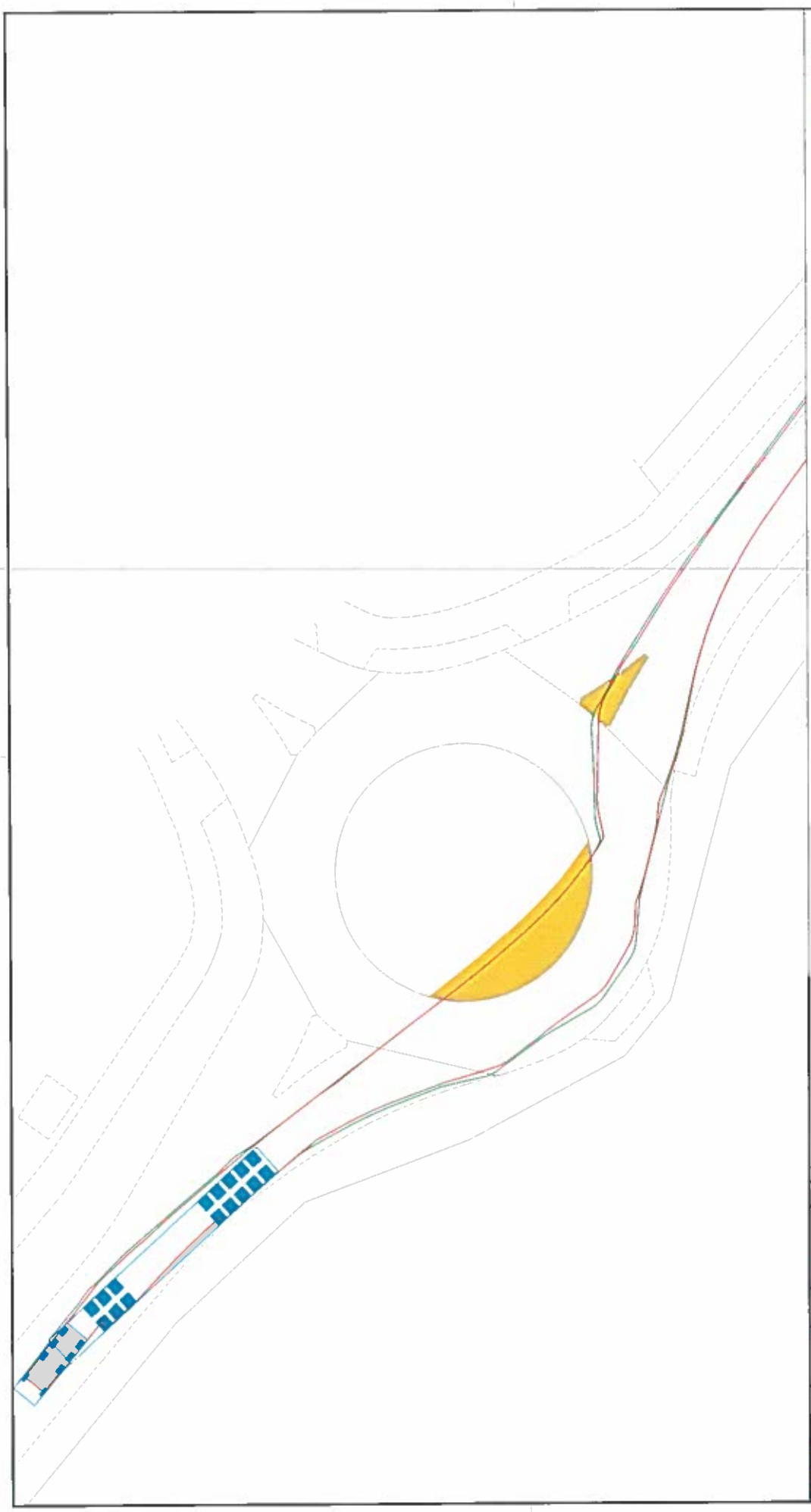

Key

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

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Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 8

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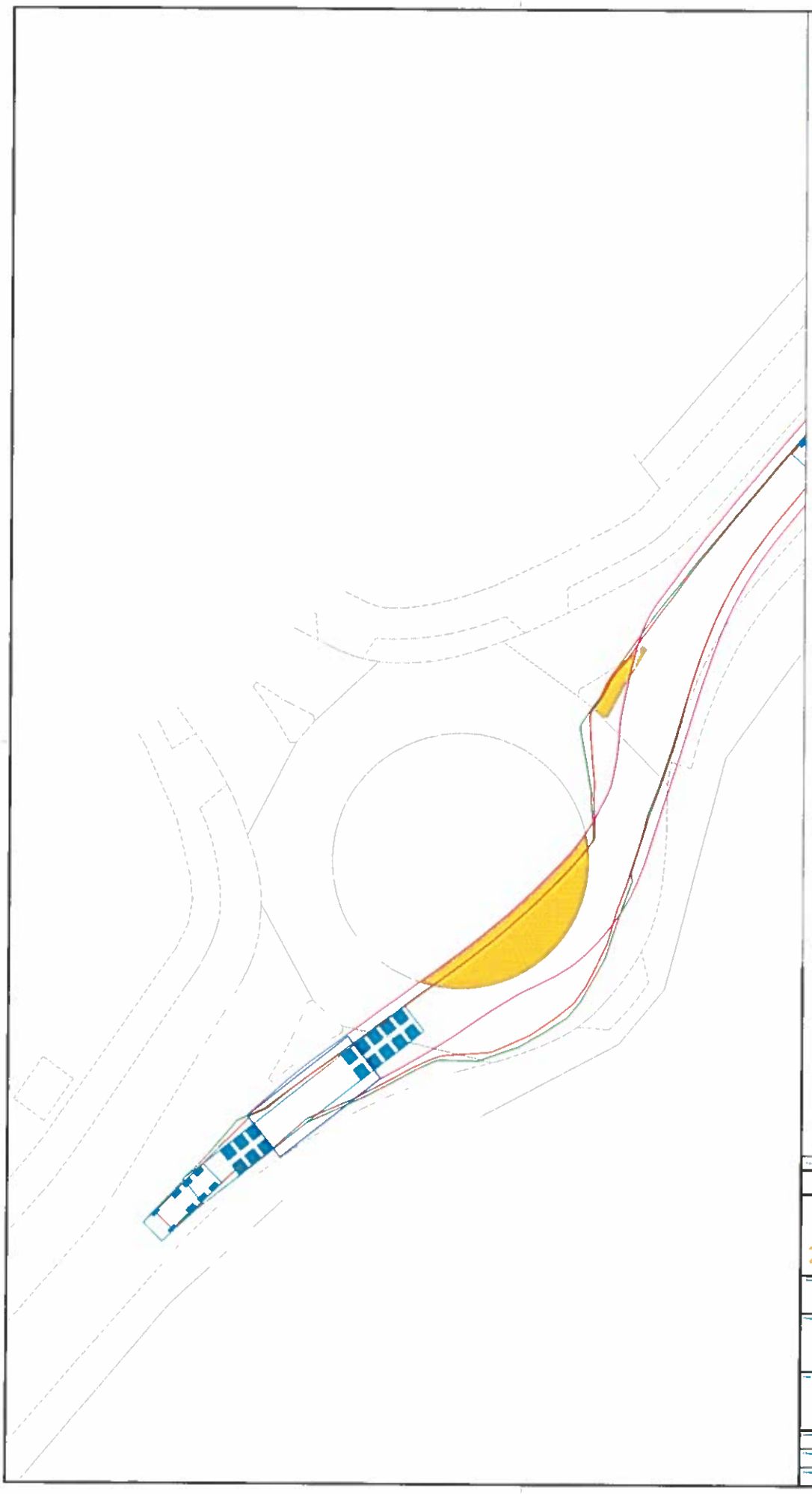

Key

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 8

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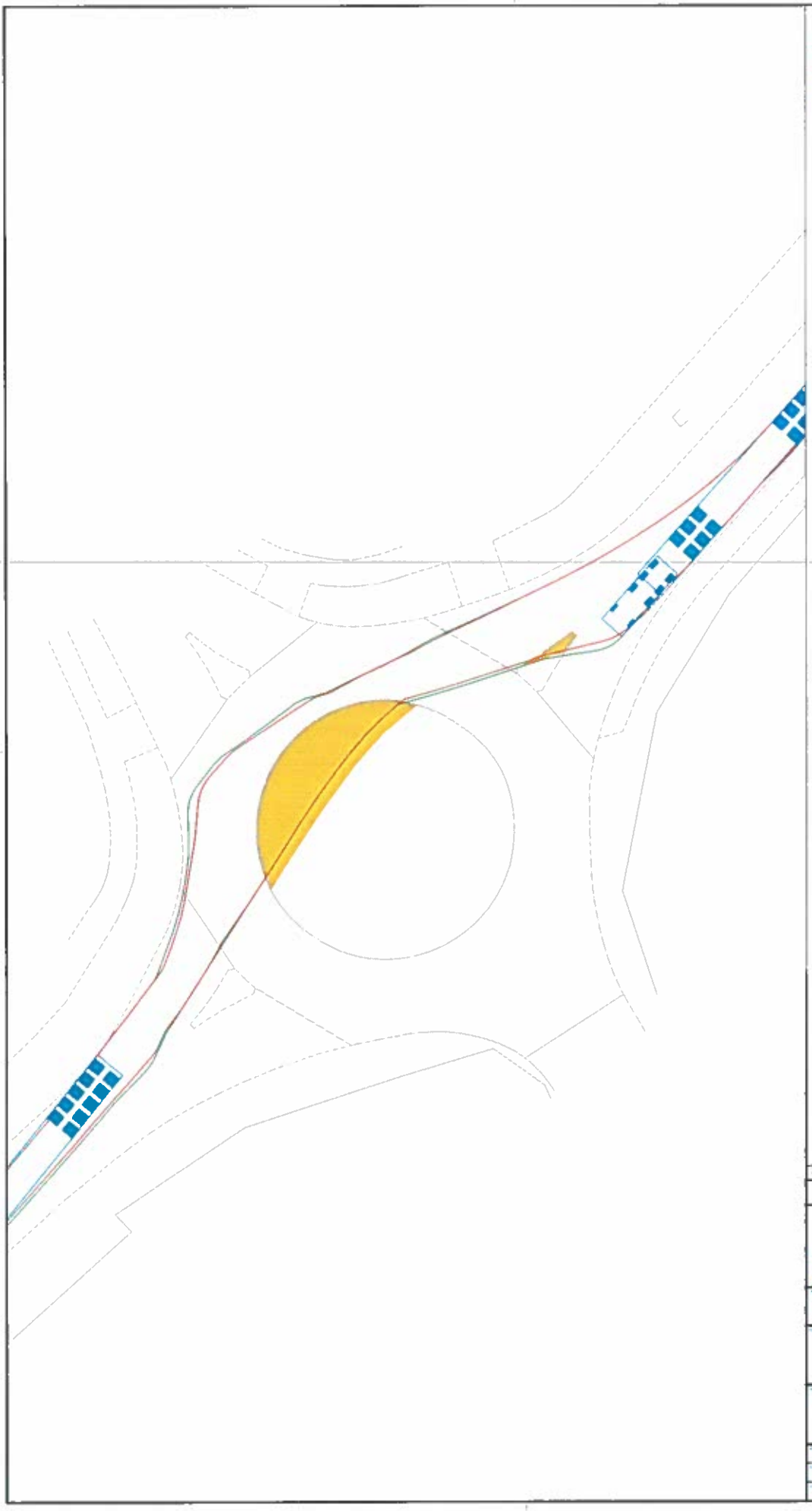

Key

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 7

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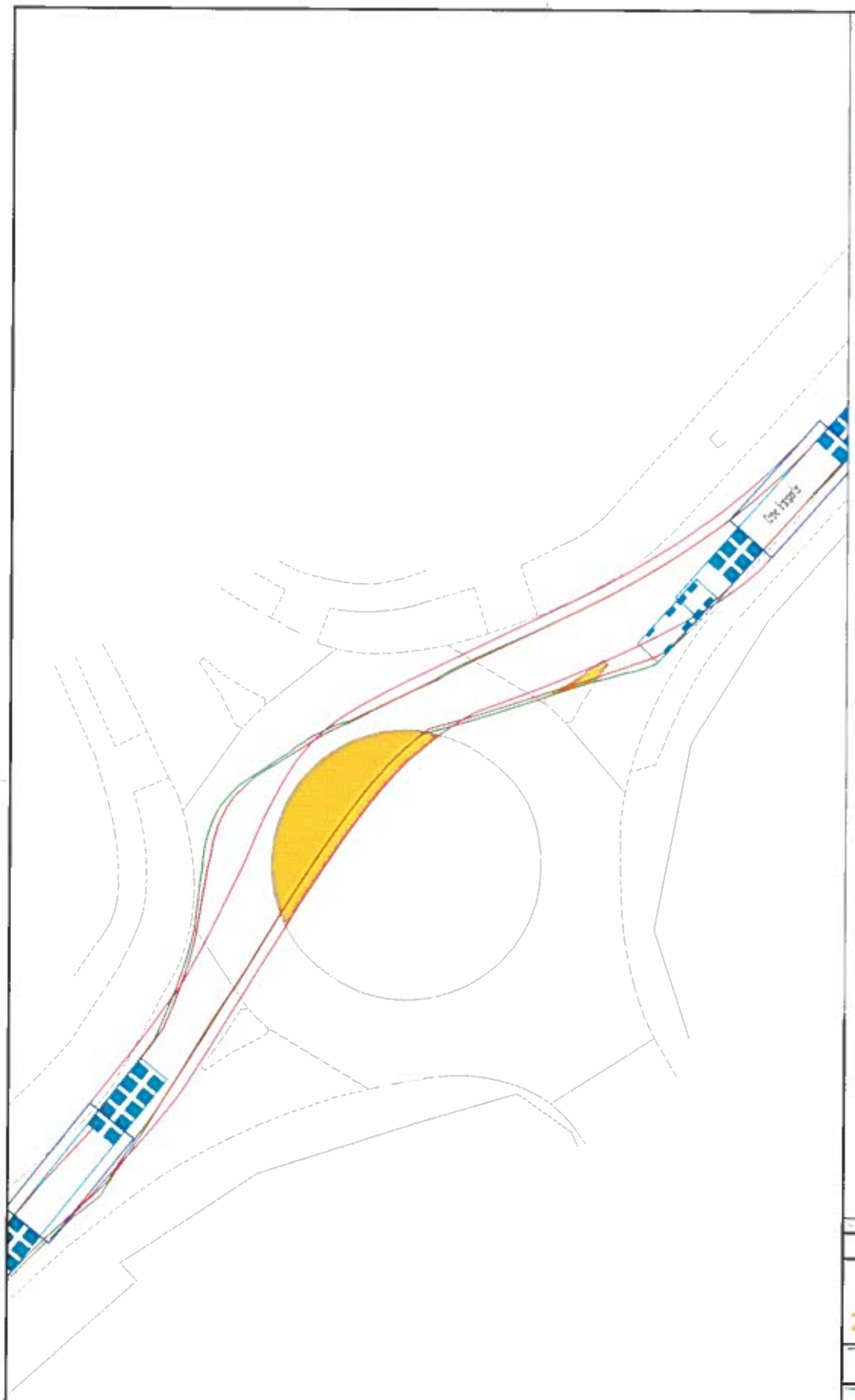

Key

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 7

DC	DO	ADV
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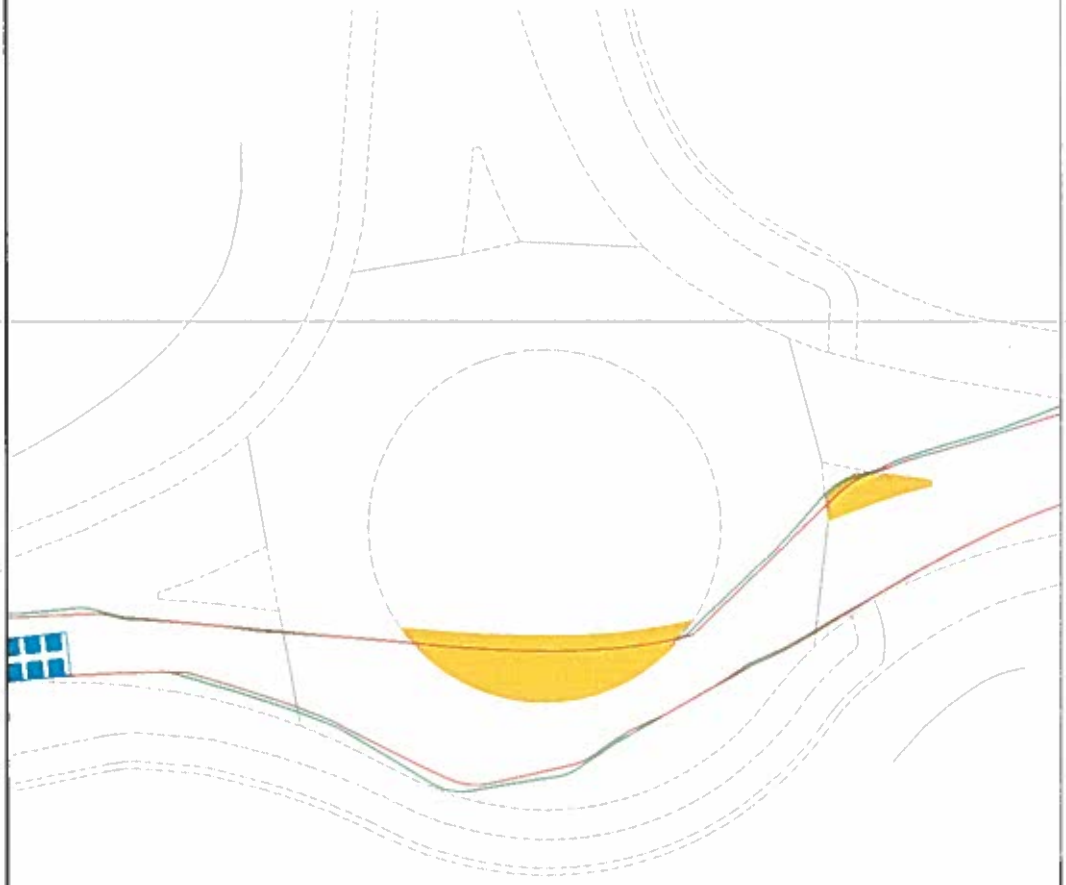


Key

- Body / Outline of Transporter
- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

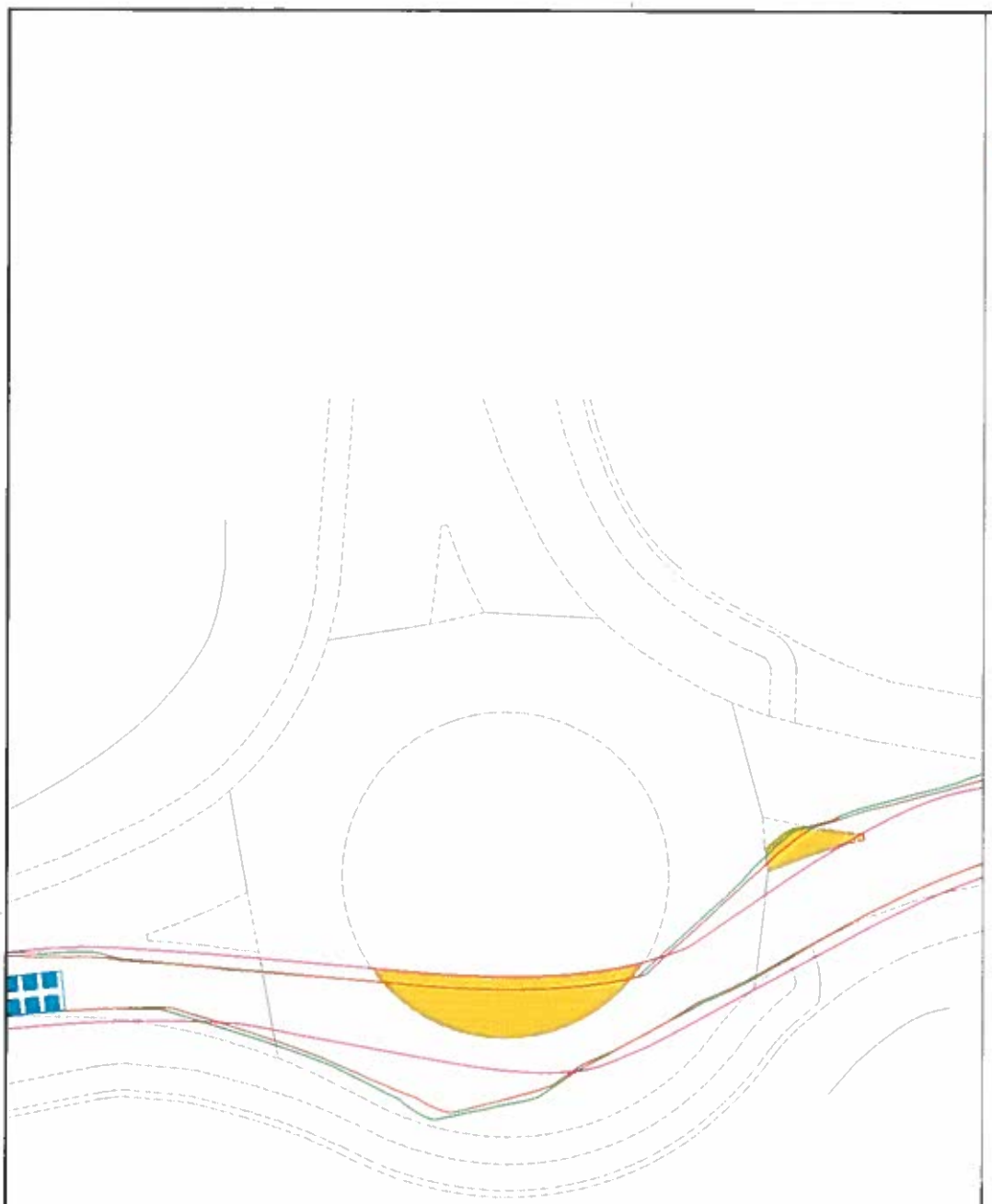
JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 8

DC	CD	ADV
A2	Aug '14	1:250
Information	SCT3721/UOPT/SPA/008	



Key

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- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 8

DC	DD	ADV
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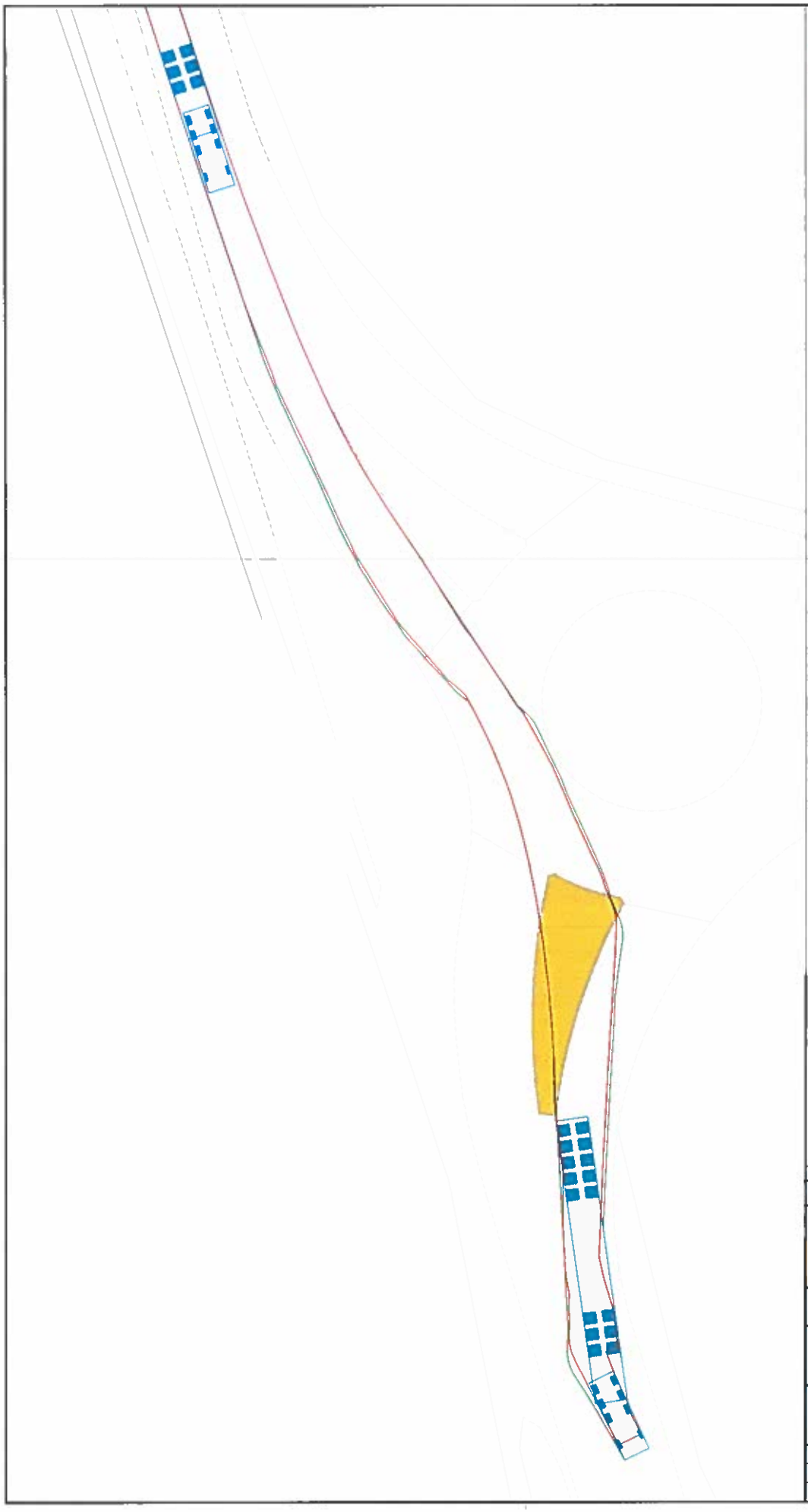

Key

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 9

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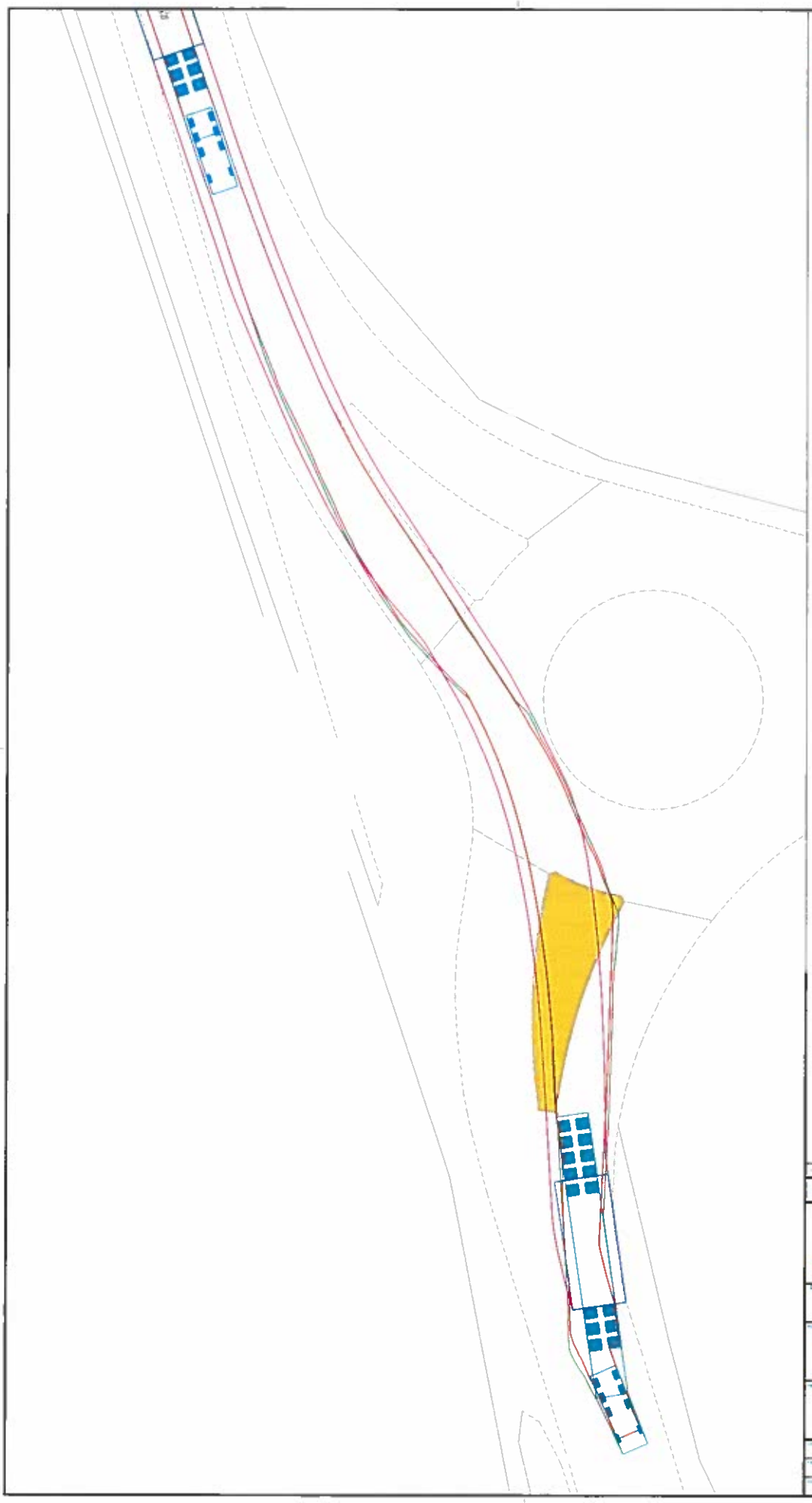


Key

- Body / Outline of Transporter
- Wheels of Transporter
- Load Outline
- Area to be temporarily paved or strength of existing paving assessed

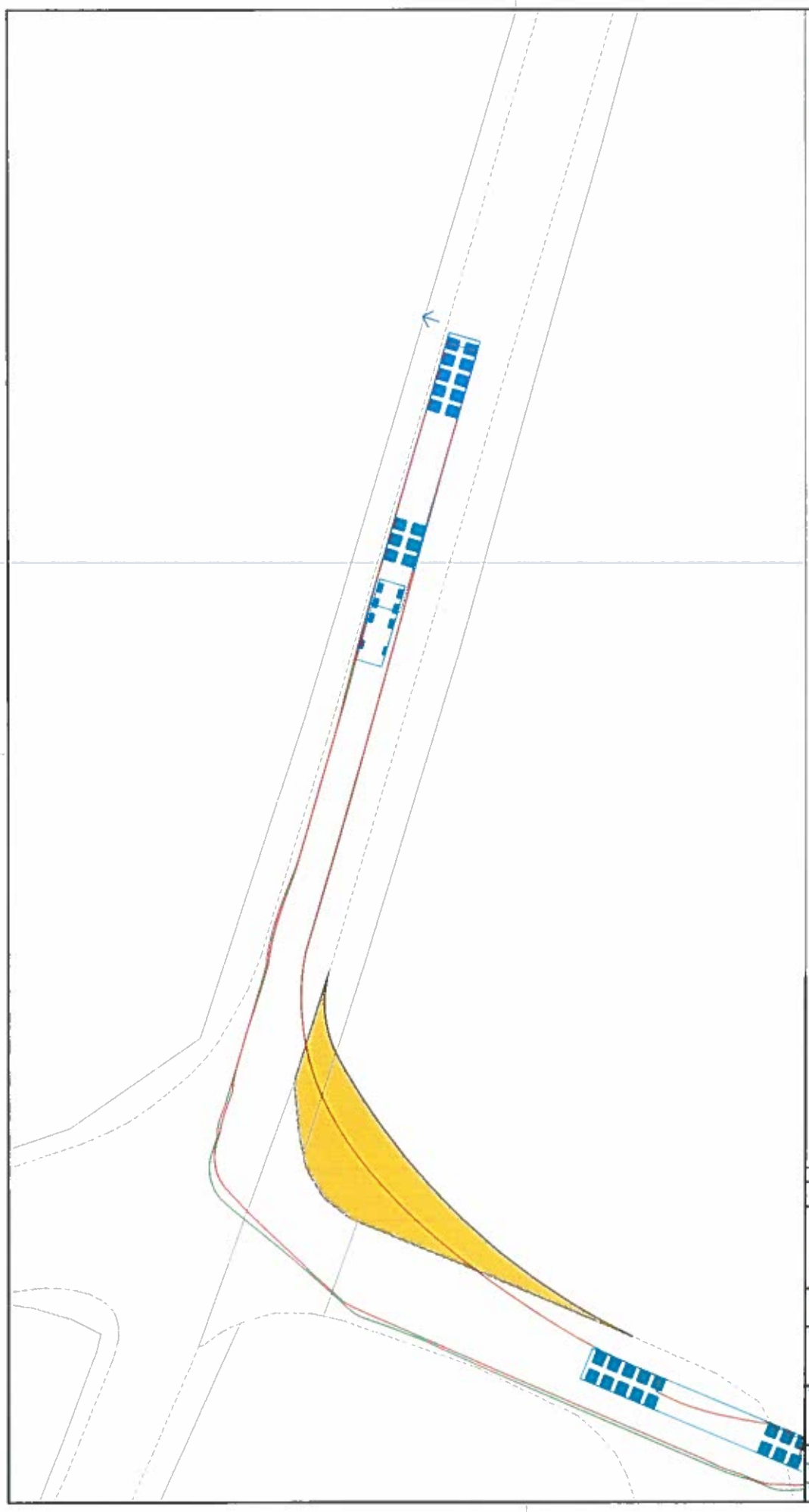
JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 9

DC	DD	ADV
A2	Aug '14	1:250
Information	SCT3721/OPT/009A	



Key

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- Wheels of Transporter
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
Pile Transporter
Pinch Point 10

DC	DD	ADV
A2	Aug '14	1:250
Information	SCT3721/1/OPT/SPA/010	

Key

- Body / Outline of Transporter
- Wheels of Transporter
- Lead Outline
- Area to be temporarily paved or strength of existing paving assessed

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Swept Path Analysis
CraneTransporter
Pinch Point 10

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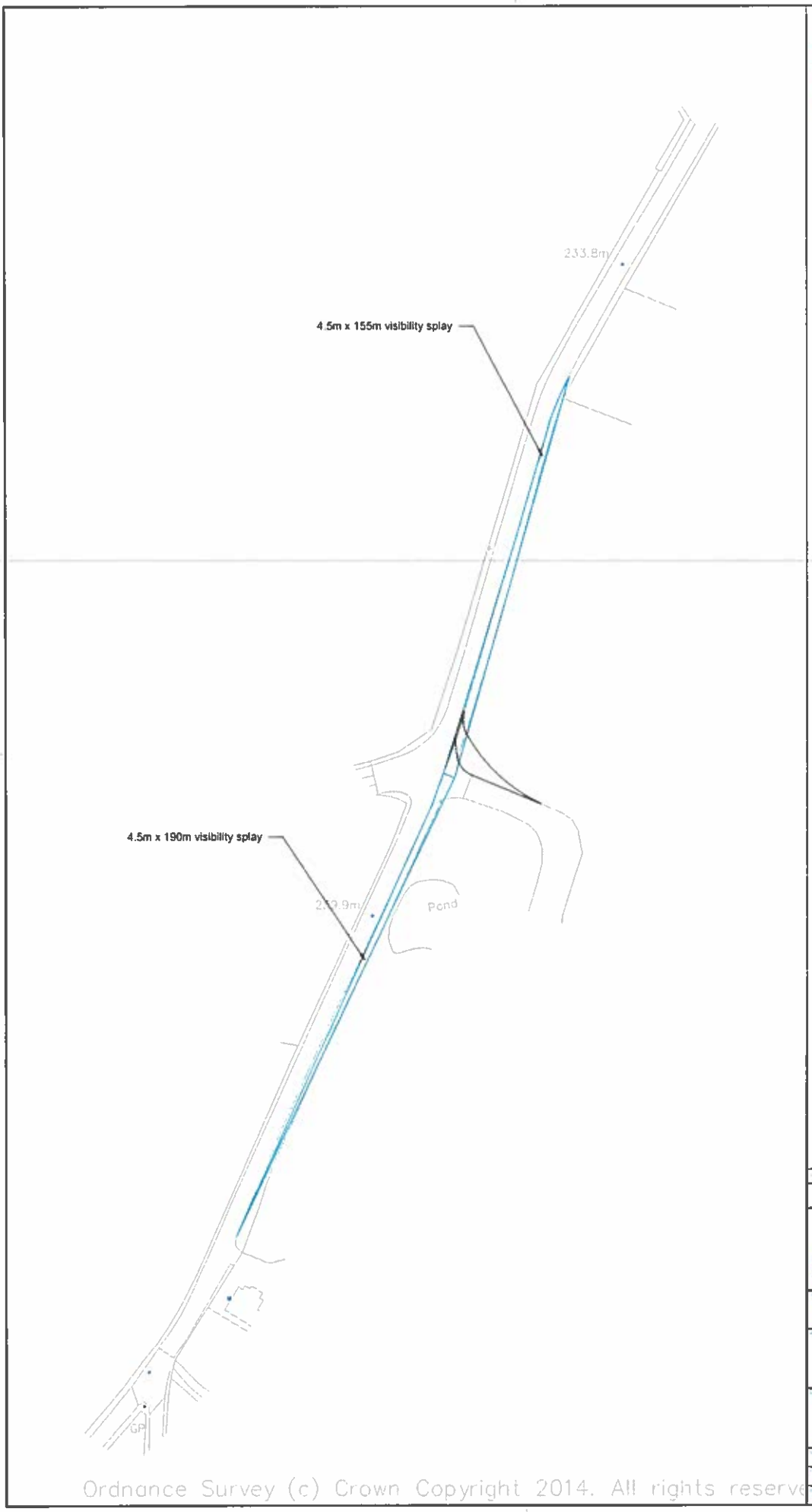


Key

- Body / Outline of Transporter
- Wheels of Transporter
- Extents of Visibility Requirement

JMP

Neart na Gaoithe Offshore Wind Ltd

Neart Na Gaoithe
Temporary Test Piling Works

Visibility Splay

DC	DD	ADV
A2	Aug '14	1:1000
Information	SCT3721/VS/001	

SEPA
Scottish Environment Protection Agency

Our ref: PCS/139196
Your ref: 15/00158/DPP

If telephoning ask for:
Diarmuid O'Connor

02 April 2015

Graeme King
Midlothian Council
Planning & Building Standards
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

By email only to: eapplications@midlothian.gov.uk

Dear Sir

Planning application: 15/00158/DPP
Formation of temporary test piling facility; associated car parking, access roads and buildings
Shewington, Rosewell

Thank you for your consultation letter which SEPA received on 16 March 2015.

We **object** to this planning application on the grounds of lack of information in respect of surface water drainage and the potential impact on the water environment. We will review this objection if the issues detailed in Section 1 below are adequately addressed. Please also note our comments in Section 2 below, specifically relating to flood risk and the potential impact from the near by reservoir.

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, which may take account of factors not considered at the planning application stage.

Advice for the planning authority

1. Surface Water Drainage

1.1 Drainage is a material planning consideration which should be considered before determination of all planning applications in line with Scottish Planning Policy and guidance, including Planning Advice Note (PAN) 79 Water and Drainage.

1.2 Furthermore, in accordance with the requirements of The Water Environment (Controlled Activities) (Scotland) Regulations 2011, also known as The Controlled Activity Regulations (CAR) surface water runoff arising from the hardstanding areas, inclusive of road and roofs will require to be collected, treated and disposed of using sustainable drainage techniques. We would expect the developer to design appropriate SUDS in accordance with CIRIA guidance to ensure compliance with the above Regulations.

1.3 We have concerns that the proposed drainage arrangements will not comply with the above regulatory regimes and therefore we **object** until the information outlined below is provided to our satisfaction,

- We require the applicant to submit relevant information to demonstrate how they will separate trade effluent from the surface water from the hardstanding, roads and parking. The principle of Source Control SUDS should be used for the surface water, it requires to be satisfied that surface water drainage from these areas will not be contaminated by work carried out in the drilling area.

1.4 For reference we note an error within page 15 of Appendix 7: 'Groundwater, Surface water, Private Water Supplies and Soils Assessment', regarding the thresholds for groundwater abstraction, please refer to CAR a Practical Guide for guidance on the correct thresholds. We would confirm that ground water abstractions <10m3/day are covered by General Binding Rule 2, however we would highlight for groundwater abstractions >10m3/day & < 50m3/day, an application for a SEPA Registration is required.

1.5 As outlined above any discharge to the water environment requires to comply with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) (as amended). We would request that the applicant contact a member of the Edinburgh and Lothian's Operation Team (details below) to discuss an application for authorisation to discharge as the proposed activity is not covered by the licence that is currently in place at the site. The applicant for the above proposal is not the responsible person at present and therefore not covered by the existing licence.

1.6 We would also ask that the applicant contact the local Operations team to discuss the water that is being used to flush out the drill holes as it might be classed as being "used in a process" which would mean that application for authorisation would be for trade effluent rather than surface water.

1.7 With regard to the concrete plug used at the base of the pile, the applicant should determine if they can comply with GBR16, if this is not the case then a change to practices may be required, this can be discussed with the local ops team in talks regarding the issues outlined above.

1.8 The applicant has proposed to leave the test piling in the ground once they have left the site, this should also be discuss with Operations, at an early stage, to decide on any potential waste implications.

1.9 We have not considered the water quantity aspect of this scheme. Comments from Scottish Water, where appropriate, the Local Authority Roads Department and the Local Authority Flood Prevention Unit should be sought on the SUDS strategy in terms of water quantity/flooding and adoption issues.

2. Flood Risk

2.1 The location of the proposed test piling is proximal (approx. 200m) from the former Rosslynlee Reservoir which is an earth embankment (clay cored) dam. The reservoir currently acts as a fishing loch and general local amenity. The loch volume is 55,000 cubic metres, thus falling under the 1975 Reservoirs Act. The loch will also fall under the new Reservoir Act (2011) which will come in to force in 2016.

2.2 Under the existing Reservoirs Act 1975, reservoir safety is the responsibility of the local

authority. The responsibility for reservoir safety is to be transferred to SEPA under the Reservoirs (Scotland) Act 2011 however until the act is fully implemented in 2016; Midlothian Council will remain as the enforcement authority at Rosslynee Reservoir.

2.3 Full details on the implementation of the Reservoirs (Scotland) Act 2011 and what changes it will bring about in the regulation of reservoir safety can be found on the SEPA website at http://www.sepa.org.uk/flooding/reservoirs.aspx.

2.4 We have received comments from a third party who has raised concerns regarding the proposal and the potential impact on the integrity of the reservoir and impoundment and it must be acknowledged that should the dam be compromised then the potential flood risk is significant. However, as outlined above we have no organisational remit in respect of reservoir safety currently. Therefore in carrying out your local authorities duties as the responsible authority for reservoir safety you may wish to consider the potential impact on the integrity of the existing structure in terms of flood risk. We would also suggest that you are mindful of your duties as the Flood Prevention Authority. We have provided for assistance observations on the potential flood risk impact if a breach of the structure were to occur,

Technical Report

2.5 The application is for proposed works that include 20-metre high pile testing rods that will be drilled into the ground for the duration of five months. There is a potential risk of local ground disturbance/ movement/ fracturing due to constant vibrations, the council should consider this in the determination of the application. Should such activity compromise the structural integrity of the earth embankment this could lead to an uncontrolled release of water from the reservoir.

2.6 From our observations if the earth dam was compromised, the impacts of a sudden release may be as follows:

- High velocity flood flow along the Shiel Burn, Dalhousie Burn and then into the River South Esk.
- This flow may cause erosion of river banks and impacts to geomorphology and ecology.
- Importantly, flood risk will increase for downstream receptors already shown to be at potential risk on SEPA's flood maps, e.g. properties and businesses at Rosedale, works downstream of Rosedale, Upper Dalhousie and Craigesk.
- There are a number of roads and bridges across these watercourses that may suffer damage due to such a flood wave – most of these will be in the ownership of the local authority.
- There may be ecological impacts to the loch itself due to failure of the structure, including potential fish kill if the loch were to drain.
- Depending on the fish stocked in the loch, there may be a downstream ecological impact due to release of non-native species into the system.
- There may also be an impact to the Opencast Coal Workings immediately downstream of the dam, although this will depend on the local ground topography as built up and/or excavated by these workings.

2.7 The information submitted to date on the piling works has not considered any impacts to the reservoir and any potential increase in downstream flood risk or other physical aspects, should a failure of the earth dam occur. SEPA advise that before such works are approved, the Planning Authority and Reservoir Authority should carefully consider these risks and

consider whether they have in front of them all the necessary information they require to determine this application regarding its appropriateness and sustainability.

3. Hydrogeology

3.1 We have assessed the submitted information in relation to hydrogeology and offer no objection to this element of the proposal.

Detailed advice for the applicant

4. Drainage

4.1 As you will have noted above we have requested further information regarding surface water treatment at the proposal site. We would outline that the SUDS treatment train should be followed which uses a logical sequence of facilities in series allowing run-off to pass through several different SUDS before reaching the receiving water body. Well designed this can form part of a wider green network, contribute to the amenity of the site and promote biodiversity.

4.2 Further guidance on the design of SUDS systems and appropriate levels of treatment can be found in CIRIA's C697 manual entitled *The SUDS Manual*. Advice can also be found in the SEPA Guidance Note *planning advice on sustainable drainage systems (SUDS)*. Please refer to the SUDS section of our website for details of regulatory requirements.

5. Construction Phase, Pollution Prevention

5.1 Construction works associated with the development of the site must be carried out with due regard to the guidelines on avoidance of pollution. Reference should be made to the relevant Pollution Prevention Guidance (PPG) Notes available on our website at www.sepa.org.uk and to the CIRIA publication C651 "Environmental Good Practice Pocket Book".

5.2 Any waste materials imported to the site during construction must be stored and used only in accordance with a waste management licence or exemption under the Waste Management Licensing (Scotland) Regulations 2011. Similarly, any waste materials removed from the site must be disposed of at a suitably licensed or exempt waste management facility in accordance with these Regulations.

5.3 The applicants and their contractors should also be fully aware of the relevant requirements relating to the transport of controlled waste by registered carriers and the furnishing and keeping of duty of care waste transfer notes.

5.4 We will duly expect the applicant to take all necessary measures are in place to ensure that pollutants typically associated with the construction phase of the project do not cause pollution of the environment, specifically the water environment. This should give particular consideration to contaminated surface water run off arising from earthworks, roads, drainage, compounds, concrete batching facilities and any other associated infrastructure.

5.5 We would therefore expect the applicant to install temporary drainage facilities, inclusive of good housekeeping arrangements to manage this aspect of the project. This is a legal requirement of the Controlled Activity Regulations.

6. Flood Risk Caveats & Additional Information for the applicant

6.1 The SEPA Flood Maps have been produced following a consistent, nationally-applied methodology for catchment areas equal to or greater than 3km^2 using a Digital Terrain Model (DTM) to define river corridors and low-lying coastal land. The maps are indicative and designed to be used as a strategic tool to assess, flood risk at the community level and to support planning policy and flood risk management in Scotland. For further information please visit http://www.sepa.org.uk/flooding/flood_maps.aspx.

6.2 We refer the applicant to the document entitled: "*Technical Flood Risk Guidance for Stakeholders*". This document provides generic requirements for undertaking Flood Risk Assessments and can be downloaded from:

6.3 www.sepa.org.uk/flooding/planning__flooding.aspx.

6.4 Please note that this document should be read in conjunction with Policy 41 (Part 2).

6.5 Our Flood Risk Assessment checklist should be completed and attached within the front cover of any flood risk assessments issued in support of a development proposal which may be at risk of flooding. The document will take only a few minutes to complete and will assist our review process. It can be downloaded from: www.sepa.org.uk/flooding/planning__flooding/fra_checklist.aspx

6.6 Please note that we are reliant on the accuracy and completeness of any information supplied by the applicant in undertaking our review, and can take no responsibility for incorrect data or interpretation made by the authors.

6.7 The advice contained in this letter is supplied to you by SEPA in terms of Section 72 (1) of the Flood Risk Management (Scotland) Act 2009 on the basis of information held by SEPA as at the date hereof. It is intended as advice solely to Midlothian Council as Planning Authority in terms of the said Section 72 (1). Our briefing note entitled: "*Flood Risk Management (Scotland) Act 2009: Flood risk advice to planning authorities*" outlines the transitional changes to the basis of our advice inline with the phases of this legislation and can be downloaded from www.sepa.org.uk/planning/flood_risk.aspx.

7. Licensing issues

7.1 As outlined above I would recommend that you liaise with my colleagues in the local operations team to ensure that all matters pertinent to the CAR licensing process are dealt with satisfactorily.

Regulatory advice for the applicant

8. Regulatory requirements

8.1 The storage of fuel and oil on site must be in accordance with the Water Environment (Oil Storage) (Scotland) Regulations 2006.

8.2 Details of regulatory requirements and good practice advice for the applicant can be found on our website at www.sepa.org.uk/planning.aspx. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the operations team in your local SEPA office at:

SEPA Edinburgh, Clearwater Water House, Heriot Watt Research Park North, Riccarton, Edinburgh, EH14 4AP.

If you have any queries relating to this letter, please contact me by telephone on 0131-2737361 or e-mail at planning.se@sepa.org.uk .

Yours faithfully

Diarmuid O'Connor
Senior Planning Officer
Planning Service

Disclaimer
This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at the planning stage. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. If you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found in How and when to consult SEPA, and on flood risk specifically in the SEPA-Planning Authority Protocol.

MAINSTREAM
RENEWABLE
POWER

Neart na Gaoithe Offshore Wind Farm

Test Piling Works:

Response to Objection from SEPA

19 May 2015

LUC and Associated Subconsultants

Document Release and Authorisation Record			
Job No:	**6083**		
Report No:	**Test Piling Works: Response to Objection from Environmental Health Officer**		
Date:	**19 May 2015**		
Client Name:	**Mainstream Renewable Power Ltd**		
Client Contact(s):	**Rosie Scurr**		
QA	Name	Signature	Date
LUC Principal in Charge	Joanna Wright	[redacted]	19/05/15
LUC Project Manager	Jo Cottin	[redacted]	19/05/15
Report checked by	Rosie Scurr	[redacted]	19/05/15
Report authorised by	Ewan Walker	[redacted]	19/05/15

Table of Contents

1 Introduction

1.1 Purpose

A planning application was submitted to Midlothian Council by Neart na Gaoithe Offshore Wind Ltd (NnGOWL) for proposed onshore temporary test piling works ('the Pile Test') at Newbigging open cast coal site (OCCS) in Midlothian (planning application reference 15/00158/DPP). This note is provided in response to the SEPA Consultation with respect to 'Formation of temporary test piling facility; associated car parking, access roads and buildings', dated 2nd April 2015 (SEPA Ref: PCS/139196) (hereafter referred to as 'the Pile Test').

SEPA objected to the proposed development due to concerns over the proposed drainage arrangements at the site. Specifically, SEPA objected until the following information was provided (paragraph 1.3 of SEPA Consultation):

'We require the applicant to submit relevant information to demonstrate how they will separate trade effluent from the surface water from the hardstanding, roads and parking. The principle of Source Control SuDS should be used for the surface water, it requires that surface water drainage from these areas will not be contaminated by work carried out in the drilling area.

1.2 Overview

The purpose of the Pile Test is to inform the piling methods which will be used to construct the Neart na Gaoithe Offshore Wind Farm. Since the submission of the planning application, NnGOWL has been awarded a 15-year Contract for Difference (CfD), one of only two offshore wind farms off Scotland's coast with a CfD. With offshore wind a key element of the Scottish Government's energy policy and strategy (recognised by onshore electricity transmission infrastructure associated with offshore generation being afforded national development status within National Planning Framework 3), the award of the CfD is acknowledgement of the crucial role that Neart na Gaoithe Offshore Wind Farm will perform in securing energy supply for both Scotland and the UK.

Given the relative infancy of the offshore wind industry, as well as the complex geological conditions at the Neart na Gaoithe Offshore Wind Farm site, it is essential that the piling techniques are comprehensively tested in similar geological conditions to meet the challenging delivery timescales required by the CfD award. The Pile Test is therefore considered an essential pre-cursor to a priority development for both the UK and Scottish Governments. The project also has wider relevance amongst other offshore wind developers, as it will provide valuable information to help unlock technical uncertainty associated with the installation of offshore wind turbine foundations.

The site at Newbigging has been identified following an extensive site search process (see Section 2: Site Selection and Alternatives of *Neart na Gaoithe Offshore Wind Farm Test Piling Works Environmental Appraisal* (February 2015) ('the Environmental Appraisal') which accompanied the planning application for the Pile Test. This search was significantly constrained by the geological conditions that are required. The Pile Test is of a temporary nature as stated within the original submission.

Full details of the Pile Test and associated works, together with an appraisal of potential environmental effects of the works, are provided in the Environmental Appraisal.

2 Objection Responses

2.1 Existing Site

Much of the Pile Test Site is currently hardstanding and/or disturbed ground as illustrated in Photo 1 and in Figure 1 below. The Pile Test Site currently drains to the north, towards the main area of the Newbigging OCCS (Open Cast Coal Scheme)(see Figure 1). Bunds or embankments around the edge of the disturbed area retain surface runoff within the disused mine site. Surface water runoff from the Pile Test Site is directed towards a pond or a number of dry pits, illustrated in Photos 1 and 3. The ponds/holes do not appear to have outlets, so it is presumed that runoff is allowed to accumulate within the ponds before seeping into the ground. It is assumed that runoff eventually discharges to an open watercourse at the location of the discharge consent for the site (Consent Number WPC/E/71082).

2.2 Drainage Concept

Water used to flush out the Pile Test holes will be kept separate from runoff from the rest of the site. Given the nature of the site, the PIle Test is not expected to increase surface water runoff rates. One level of treatment is proposed for runoff from car parking (<50 spaces), hardstanding and roads.

It is noted that the works are scheduled to last 19 weeks.

2.3 Water used to Flush out Holes (Trade Effluent)

Water used to flush out holes at the Pile Test Site will be cycled to a settlement pond adjacent to the holes. Water requirements for flushing out of the drill holes will be met through recycling of water within the settlement pond, with the aim of limiting the use of fresh water brought into the Pile Test Site and limiting any discharges from the pond to the environment. It is expected that there will be no discharges from the settlement pond until the end of operations. If discharges from the pond are required (due to infilling of the pond with rainwater or if there are groundwater inflows to the piling holes) the water will be discharged consistent with a proposed amendment to the existing site discharge consent (to allow for Trade Effluent discharge). If the water in the pond does not meet water quality requirements within the discharge consent, water will be trucked from the site to be treated.

Figure 2 shows a schematic of the proposed water supply system for the piling works. Hoses and pumps will take the water from the settlement pond, inject it into the piles via the drill, extract it again via the drill, and put it back into the settlement pond. A hose will be connected directly to the water input to take water from the settlement pond and another to the output to take the water back into the settlement pond. This will form a closed system and no water interacting with the piling works will be released on the ground around the piles.

2.4 Surface Water Runoff

Existing surface flow pathways will be maintained during the Pile Test, i.e., surface water will drain to pond and pits on site. Details of drainage infrastructure are shown in Figure 3. They include:

- Car parking and temporary office areas will be in compacted gravel using existing materials on site. The use of these areas will not be changed (they are currently car parking areas in compacted gravel).
- Surface runoff from car parks and office areas will be routed through a sand filled trench towards an open ditch/swale to the existing open pits where runoff will infiltrate into the ground. The sand filled trench will provide one level of treatment with further treatment provided in the open pits off site.

- Surface water runoff from close to the piling works (where there may be turning trucks and delivery of plant) will be routed to a sand filled trench which will provide treatment before water flows to the ditch to the north of the site.
- Ditches and trenches will be designed to pass the 1 in 30 year storm. The site area that drains to the ditches is around 0.5 ha, with the total site area around 1 ha. Based on the Rational Method (assuming runoff coefficient of 0.8 from gravel), the 1 in 30 year peak flow from the site could be of the order of 0.1 m3/s (15 minute storm). Based on simple calculations we would propose that a 0.5 m deep ditch (with 0.5 m base and 2:1 side slopes) will pass the 1 in 30 year flow with 0.2 m freeboard. Surface water runoff in excess of the ditch or trench capacity will be routed through the site and will flow north entering the pit or other similar pits elsewhere in the OCCS.
- Based on SuDS for Scotland treatment for runoff would be calculated as follows:

Box 4.12 ***V_t calculation using variable rainfall depths (for Scotland)***

$$V_t\ (m^3/ha) = 9.D.[SOIL/2+(1 - SOIL/2).I]$$

Where:

V_t	=	Water Quality Treatment Volume (as a function of the total development area)
SOIL	=	Soil classification (from Flood Studies or Wallingford Procedure WRAP map)
I	=	Fraction of the area which is impervious (eg 30 per cent impermeable area = 0.3)
D	=	M5 – 60 minute rainfall depth (ie 5-year return period, 60 minute duration storm depth determined from the Wallingford Procedure)

Considering car parking areas in hardstanding the Treatment Volume (V_t) = 9 x 12.6 x (0.4/2+(1-0.4/2) x 1) = 113.4 m^3/ha

Hardstanding areas and treatment volumes are shown in Figure 3. For clarity, there are not expected to be any site specific water quality issues related to surface water runoff, other than what would normally be expected from a vehicle parking area in hard packed gravel (i.e., mainly suspended solids).

Fuel will be kept on the Pile Test Site. All oil and fuel storage will comply with The Water Environment (Oil Storage) (Scotland) Regulations 2006 and no oil storage tanks will be located within 10m of a watercourse. All machinery will be checked regularly to identify oil leakages.

Effluent from any temporary toilet facilities on the Pile Test Site will be retained within the toilets and disposed of off-site.

Photo 1: View of Pile Test Site looking south. Note current condition of Pile Test Site and pond in bottom corner. Runoff from most of the Pile Test Site drains into this pond.

Photo 2: View of drainage pathway heading north from Pile Test Site. Channel flows into pit shown in Photo 3.

Photo 3: Pit into which drainage flows. There is no outlet from pit. There are at least 3 other pits of a similar type on the Pile Test Site.

Figure 1: Overall site location within Newbigging OCCS

Figure 2: Overview of water system for flushing piling works

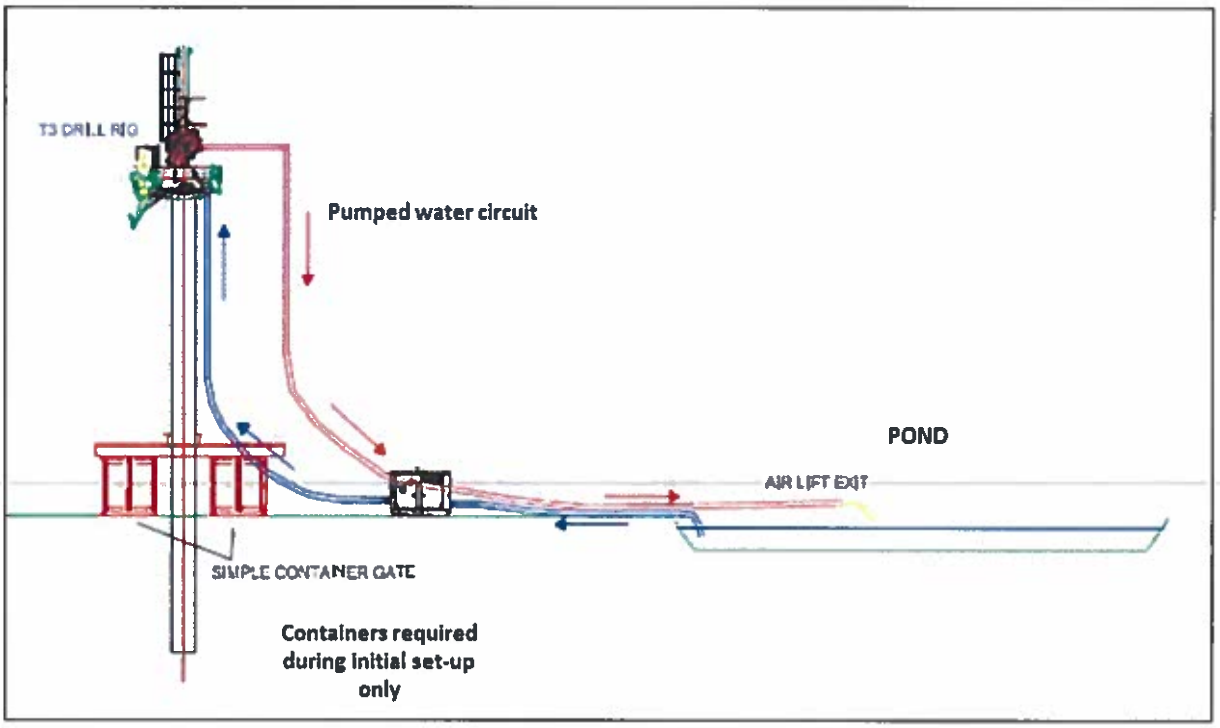


Figure 3: Overview of site drainage proposals

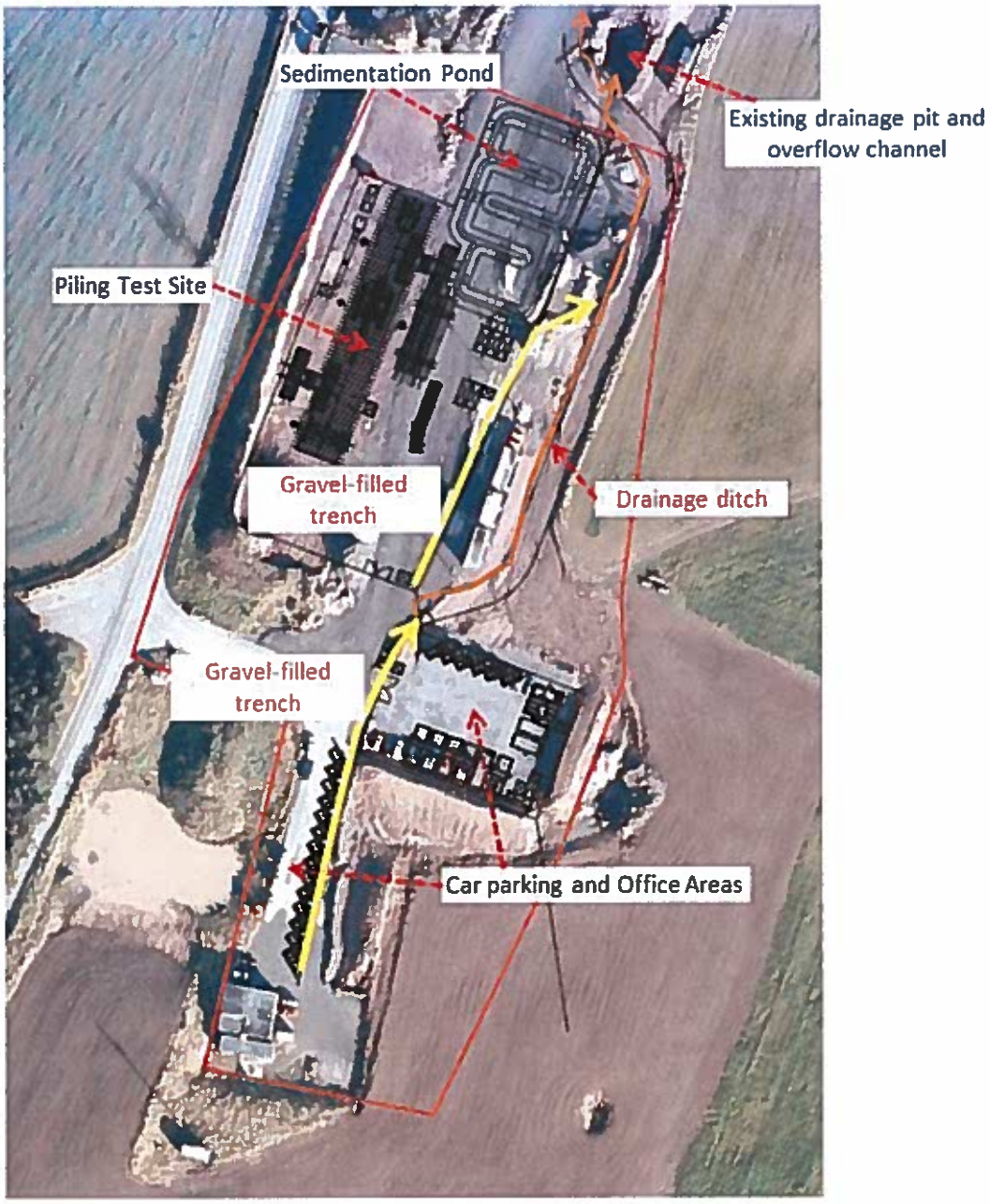
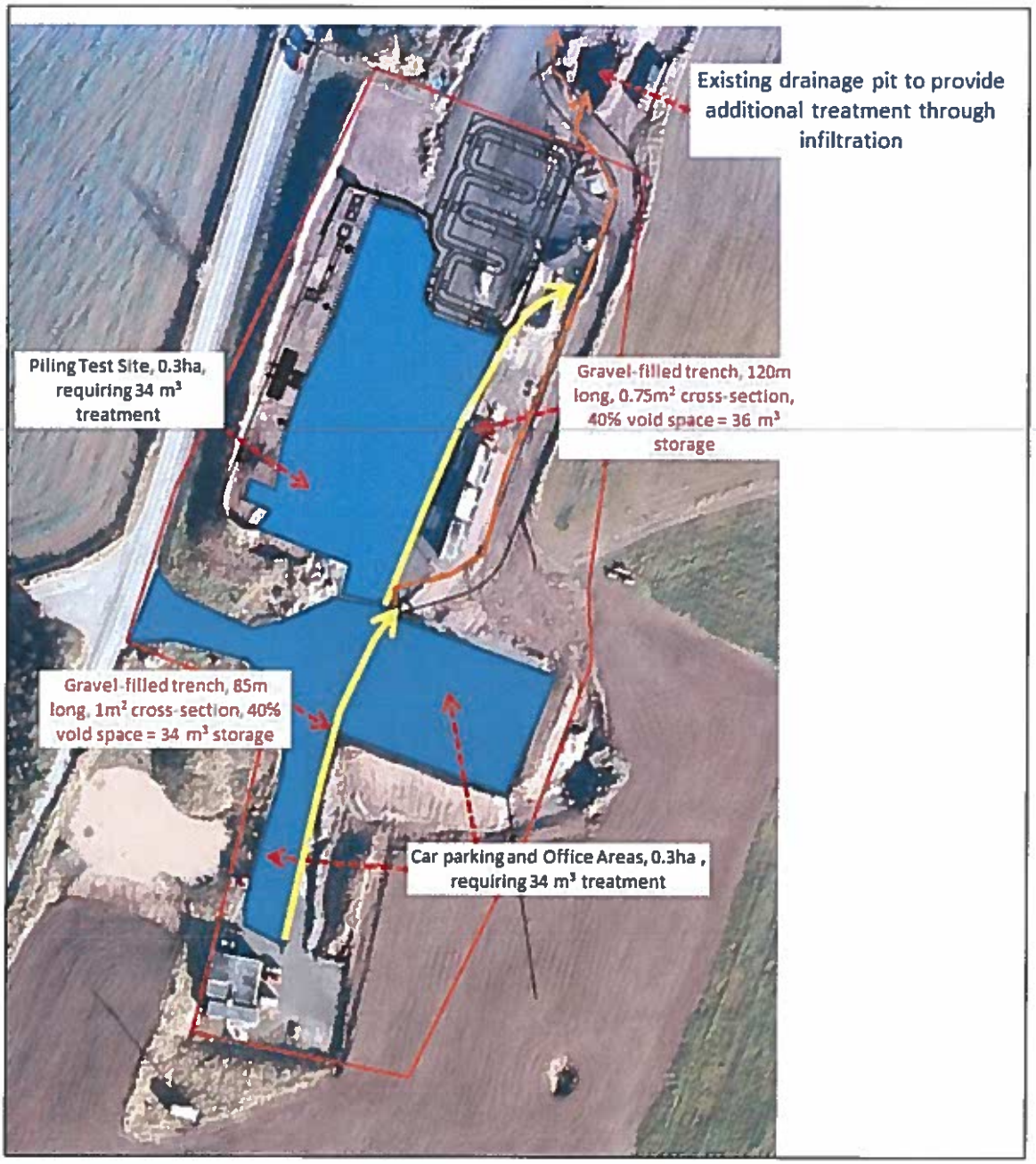


Figure 4: Details of SuDS treatment for runoff from car parking and hardstanding areas



From: OConnor, Diarmuid [mailto:diarmuid.oconnor@sepa.org.uk]
Sent: 12 June 2015 13:42
To: Graeme King
Cc: 'Michael Stewart'
Subject: RE: Consultation Response - Planning Application 15/00158/DPP

Graeme

Thank you for forwarding the document referred to below, we are now of the understanding that this forms part of the planning application material to which the applicant must adhere to if you as the determining authority are minded to grant the planning application. Therefore our response below is based on this assumption, if this is not the case then we would wish to be re-consulted.

As you outline below we have had in the last number of weeks various discussions with the applicants agent regarding our previous objection, these discussions have thereafter informed the document you forwarded today. Based on the information provided we are now in a position **to remove our objection to the proposal.** We would however ask that an informative is attached to any grant of planning permission that outlines that the proposal must accord with the drainage principles outlined in this up-to-date report.

We would advise that the applicant continue to liaise with our local operations team regarding issues pertinent to CAR authorisation at the site. We would outline that this advice is given without prejudice to any decision made on elements of the proposal regulated by us which may take account of factors not considered at the planning application stage.

Please get in touch if you wish to discuss anything outlined in this response.

Regards
Diarmuid

From: Graeme King [mailto:Graeme.King@midlothian.gov.uk]
Sent: 12 June 2015 12:35
To: OConnor, Diarmuid
Cc: Planning South East
Subject: Consultation Response - Planning Application 15/00158/DPP

Diarmuid

Planning Application 15/00158/DPP
Your Reference: PCS/139196
Formation of temporary test piling facility; associated car parking, access roads and buildings
Shewington, Rosewell

I refer to the above application and your consultation response dated 2nd April 2015.

The response of 2nd April 2015 stated that SEPA objected to the proposal on the grounds of lack of information in respect of water drainage and the potential impact on the water environment. I understand that subsequent to the response the applicant has been in direct contact with SEPA and has provided additional information.

The applicant has provided an additional statement in response to SEPA's objection; I have attached a copy of it above. The statement (alongwith a previous response document received on 9th June) has also been uploaded to our online planning facility at https://planning-applications.midlothian.gov.uk/OnlinePlanning/

I would be grateful to receive your comments on the statement by 26th June 2015.

Thank you for your assistance.

Regards

Graeme

Graeme King
Planning Officer
Planning
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

Tel: 0131 271 3332
Fax: 0131 271 3537
Email: graeme.king@midlothian.gov.uk
Web: www.midlothian.gov.uk

MEMORANDUM

To: Graeme King, Planning Officer

From:Lilianne Lauder, Group Leader, Environmental Health

Our Ref:

Your Ref: 15/00158/DPP

Date: 24 April 2015

Subject: **Shewington Roswell - Detailed Planning Permission application: Formation of temporary test piling facility; associated car parking, access roads and buildings**

Introduction and summary

This is a request for planning permission to use the application site as a test facility for the trialling of piling methods. There is no actual development aspect associated with these proposals. This being the case, there is a fundamental difference between the method of assessment and conclusions presented in the supporting acoustic report (the ARUP report) and those of this Environmental Health Service. The ARUP report assesses these proposals in terms of construction site '*significance of impact*' guidance, whereas the Environmental Health Service is of the view that they should be considered in terms of annoyance and nuisance.

The ARUP report concludes:
(a) that there is no significant impact from the predicted noise levels, and bases this view on the 'ABC assessment method given in BS 5228';
(b) that the predicted vibration levels will be significant at neighbouring residential properties, being noticeable and likely to cause complaint, but that it can be 'managed' with prior warning and explanation given to residents.

The ARUP report offers no comment on the significance of impact on the leisure use of the Rosslynlee Fishery

This Environmental Health Service is of the opinion that when operating, the piling noise and vibration will be intrusive and unacceptable to neighbouring residents and those wishing to make use of the trout fishery facilities and that this application should therefore be refused.

The use of BS 5228 - Code of practice for noise and vibration control on construction and open sites 2009

<u>Applicability of the Standard to this development</u>

This gives guidance and advice regarding the assessment and control of noise and vibration from construction site activities. As part of this advice it includes information to ensure its guidance is applied and understood in context, and thereby avoid inferences relating to

significance of impact which may be misleading. In its Forward it cautions that "*particular care should be taken to ensure that claims of compliance are not misleading*".

Para 8.1, in the section headed 'Control of Noise', is particularly relevant when considering whether it is appropriate to apply this Standard to any proposed site use or activity. Reasons are given for the Standard applying to certain activities. One such reason given is that a construction site "*cannot be excluded by planning control, as a factory can, from those sensitive to noise*". In other words, construction sites are regarded as a means to an end, eg the factory, which *can* be prevented through the planning decision-making processes.

In taking this position, BS 5228 is recognising that many works associated with construction activities are inherently noisy and there are limits to the practicability of their control, but that these can be managed and considered as acceptable given the nature of such sites. It accepts temporary impacts on the basis that these can be offset against the final use of the site, which will have been subject to planning controls. There is no such future site development benefit here. This piling activity is not necessary as part of a construction process in order to develop the site, it is simply an application to undertake test piling. The piling is, in itself, the process being applied for and hence the subject of this application.

Para 8.5.2.1 also makes it clear that selecting a piling method has considerations related to ensuring they are fit for purpose, given the site conditions and site development needs. Therefore, the underlying context of understanding significance of impact in relation to noise from piling activity is that, although it can be noisy, it is a necessary part of being able to develop the site. The piles driven on this site have not been chosen to provide for development of this site. They are solely for test purposes and thereafter will serve no further purpose.

It is therefore the view of this Service that the proposed activity falls outwith the description given in para 8.1 as to the nature of what a construction site is. The premise of this guidance, ie that higher noise levels can be tolerated in order to achieve development aims of the site, therefore does not apply to this testing operation.

<u>Use of the ABC assessment method</u>

The ARUP conclusions regarding significance of impact regarding noise are entirely based on this method.

(i) This method is entirely based on a long term time average of the noise emission. The Standard itself in paras 6.2 and 6.3(f) cautions against this for impulsive sources, specifically giving impulsive driven piling as an example of when "*the acceptability can be less than concluded from the level expressed as an LAeq*".
(ii) Para 8.5.2.5 advises that impulsive noise "*cannot always be controlled effectively using a longer term LAeq alone*". It suggest additional shorter L_{Aeq} or L_{A01} parameters for control purposes.
(Iii) Paras 6.2 and 6.3(e) advise that attitudinal factors are also relevant. For example, "*the acceptability of the project itself can be a factor*". This application is not for the purposes of developing the site and therefore there will be no future benefit seen as arising from the activity which will be causing the noise and vibration impacts.

The Standard cautions that care is necessary to ensure claims of compliance are not misleading and the Environmental Health Service is of the view that the ABC method does not adequately present the significance for the predicted piling noise for the following reasons.

Predicted noise levels

The ARUP report predicts L_{Aeq} and L_{A01} noise levels at the neighbouring sensitive receptor locations. These are presented in Appendix C.

The long term L_{Aeq} levels at the nearest receptor are predicted to be 64 and 61 dB for the 150 kJ and 600 kJ plant respectively. This means that when the plant is actually operating, the short term $L_{Aeq's}$ will be about 73 and 74 dB. The respective associated L_{A01} values will be 9 dB greater than this at 82 and 83 dB (not 73 and 70 dB, as given in the report).

During the on-time piling activity it is anticipated that no residents will wish to remain on their premises and that no visitors will wish to make use of the fishery.

Observations and conclusions

1. This development is in a relatively quiet rural environment.
2. There is an expectation of a low noise environment for the leisure enjoyment of the fishery.
3. Assessment of impact should be based on the anticipated loss of amenity and potential nuisance, not construction site noise standards.
4. Regular exposure for seven weeks to average noise levels of 73 and 74 dB(A) and Impulsive noise events of 82/83 dB(A) at the facade of noise sensitive premises is considered to be excessive.
5. The predicted noise levels and duration of exposure are considered likely to result in a significant loss of amenity and nuisance.
6. The predicted vibration levels will be significant at neighbouring residential properties, being noticeable and likely to cause complaint (agreed by the ARUP report).
7. The potential for ground-borne vibration causing earth movement and instability arising out of previous mineral workings does not appear to have been considered.
8. Due to likely attitudinal issues and there being no developmental benefit related to this site, it is not accepted that adverse impact could be 'managed' with prior warning and explanation given to residents.

For the above reasons it is recommended that this application be refused.

Lilianne Lauder

MAINSTREAM
RENEWABLE
POWER

Neart na Gaoithe Offshore Wind Farm

Test Piling Works:

Response to Objection from Environmental Health Officer

22 May 2015

LUC and Associated Sub-consultants

Document Release and Authorisation Record			
Job No:	**6083**		
Report No:	**Test Piling Works: Response to Objection from Environmental Health Officer**		
Date:	**22 May 2015**		
Client Name:	**Mainstream Renewable Power Ltd**		
Client Contact(s):	**Rosie Scurr**		
QA	**Name**	**Signature**	**Date**
LUC Director in Charge	Joanna Wright	[redacted]	22/05/15
LUC Project Manager	Jo Cottin	[redacted]	21/05/15
Report checked by	Rosie Scurr	[redacted]	22/05/15
Report authorised by	Ewan Walker	[redacted]	22/05/15

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1 Introduction

1.1 Purpose

A planning application was submitted to Midlothian Council by Neart na Gaoithe Offshore Wind Ltd (NnGOWL) for proposed onshore temporary test piling works ('the Pile Test') at Newbigging open cast coal site (OCCS) in Midlothian (planning application reference 15/00158/DPP). This note has been prepared to respond to concerns raised by the Environmental Health Officer ('the EHO') in their objection to the planning application (memo to the Planning Officer from the EHO dated 24th April 2015).

Prior to the submission of the planning application, NnGOWL engaged in consultation with neighbouring residents, businesses and the EHO. This included discussion with the EHO and their independent acoustics consultant (see below) prior to submission of the planning application. As part of these discussions, agreement was reached in relation to the methodology to be used in the appraisal of noise and vibration resulting from the Pile Test.

An assessment of the L_{AMax} / L_{A01} levels was requested by Midlothian Council following an initial review of the draft appraisal provided to Midlothian Council for comment on the 4th of September 2014. The L_{A01} assessment was subsequently undertaken and the findings presented in support of the planning application for the Pile Test.

1.2 Overview

The purpose of the Pile Test is to inform the piling methods which will be used to construct the Neart na Gaoithe Offshore Wind Farm. Since the submission of the planning application, NnGOWL has been awarded a 15-year Contract for Difference (CfD), one of only two offshore wind farms off Scotland's coast with a CfD. With offshore wind a key element of the Scottish Government's energy policy and strategy (recognised by onshore electricity transmission infrastructure associated with offshore generation being afforded national development status within National Planning Framework 3), the award of the CfD is acknowledgement of the crucial role that Neart na Gaoithe Offshore Wind Farm will perform in securing energy supply for both Scotland and the UK.

Given the relative infancy of the offshore wind industry, as well as the complex geological conditions at the Neart na Gaoithe Offshore Wind Farm site, it is essential that the piling techniques are comprehensively tested in similar geological conditions to meet the challenging delivery timescales required by the CfD award. The Pile Test is therefore considered an essential pre-cursor to a priority development for both the UK and Scottish Governments. The project also has wider relevance amongst other offshore wind developers, as it will provide valuable information to help unlock technical uncertainty associated with the installation of offshore wind turbine foundations.

The site at Newbigging has been identified following an extensive site search process (see Section 2: Site Selection and Alternatives of *Neart na Gaoithe Offshore Wind Farm Test Piling Works Environmental Appraisal* (February 2015) ('the Environmental Appraisal')) which accompanied the planning application for the Pile Test. This search was significantly constrained by the geological conditions that are required. The Pile Test is of a temporary nature as stated within the original submission.

Full details of the Pile Test and associated works, together with an appraisal of potential environmental effects of the works, are provided in the Environmental Appraisal.

2 Responses

2.1 Response to Midlothian Council Independent Noise Consultant Queries

On 14th April 2015, the independent consultant acting on behalf of the EHO for Midlothian Council raised a number of queries with the Applicant in relation to the acoustic assessment undertaken for the Pile Test. These queries (indicated in *italic* text), together with a response to each, are detailed below.

Are the predicted noise levels when assessed at the nearest residential receptors free field of façade noise levels?

The predicted noise levels at residential receptors are façade noise levels i.e. they include a +3dB correction for façade effect. This enables direct comparison with the threshold levels set out in Table E.1 in British Standard BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration on open sites – Part 1: Noise*.

What time basis (T) has been used for the predicted $L_{Aeq,T}$ noise levels?

12 hour (hr) time basis (i.e. $L_{Aeq,12hr}$) has been used for noise predictions. This enables direct comparison with the (12 hr) threshold levels set out in Table E.1 in BS5228.

How have the predicted L_{A01} noise levels been predicted i.e. are they based on the shorter duration of just piling activity?

The calculated L_{A01} noise levels have been based on the predicted 12hr L_{Aeq} noise levels that include all of the construction activities detailed by the contractor. It is common practice to predict noise levels for piling works (combined with the other construction noise sources) over a typical 'working day', even though construction noise will almost always have a varying nature combined with impulsive/intermittent elements, i.e. quieter periods and noisier periods. An alternative assessment might consider the small hammer being used for 25 minutes (min) and then immediately followed by the larger hammer for 18 min (i.e. as per received contractor piling duration data and resulting in a 43 min period of constant piling). If this were considered in terms of L_{A01} noise (using the methodology in BS 5228) at the nearest receptor, the closest piling activities would therefore result in L_{A01} noise levels in the region of 79 dB and 75 dB for the smaller and larger hammer respectively (instead of 73 dB and 70 dB previously reported). However, there are no established criteria to compare these L_{A01} levels against to make an assessment and the alternative L_{A01} levels do not, therefore, provide a meaningful assessment approach. Hence these results do not alter the original assessment conclusions.

In summary, the queries and responses above do not change the overall outcome of the assessments previously detailed in Appendix 3: Acoustic Assessment of Temporary Test Piling Works of the Environmental Appraisal.

2.2 Response to the Environmental Health Officer Objection

2.2.1 Overview

On 24th April 2015, the EHO submitted an objection to the planning application ('the objection'), which summarises that:

"The ARUP report offers no comment on the significance of impact on the leisure use of the Rosslynlee Fishery."

And;

"This Environmental Health Service is of the opinion that when operating, the piling noise and vibration will be intrusive and unacceptable to neighbouring residents and those wishing to make use of the trout fishery facilities and that this application should therefore be refused."

2.2.2 Response to *'The use of BS 5228 - Code of practice for noise and vibration control on construction and open sites 2009'*

2.2.2.1 Applicability of BS5228

The works being carried out at the test pile site are construction related activities as might be carried out for buildings or infrastructure construction sites, and it is appropriate to assess them as such (i.e. by using the assessment methods detailed in BS5228). It is of note that, whilst the EHO objection suggests that use of BS 5228 is not appropriate to appraise the potential noise effects resulting from the Pile Test, in an email dated 26th September 2014 to NnGOWL the EHO stated *"If you do not have information on the LAMAX or LA1 for the proposed piling activities then ... you should rely on the guidance contained in BS5228"*. Hence, the methods set out in BS 5228 to estimate LA1 noise levels were followed and the data provided. However, there are not accepted criteria to form an assessment from this data.

Furthermore, these are short term works (the piling itself is anticipated to last for 7 weeks in an overall programme of works lasting 19 weeks) with intermittent piling activities where the gaps between the pile driving could be between one hour and several days.

There is no direct guidance in BS5228 for assessing construction related noise affecting a facility such as the Rosslynlee Fishery. However, given that the piling activities are expected to be very intermittent throughout a relatively short term period and the works are restricted to weekdays 08:00-18:00 (there will be no weekend or evening works), it is considered that the test pile works would not cause 'excessive disturbance' at the Fishery.

2.2.2.2 Use of the ABC Assessment Method

When assessing residential receptors, BS5228 is considered to be the most appropriate standard to use and the ABC method based on the 'working day' L_{Aeq} is precedent for these types of activities. Predicted noise levels arising from the test pile site do not exceed the most onerous (Category A) thresholds detailed in BS5228 (assessed in the absence of environmental survey data and adopting the most conservative assessment approach). The ABC assessment methodology has been used successfully on many other construction related projects including those using piling activities (in some cases where works extend well beyond two months and in many cases continue over several years, e.g. Forth Replacement Crossing). As previously noted, most construction related activities will be variable and often impulsive/intermittent in nature, however with the implementation of best practical means methods the risk of disturbance is minimised. The Arup report (Appendix 3 of the Environmental Appraisal) discusses potential mitigation methods including keeping local residents and businesses regularly informed of the works.

2.2.3 Response to *'Predicted noise levels'*

The short term L_{Aeq} noise levels at the nearest receptor presented by the EHO are based on constant piling works for durations of ~18-25 min for the large and small hammer respectively, i.e. without any breaks in the works. Typical 12 hr L_{Aeq} noise levels would be around 10 dB lower as reported in Appendix 3 of the Environmental Appraisal. The predicted L_{A01} levels are based on the calculated L_{Aeq} levels. The short term L_{A01} noise levels that have been presented by the EHO, have been calculated using another (even stricter) alternative approach to that previously described in Section 2.1 above. However there are no established criteria to compare any of these L_{A01} levels against in order to make an assessment and the alternative L_{A01} levels do not, therefore, alter the original assessment conclusions.

The assessment undertaken is considered to be a realistic worst case with many breaks in works and it is concluded that the short term works (less than two months) are unlikely to be excessively disturbing. Calculations show that predicted noise levels would not exceed even the Category A threshold (most onerous potential significance category) in BS5228. It should be noted that this threshold that is not exceeded is intended for the most sensitive receptors (i.e. dwellings); non-residential receptors such as the fishery would be less sensitive.

2.2.4 Response to *'Observations and Conclusions'*

2.2.4.1 Point 1

This development is in a relatively quiet rural environment.

An environmental noise survey around the site has not been carried out. It has been assumed that the site and surrounding area will have relatively low background noise levels which will result in the assessment threshold noise level being below the Category A threshold in BS5228 (the most onerous). Hence, the strictest criteria have been used for the assessment of residential receptors.

2.2.4.2 Point 2

There is an expectation of a low noise environment for the leisure enjoyment of the fishery.

As previously noted, these are short term works (less than 2 months) with intermittent piling activities where the gaps between the pile driving could be between one hour and several days. The works will only occur during weekdays (08:00-18:00) i.e. no evening, night time or weekend working. Although the works will be audible and will alter the noise environment for a short duration, it is not considered that noise levels will cause excessive disturbance that will prohibit enjoyment of the fishery.

The piling activities will be publicised using flyer drops and ongoing dialogue with local residents and the fishery prior to and during the works. Previous experience has shown that regular communication on likely construction activities is very effective in helping people understand what is happening.

2.2.4.3 Point 3

Assessment of impact should be based on the anticipated loss of amenity and potential nuisance, not construction site noise standards.

'Noise nuisance' is subjective and would normally be only considered in the context of actual works when these are ongoing; it is not appropriate to form a judgement on nuisance at this stage. For assessment prior to the works, it is usual and reasonable to apply criteria established by precedent based on noise level and duration. This has been carried out using the recognised prediction and assessment methods given in BS 5228 (this methodology is described in full in the noise assessment). The assessment undertaken is considered to be a realistic worst case with many breaks in works and it is concluded that the works are unlikely to be excessively disturbing. Calculations show that predicted noise levels would not exceed even the Category A threshold (most onerous potential significance category) in BS5228. It should be noted that this threshold that is **not** exceeded is intended for the most sensitive receptors (i.e. dwellings); non-residential receptors such as the fishery would be less sensitive.

2.2.4.4 Point 4

Regular exposure for seven weeks to average noise levels of 73 and 74 dB(A) and Impulsive noise events of 82/83 dB(A) at the facade of noise sensitive premises is considered to be excessive.

These are short term (~18-25 min) L_{Aeq} noise levels at the nearest receptor. Typical 12 hr L_{Aeq} noise levels (required for assessment with BS5228 criteria) would be around 10 dB lower as previously reported in

Appendix 3 of the Environmental Appraisal. The latter results above are short term (~18-25 min) L_{A01} noise levels, calculated using another (even stricter) alternative approach to that previously described above. The assessment undertaken is considered to be a realistic worst case using established BS5228 criteria with many breaks in works. The works will be intermittent over the seven week period however in Point 4, the EHO has specifically considered the short period during which the piling will be constant. This is the worst case scenario as there is no consideration of the respite periods in between works or consideration of a change in hammer size. Overall it considered that the short term works are unlikely to be excessively disturbing. Calculations show that predicted noise levels would not exceed even the Category A threshold (most onerous potential significance category) in BS5228. It should be noted that this threshold that is not exceeded is intended for the most sensitive receptors (i.e. dwellings); non-residential receptors such as the fishery would be less sensitive.

2.2.4.5 Point 5

The predicted noise levels and duration of exposure are considered likely to result in a significant loss of amenity and nuisance.

The assessment in accordance with BS 5228 is based on threshold values to manage the potential for 'nuisance'. Furthermore, the test piling activities are short term daytime works (less than two months) and calculations show that predicted noise levels should not exceed the Category A (most onerous) threshold in BS5228. This ABC methodology from BS 5228 is described in full in the noise assessment.

However, whether or not noise arising from nearby activities (e.g. construction noise) would be considered a nuisance is very subjective and can therefore not be quantified by absolute levels prior to the works taking place.

The assessment undertaken is considered to be a realistic worst case with many breaks in works and it is concluded that the short term works are unlikely to be excessively disturbing. Calculations show that predicted noise levels would not exceed even the Category A threshold (most onerous potential significance category) in BS5228. It should be noted that this threshold that is not exceeded is intended for the most sensitive receptors (i.e. dwellings); non-residential receptors such as the fishery would be less sensitive.

For reference, the process of managing construction related noise (including piling noise) during the ground investigation works for the Forth Replacement Crossing made use of the ABC method in BS5228 as part of the control measures. This method was later agreed as part of the Forth Replacement Crossing Parliamentary Process and enshrined in the Forth Crossing Act in consultation with the three Local Authorities involved with the scheme (City of Edinburgh Council, Fife Council and West Lothian Council).

2.2.4.6 Point 6

The predicted vibration levels will be significant at neighbouring residential properties, being noticeable and likely to cause complaint (agreed by the ARUP report).

Both the Hydro hammers (150kJ and 600kJ) have been assessed based on the PPV calculation methodology detailed in Table E.1 in BS5228-2. Whilst this vibration prediction method in the standard is robust, it is based on measured data up to 111 metres (m) from the pile and for hammer energies up to 85 kJ. The proposed plant and Pile Test Site are therefore outwith the range of parameters for which the predictors are proven. However, the PPV calculations are based on current best practice and the only way to improve certainty would be to measure similar piling activities (i.e. with the larger hammer energies and at the greater distances being assessed). Although the works will be noticeable to nearby residents, they will be informed of works activities and the steps taken to minimise impact. This approach has been shown to be very successful at managing potential noise disturbance (see response to Point 8 below).

2.2.4.7 Point 7

The potential for ground-borne vibration causing earth movement and instability arising out of previous mineral workings does not appear to have been considered.

Apart from local settlement around the pile location it is unlikely that there would be large scale ground movement of the intervening ground between source and receptor.

2.2.4.8 Point 8

Due to likely attitudinal issues and there being no developmental benefit related to this site, it is not accepted that adverse impact could be 'managed' with prior warning and explanation given to residents.

Keeping nearby residents informed of works activities has been very successful at 'managing potential noise disturbance' in other similar circumstances. For example, this was the case for ground investigation works for the Forth Replacement Crossing which were conducted on a 24hr/7day a week basis for 3 months at varying distances but as close as around 190m across water. The noise threshold values were established using BS5228 ABC method, providing a precedent for using the BS5228 ABC method for construction investigation works.

Whilst the Pile Test will not result in a direct 'developmental benefit related to this site' as suggested by the EHO, it will provide wider benefits which are a real asset to the east of Scotland and ultimately are of national importance. As noted above, the purpose of the Pile Test is to inform the piling methods which will be used to construct Neart na Gaoithe Offshore Wind Farm. Neart na Gaoithe Offshore Wind Farm has the potential to generate 450MW of renewable energy, which is enough power to supply around 325,000 Scottish homes. It will offset over 400,000 tonnes of CO^2 emissions each year, as well as making a significant contribution towards the delivery of the UK's share of the European Union target of 20% renewable energy by 2020. As such, the Pile Test is considered an essential step in delivering a priority development within Scotland and the UK, helping to secure energy supply and reduce carbon emissions. Furthermore, the Pile Test and construction of the Neart na Gaoithe Offshore Windfarm will provide valuable information to other offshore wind developers, providing a valuable test case on offshore wind turbine foundation installation.

3 Conclusion

The above information has been provided to address the concerns raised by the EHO in relation to the proposed Pile Test at Newbigging OCCS. This highlights the temporary nature of the works and supports the findings of the Environmental Appraisal submitted with the planning application for the Pile Test, which should be considered an essential part of a nationally significant development. The findings of the Environmental Appraisal are considered to remain valid.

From: Lilianne Lauder
Sent: 12 June 2015 14:42
To: Graeme King
Subject: FW: Your consultation response to application ref. 15/00158/DPP

Apologies Graeme,
Alistair has sent in some additional comments.
See comments below:

Review comments

1 What is the activity and how should it be assessed?

There should be clarity regarding the proposed use on this site. This site is to be used to test plant and machinery. It could have been to test compressors, generators, cranes, etc., it just happens to be piling equipment. For example, garage premises operate compressors; office buildings may have standby generators; an industrial facility may have cranes - but none of these are construction sites. Although this proposed testing facility is time-limited, it does not change the fact that it is not a construction site and that other applicants (or this applicant) could wish to make use of the site as a testing facility in the future.

It is suggested that, as the activities have not started yet, it is inappropriate to take account of nuisance. However, the very wording of statutory nuisance provisions dictate that this is not so. A statutory notice can be served in anticipation of a nuisance. In fact, even if an activity is not present, a local authority has statutory duties in terms of preventing the occurrence of nuisances likely to occur. These provisions are referred to in Annex A.1 of BS5228. As a plant testing facility, it is entirely appropriate for Midlothian Council to consider the impact of this development in terms of the potential for loss of amenity, annoyance and statutory nuisance.

The following was stated in the last Environmental Health and is worth repeating as BS5228 itself acknowledges there are contextual considerations necessary to make sure the advice in the standard is not misapplied.
Para 8.1, in the section headed 'Control of Noise', is particularly relevant when considering whether it is appropriate to apply this Standard to any proposed site use or activity. Reasons are given for the Standard applying to certain activities. One such reason given is that a construction site "cannot be excluded by planning control, as a factory can, from those sensitive to noise". In other words, construction sites are regarded as a means to an end, eg the factory, which can be prevented through the planning decision-making processes.

BS5228 contains a significant amount of noise data associated with the operation of piling plant and equipment. Therefore, it is entirely appropriate for this standard to be used to predict noise levels associated with the proposed piling test activity. However, for the reasons given above and those given in the original Environmental Health response, this does not mean it is appropriate to use the BS5228 assessment methodology in terms of adequately representing the significance of impact.

2. Are commercial uses always less sensitive to residential?

Acceptability or annoyance is based on reasonable expectations in relation to the activities or use impacted. It is suggested that because the fishery is commercial and not residential, it has to be of lesser sensitivity. This is not accepted. During the day there would certainly be an equivalent

expectation of peace and quiet at a rural fishing facility compared to neighbouring residential uses. There are many non-residential uses/spaces with equal or greater noise sensitivity when compared to residential. For example: hospital, recording studio, library, boardrooms.

3. The prediction of LA01 noise levels

It is confirmed that the predicted LA01 levels are based on the calculated 12 hour LAeq . This is a misapplication of the guidance given in BS 5228. The relationship between LAeq and LA01 can be approximated by adding a correction factor related to the strike rate of the piling over one driving cycle. It is not possible to extrapolate an LA01 in relation to a long term LAeq which includes non-piling activity. The guidance is clearly presented in para 8.5.2.5 of the BS5228 standard.

Summary

The submitted information has been reviewed and it is recommended that the contested points be rejected. Midlothian Council is entitled to consider this development as a plant testing activity and not a construction site. They are therefore also entitled to adopt the position that their assessment should be based on whether the resultant noise and vibration levels will be acceptable in terms of anticipated annoyance and/or nuisance to any sensitive neighbouring occupiers.

In terms of making such a judgement:
• it is accepted by the applicant that the vibration levels are excessive, and
• it is advised that the LA01 noise levels would best reflect the likelihood neighbour impact
• the LA01 noise levels should be based on the driving cycle LAeq and not the 12hr LAeq. As the drive cycle LAeqs are not given it is not possible to comment on the revised LA01 values of 79 and 75 dB.

Sent from my iPad

On 25 May 2015, at 16:05, Lilianne Lauder <Lilianne.Lauder@midlothian.gov.uk> wrote:

Alistair,
Additional commends from Rosie Scurr re the test piling. Do you have time to look?
Thanks

Lilianne

From: Graeme King
Sent: 25 May 2015 14:50
To: Lilianne Lauder
Subject: FW: Your consultation response to application ref. 15/00158/DPP

Lilianne

Application reference: 15/00158/DPP
Formation of temporary test piling facility; associated car parking, access roads and buildings
At Shewington, Rosewell

I have received the above attachment in response to your consultation response for the above application. Do you wish to add any further comments?

Regards

Graeme

From: Grant Young [mailto:gy@scotthobbsplanning.com]
Sent: 22 May 2015 16:37
To: Rosie Scurr; Graeme King
Cc: Ewan Walker
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Graeme,

Further to Rosie's email, below, please find attached a response addressing your environmental health colleague's objection.

We have also this week responded to SEPA, addressing the points in their objection in accordance with discussions over the past few weeks. I am hopeful that they will have been in touch with you, but if not please do let me know and we will chase it along from this end.

Rosie remains on annual leave so if you've any queries next week please give me a call.

Regards,
Grant

Grant Young BA (Hons) MSc URP MRTPI
Planning Director

<image003.png>

Scott Hobbs Planning

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Registered in Scotland No. SC338885

From: Rosie Scurr [mailto:Rosie.Scurr@mainstreamrp.com]
Sent: 14 May 2015 14:30
To: Graeme King; Lilianne Lauder
Cc: Ewan Walker; Grant Young
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Dear Graeme

I am writing to confirm that we would request you take Option 2 as outlined below in your email of May 12th. However, as agreed in our phone call, you will hold off circulating a recommendation until w/c May 25th to allow us to submit a response to the EHO's objection and to conclude our discussions with SEPA, hopefully allowing them to be in a position to remove their objection. As agreed, we will have any further information to you by 17.00 on Friday May 22nd.

I am on leave from tomorrow, returning June 1st. In my absence, your primary contact is our Planning Consultant Grant Young (cc'd).

Regards,

Rosie Scurr
Environment Manager

Tel: +44 (0)141 206 3864
Mob: +44 (0)7967 445 717
rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

From: Graeme King [mailto:Graeme.King@midlothian.gov.uk]
Sent: 12 May 2015 16:35
To: Lilianne Lauder; Rosie Scurr
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Rosie

In light of Lilianne's response I don't feel that there is anything to be gained from extending the application process further. I would therefore propose 2 options to consider:

1. Withdraw the application and re-submit it once you have prepared the information that seeks to address the various issues raised in the objections from Environmental Health and SEPA.
2. I proceed to assess the application on the basis of the application currently submitted. My aim would be to circulate the recommendation to council members next week.

I would be grateful if you could confirm which course of action you wish me to follow by 5pm on Friday 15th May.

Thank you for your assistance.

Regards

Graeme

Graeme King
Planning Officer
Planning
Midlothian Council
Fairfield House

8 Lothian Road
Dalkeith
EH22 3ZN

Tel: 0131 271 3332
Fax: 0131 271 3537
Email: graeme.king@midlothian.gov.uk
Web: www.midlothian.gov.uk

From: Lilianne Lauder
Sent: 11 May 2015 19:38
To: 'Rosie Scurr'
Cc: Graeme King; 'alistair.somerville@gmail.com'
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Dear Ms Scurr,

Sorry I missed your call earlier today.

Environmental Health and our appointed consultant, Alistair Somerville have spent a large amount of time dealing with this proposal, both at the pre-planning stage and at the full planning application stage.

We do not agree with the findings of the report. Our concerns were most recently discussed in a telephone call between Oliver Atack and Mr Somerville. As there was no further contact at this time, Environmental Health resubmitted its consultation response to Graham King, Planning Officer.

Whilst I don't think there is any additional benefit in meeting to discuss this application, if there is any additional information you wish to submit, then it should be submitted via Graeme King, Development Control, and will be considered by Environmental Health.

Regards

Lilianne Lauder
Environmental Health Group Leader (Public Health)
East and Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZH
0131 271 3370

From: Rosie Scurr [mailto:Rosie.Scurr@mainstreamrp.com]
Sent: 05 May 2015 14:48
To: Lilianne Lauder
Subject: Your consultation response to application ref. 15/00158/DPP

Dear Lilianne

I am writing in reference to your consultation response to our planning application for the onshore test piling works at Newbigging. We are preparing a formal written response to your objection, but we would appreciate an opportunity to meet with yourself, and Alistair Somerville if necessary, in person to discuss your concerns, the works and our proposed response.

Could you please advise your availability in the coming weeks? We would be available to meet in either Haddington or Dalkeith as is convenient for you.

Kind Regards,
<image004.gif>
<image005.jpg>

Rosie Scurr
Environment Manager

Mainstream Renewable Power Ltd.
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2 West Regent Street
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rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

<150522 OPT response to EHO - final.pdf>

Rosslynlee Trout Fishery
Newbigginghill
Near Penicuik
Midlothian
EH 26 8 QF

Your Ref. No15/00158/DPP

Neart Na Gaoithe Offshore Wind Ltd.

With regard to this planning application, I wish to express my objections as follows.

1 Rosslynlee reservoir comes under the 1975 reservoir act, The dam is of a clay construction faced with stone and was constructed in 1895. It retains 55 thousand cubic feet of water. I am extremely concerned that no mention of the reservoir dam or reservoir has been included in the report and that no consultation has been undertaken with the registered engineer for the dam Mr. S. Roberts of Aecom.
I have been in touch with Mr Roberts and he has expressed great concern and surprise that no consultation with an Authorised Responsible Person has taken place about the possible effect this proposal could have on the dam.
He is the responsible engineer for the dam under the 1975 Act.

Given that the application states that the effects of the piling will be felt for 500 metres from the site and the dam and reservoir fall well within this range, surely a full appraisal about the effect on the dam by pneumatic piling at such close proximity should be completed before planning consent can even be considered.
Any breach or damage to the dam should cause considerable concern and would pose an extremely high flood risk should any such damage occur.
During the extraction of coal from the Newbigging site, Scottish Coal were required to give a full engineering assessment before work could begin and also weekly checks for the duration of their work and they did not use any pneumatic piling equipment. Why do these restrictions not apply in this instance? I feel very uneasy about pneumatic piling so close to the dam and would question why this has been omitted from the application report.
Given that the proposal for the operation of extremely heavy duty pneumatic machinery will create vibrations of up to 500 metres from the site, there should be contingency or operational plan of action in place to cover problems in the event that the proposed works cause slippage or other damage to the dam or movement which may cause leaks to appear. Surely plans for monitoring the dam both before any work can commence and for a period of some years after the proposed works are completed should be in place.
Insurance to cover any repairs to the dam (this could run into millions of pounds) and also for business loss in the event that problems arise requiring the draining of the reservoir should be in place.
Under the 1975 act we are required to provide an annual engineering safety report of the dam and also every 10 years a full engineering report on the state of the dam. These are carried out on our behalf and at our expense by Aecom Ltd.
We are required under the act to provide such reports when the only traffic is human footfall and I would submit that the proposed works so close to the dam has the potential to cause much more extensive and perhaps catastrophic damage.
I would also point out that in the tick box section of the application it is stated that there is no potential of flooding. I would submit that the proposed application could have the potential for catastrophic flooding should there be any damage to the dam.

2 There has not been any assessment of possible damage that may be caused to the foundations of our house, septic tank, L.P.G. tank and anglers lodge, which sits on a single concrete plinth as well as our neighbour at Reservoir Cottage and the A6094. They all fall within 500 metres of the proposed piling. I do not feel that the proximity of our property and our neighbour has been properly highlighted. They would appear to have been completely overlooked. There are no guarantees in place should such damage occur. We do not wish to be in a position that if damage does occur then the onus is on us to prove that any damage caused either to the dam or the rest of our property is due to the piling operations.

3 As the proposed site is in an area where Scottish Coal did not extract coal and also within 500 metres of the land fill site, has any consideration been given to the possible release of methane gas and what if any contingency planning is in place should such an event occur.

4 The plan states that there will be showers and eating areas provided. Where is the mains water supply for these facilities? We would point out that our domestic water supply pipe runs within the testing site and is described by Scottish Water as a private unsecured supply and responsibility for it's maintenance lies with ourselves and Mrs Moore at Reservoir Cottage and we pay water rates on it. A pump in the system also lies within the site and is private to our house, the fishery lodge and Reservoir Cottage and is also susceptible to vibration. No consent to break into this line or use the pump has been sought. A second pump which serves our house and the anglers lodge also lies within 500 meters of the proposed site. This is housed in a pump house which is built on a single concrete plinth and both the pump house and pump will be sensitive to vibration

5 Contrary to what is expressed in the habitat and wildlife section, much of the land that has been left undisturbed since the absence of Scottish Coal and the area of reinstated peat bog which has no mention in the application, have been colonised by various birds including skylarks, lapwings, oystercatchers, owls and buzzards which now nest in this area or very close by. We also have resident

otters at the reservoir which breed at the fishery and the female has raised at least two young every year for the past four years. Badgers, newts, frogs and toads are also to be found both within the site or very close by.
We created three wildlife ponds and a wildflower area below the dam from the old filter beds that we backfilled and lined with clay at our own expense a number of years ago and this has flourished over the past few years and now supports various animals an insects. None of these sites are mentioned in the report. There are also three species of bats that feed at the reservoir over the summer months and as it is proposed to provide lighting during darkness how will this affect them?
Of great concern to us is what the effect may be on the fish that we stock on a weekly basis. It is a well known fact that trout are adversely affected by vibration and in some cases mass death can occur. As parts of the reservoir are within extremely close proximity and the majority of the reservoir falls within 500 metres of the proposed site, what would happen if we awaken one morning and find all of our stock dead. In this event it would no doubt fall to us to prove the cause unless guarantees are in place.

6 Our fishery is a busy venue providing excellent facilities for both local anglers as well as the many visitors that come from all over the U.K. and abroad. As angling is a peaceful pursuit the disturbance caused by this proposal would detract from the pleasure of both locals and visitors and it is our understanding that local leisure facilities are supposed to be given careful consideration before any planning permission that may be detrimental is granted. We also submit that the reservoir and surrounding area provide an extremely important habitat for vast and varied flora and fauna.

Mainstream informed us that the Newbigging site was one of a number of suitable geological sites and it seems to us that the proposed site has been chosen on the consideration of cost alone. Given the close proximity to the reservoir dam, our house, lodge and Reservoir Cottage and the effect their operations will have on our quality of life along with the various issues that we point out, we would suggest that one of their alternative suitable geological sites be considered by them.

Although the application states that vibrations will be **felt** at a range of 500 metres this does not rule out the possibility that vibrations may travel far beyond this range.

It would appear to us that this proposal has been put together in a hurry. It has been poorly researched and presented and gives us little confidence in the professionalism of the presenter.

It has omitted any of our concerns with the dam and reservoir and would seem to minimise any problems that their proposals would cause.

We have endured ten years of disturbance due to Scottish Coal and are now threatened by the proposals of Hargreaves and feel that this application is one too many for this immediate area. The stress caused to us due to the past and proposed future plans for the area around us has been considerable and I would ask you to consider the possible snags that may occur, the poor presentation and it's failure to consider the points that we have raised.

The application states that as operations would occur between 8am and 6pm minimum disturbance will be endured by close residents, however as our business requires us to be on site 24/7 and our neighbour is retired this statement is incorrect.

The threat to our quality of life caused by light and sound pollution in addition to vibrations would be extremely hard for us to endure let alone the potential for damage that could ensue.

We think that we now deserve consideration from the planning department and would ask you to deny this application and bring some peace and quietness to our lives.

[redacted]

Robert Pitcairn

REFUSED
30.06.2015
15/00158/DPP

MAINSTREAM RENEWABLE POWER

Neart na Gaoithe Offshore Wind Farm

Test Piling Works:

Response to Objection from Rosslynlee Trout Fishery

11 May 2015

LUC and Associated Subconsultants

Document Release and Authorisation Record	
Job No:	6083
Report No:	Test Piling Works: Response to Objection from Rosslynlee Trout Fishery
Date:	11 May 2015
Client Name:	Mainstream Renewable Power Ltd
Client Contact(s):	Rosie Scurr

QA	Name	Signature	Date
LUC Director	Joanna Wright	[redacted]	11/05/15
LUC Project Manager	Jo Cottin	[redacted]	11/05/15
Report checked by	Rosie Scurr	[redacted]	11/05/15
Report authorised by	Ewan Walker	[redacted]	11/05/15

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1 Introduction

1.1 Purpose

A planning application was submitted to Midlothian Council by Neart na Gaoithe Offshore Wind Ltd (NnGOWL) for proposed onshore temporary test piling works ('the Pile Test') at Newbigging open cast coal site (OCCS) in Midlothian. This note has been prepared to respond to concerns raised by Rosslynlee Trout Fishery ('the Fishery') in their objection to the Pile Test.

Prior to the submission of the planning application, NnGOWL engaged in consultation with neighbouring residents and businesses, including the Fishery. Following an initial discussion which highlighted concerns which have been addressed in the Environmental Appraisal, NnGOWL requested a further meeting with the Fishery to present the findings of ongoing appraisal work which had been tailored to address their concerns. This request was declined by the Fishery.

NnGOWL is aware that a number of objections have been submitted by users of the Fishery which raise similar points to those made by the Fishery in its objection. In responding to each of the points made by the Fishery, the points raised by other users of the Fishery have also been addressed.

1.2 Overview

The purpose of the Pile Test is to inform the piling methods which will be used to construct the Neart na Gaoithe Offshore Wind Farm. Since the submission of the planning application, NnGOWL has been awarded a 15-year Contract for Difference (CfD), one of only two offshore wind farms off Scotland's coast with a CfD. With offshore wind a key element of the Scottish Government's energy policy and strategy (recognised by onshore electricity transmission infrastructure associated with offshore generation being afforded national development status within National Planning Framework 3), the award of the CfD is acknowledgement of the crucial role that Neart na Gaoithe Offshore Wind Farm will perform in securing energy supply for both Scotland and the UK.

Given the relative infancy of the offshore wind industry, as well as the complex geological conditions at the Neart na Gaoithe Offshore Wind Farm site, it is essential that the piling techniques are comprehensively tested in similar geological conditions to meet the challenging delivery timescales required by the CfD award. The Pile Test is therefore considered an essential pre-cursor to a priority development for both the UK and Scottish Governments. The project also has wider relevance amongst other offshore wind developers, as it will provide valuable information to help unlock technical uncertainty associated with the installation of offshore wind turbine foundations.

The site at Newbigging has been identified following an extensive site search process (see Section 2: Site Selection and Alternatives of *Neart na Gaoithe Offshore Wind Farm Test Piling Works Environmental Appraisal* (February 2015) ('the Environmental Appraisal') which accompanied the planning application for the Pile Test. This search was significantly constrained by the geological conditions that are required. The Pile Test is of a temporary nature as stated within the original submission.

Full details of the Pile Test and associated works, together with an appraisal of potential environmental effects of the works, are provided in the Environmental Appraisal.

2 Objection Responses

2.1 Objection Point 1

Point 1 of the objection notes that the dam located to the south-eastern corner of the Fishery at the end of the Shiel Burn was not considered in the Environmental Appraisal for the Pile Test and that the Registered Engineer for the dam was not consulted on the proposals. The dam is located outside the Pile Test site boundary, approximately 350m from the location of the Pile Test itself. At this distance the vibration levels will be very low as detailed below, and it was therefore not considered necessary to consider potential vibration effects on receptors other than residential properties. Furthermore, NnGOWL was not made aware of any concerns regarding the dam during consultation with the Fishery.

It is stated in the objection that a full appraisal of the effects of piling on the dam should be undertaken on the basis that vibration will be felt within 500m of the works. An assessment of the potential effects of vibration was undertaken by Arup and the results are presented in the Environmental Appraisal and accompanying Appendix 3: Acoustic Assessment of Temporary Test Piling Works, which considered potential effects on properties within 500m of the Pile Test. This concluded that, whilst vibration will be perceptible at properties up to 800m from the Pile Test, the level of vibration at the nearest residential building, whilst is over 100m closer to the Pile Test than the dam, will be extremely low and below the threshold for even cosmetic damage.

Following receipt of the objection from the Fishery, Arup has since undertaken further calculations which show that the predicted peak particle velocity vibration (PPV) when assessed at the area of the dam (based on a 600kJ hammer and at an approximate distance of 350m) will be 1.19mm/s. This appraisal is based on the calculation methodology detailed in British Standard BS 5228-2:2009+A1:2015 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration*. A request was made to the Fishery for a copy of the dam report to inform the appraisal however this was not provided. In accordance with Table 1 in BS7385-2: 1993, for underground constructions the most stringent guide threshold for damage (including cosmetic damage) is 15mm/s PPV[1]. Furthermore, for some ground conditions, Annex C of BS7385 states that building damage due to soil compaction may occur at PPV values of about 10mm/s. As anticipated vibration arising from the test piling works is expected to be well below the 10mm/s PPV threshold, it is predicted that no damage to the dam will occur.

Based on the original assessment and the subsequent work undertaken to address the Fishery's objection, no damage to the dam or any other structures is anticipated to occur. In the highly unlikely event that damage did occur, NnGOWL would be fully insured for liabilities associated with any structural damage arising as a result of the Pile Test. To ensure that any unanticipated effects can be identified immediately, a pre-commencement survey of the dam will be undertaken and vibration sensors will be installed and monitored throughout the works. Following the completion of the Pile Test, a further survey will be undertaken to verify that there have been no structural changes as a result of the works. The surveys will be undertaken by an independent third party, the scope of which will be agreed with Midlothian Council in advance, and interested parties can attend the surveys. Following completion of the Pile Test the existing schedule of structural surveys for the dam will resume

[1] BS7385-2: 1993 does not make specific reference to dam structures however in the absence of specific guidance or methodology on how to consider vibration effects at dams it is considered appropriate to use the criteria for 'underground constructions', particularly given the low level of vibration that is predicted.

On the basis that even cosmetic damage to the dam as a result of vibration is considered highly unlikely, it is considered even less likely that there will be any damage that will affect the structural integrity of the dam. Therefore the risk of flooding as a result of damage to the dam as suggested in Point 1 of the objection is considered to be extremely low and no further appraisal of this issue is considered necessary.

2.2 Objection Point 2

Point 2 of the objection highlights concerns that no appraisal has been undertaken of possible damage to the Fishery property as a result of vibration (including building foundations, septic tank, liquid petroleum gas tank, anglers lodge, neighbouring properties and the A6094).

As illustrated on Figure 1 in Section 3 of Appendix 3 of the Environmental Appraisal, the appraisal considered potential vibration effects on the nearest sensitive (in this case residential) receptor to the Pile Test Site (Reservoir Cottage), which is located approximately 230m from the Pile Test Site and approximately 30m to the south-west of the Fishery property. Therefore, Reservoir Cottage can be considered as a proxy for other properties in the immediate vicinity, including the residential property at the Fishery.

As the focus of the appraisal was on effects on residential receptors, as required by the guidance used to undertake the assessment, the non-residential elements of the Fishery property were not specifically considered. Notwithstanding this, it is likely that the levels of vibration at the non-residential elements of the Fishery property will be similar to those at the nearest residential receptor given their proximity. Furthermore, it should be noted that the potential for damage to properties is considered in the appraisal. As detailed in Section 4.3 of the Environmental Appraisal, whilst vibration will be perceptible within 500m of the Pile Test (in line with guidance provided in BS 5228-1), *"the potential for any cosmetic damage to nearby buildings as a result of vibration is extremely low"*. Based on the information provided in the objection, which suggests the septic tank and liquid petroleum gas tank, referred to above, are relatively close to the nearest sensitive property assessed, these elements are not expected to be any more sensitive to vibration than the residential properties assessed.

Whilst the A6094 road is considerably closer to the Pile Test Site than the properties, vibration arising from the Pile Test is not expected to be detrimental to the fabric or integrity of the road itself.

2.3 Objection Point 3

Point 3 queries whether consideration has been given to the possible release of methane gas as a result of the Pile Test.

The presence of hazardous gases has been considered in the project risk assessment. The pilot boreholes undertaken at the site as part of the initial geotechnical investigation encountered a very small amount of coal and did not identify the presence of any notable methane releases. Furthermore, there are no historical records of gas emissions from the Pile Test Site, as stated in Section 3 of Appendix 2: Coal Mining Risk Assessment of the Environmental Appraisal. However, at all times the Pile Test will follow the procedures identified in the document produced by the Coal Authority Working Group in the UK, titled *Guidance on Managing the Risk of Hazardous Gases when Drilling or Piling Near Coal*. This will ensure the safety of operatives and the public whilst undertaking the work.

In line with the good practice outlined in the guidance document referred to above, a gas monitor will be placed in a suitable position adjacent to the drilling/piling rigs, to ensure that the atmosphere being tested is the same as that to which the workers are exposed. No specific additional mitigation is considered necessary. In the unlikely event that gases were detected, site personnel would stop work, move a safe distance from the hole, and wait for the gases to dissipate to safe levels.

2.4 Objection Point 4

Point 4 queries the source of the water supply for the welfare facilities which will be provided for personnel onsite during the Pile Test. These facilities will not be reliant on the mains water supply, with water being brought in by tanker.

Reference is also made to the water supply pipe which is located within the Pile Test Site. The location of this pipe is known to NnGOWL as detailed in Appendix 1: Topics Scoped Out of Detailed Appraisal of the Environmental Appraisal. As noted in paragraph 1.15 of Appendix 1, *"The contractor will be made aware of the location of the nearby utilities and this will be confirmed prior to work starting onsite. Care will be taken to ensure that works are undertaken an appropriate distance from the infrastructure identified to ensure that these services will not be affected in any way."* It is not proposed to use this water supply or the pump system referred to in Objection Point 4.

In relation to the pump, pump house and anglers lodge referred to in Objection Point 4, it should be noted that in dense urban environments, it is common to carry out this type of piling work with these levels of exposure where there are pumps and other such installations. Professional judgement and experience suggests that pumps and similar installations are no more sensitive to vibration than a residential structure. Based on the information provided in the objection and from aerial photography, which suggests the pump house and anglers lodge are relatively close to the nearest sensitive property assessed, these structures are not expected to be any more sensitive to vibration than the residential properties assessed. Furthermore, the Scottish Water consultation response to the planning application (dated 2nd May 2015 ref. 715276) raises no objection to the application based on potential effects to its infrastructure. Therefore it is considered that the potential for even cosmetic damage due to vibration arising from the test pile site is extremely low.

2.5 Objection Point 5

Point 5 of the objection details concerns associated with 'habitat and wildlife'. This includes reference to *"the area of reinstated peat bog which has no mention in the application"*, however there is no indication of where this is located in respect to the Pile Test Site. A detailed appraisal of potential effects on ecology was undertaken, informed by visits to the Pile Test Site and surrounding area, as summarised in Chapter 5 of the Environmental Appraisal and considered in detail in Appendix 4: Extended Phase 1 Habitat Survey of Pile Test Site. This included consideration of habitats and potential for protected species within 150m around the Pile Test Site boundary. The selection of a 150m study area was informed by the results of desk based work undertaken and by professional judgement, and is considered to be appropriate to the Pile Test Site and in line with current good practice and recognised methodologies for survey of habitats and protected species.

Particular concern is raised in the objection in relation to otters and it is stated that there are otters which breed at the Fishery and a female who has raised two young nearby. As noted in the Environmental Appraisal (Chapter 5) and detailed in Appendix 4, whilst signs of otter activity were searched for during the site visit, none were identified. It should be noted that, as stated in paragraph 3.10 of Appendix 4, the survey provides only a 'snapshot' of activity within the Pile Test Site and 150m buffer and cannot necessarily detect all evidence of use by a species. The appraisal concluded that the study area is likely to provide very limited seasonal foraging opportunities for otters and that the ponds located within the 150m survey area (including the northern bank of the Fishery) have no bank structure suitable for sheltering otters. On this basis, and notwithstanding the sightings of otter which have been reported by the Fishery, this species is unlikely to be affected by the Pile Test. Standard practice is to declare an area of 30m from an otter shelter as a disturbance free zone during any development works; where breeding is suspected,

this is generally extended to 100-200m[2]. As the banks of the Fishery within the survey area are not considered suitable for sheltering otters, and the Pile Test itself will take place over 200m from the Fishery, the conclusions of the Environmental Appraisal remain valid. Furthermore, any otter using the Fishery are likely to be habituated to some extent to human presence and disturbance given the active use of the Fishery.

The objection also raises concern about the presence of badgers, newts, bats, frogs and toads within the site and nearby.

As noted in the Environmental Appraisal, the majority of the habitats within the Pile Test site and 150m survey area are considered to be suboptimal for badger and no evidence of badger was identified during the survey. As such, the species is unlikely to be affected by the Pile Test. Appendix 4 sets out a number of measures that would be implemented should badgers be found in the area when the Pile Test commences.

Habitat suitability for great crested newts was considered and, whilst one pond was identified which was potentially suitable for the species, its proximity to the A6094 road and lack of suitable woodland habitat to support great crested newt populations, mean that, overall, the habitat isn't suitable for the species. As such, great crested newt will be unlikely to be affected by the Pile Test.

Bats are also unlikely to be affected by the Pile Test, as detailed in the Environmental Appraisal. In the event that lighting is required at night, directional lighting would be used to ensure no disturbance effect to bats or other species, with a particular requirement to avoid light spill to wooded areas as detailed in paragraph 6.4 of Appendix 4.

Surveys were not undertaken for frogs or toads as, with the exception of Natterjack Toads which are only present in small areas of the south-west of Scotland, frogs and toads are not legally protected and therefore surveys for these animals are not required.

Reference is also made to three wildlife ponds and a wildflower area located below the dam which it is stated support a number of animal and insect species. These sites are a considerable distance from the Pile Test Site and are outwith the study area used for assessing potential effects on ecology. As such, no effects on these areas or any species supported by them are considered likely.

Point 5 of the objection also highlights concerns in relation to possible effects on fish stocked within the Rosslynlee Reservoir as a result of the vibration associated with the Pile Test. Advice has been sought from leading fisheries consultancy Eco-Fish Consultants and, based on a desk-based review of the information available in the Environmental Appraisal, no mortality of fish is anticipated as a result of the vibration associated with the Pile Test. This appraisal is based on the distance of the Pile Test Site to the Fishery and the likely levels of vibration at the Fishery itself, which are considered to be so low as to not be of concern. Similar piling activities are generally considered acceptable at quaysides providing they are at least 5m from shore with a view to avoiding negative effects on fish species. Overall, it can be concluded that there is no risk to trout mortality within the Fishery as a result of the Pile Test.

Further comments and photographs submitted to Midlothian Council by the Fishery on 7th April 2015 indicate that an osprey has recently been seen at the Fishery. This is consistent with the increased activity likely to be seen around foraging resources during the osprey breeding season. However, whilst osprey are likely to be using the Fishery as a feeding resource, there is no evidence to suggest that there are breeding osprey nearby. This has been confirmed in an email from SNH to Midlothian Council dated 16th April 2015

[2] Scottish Wildlife Series Otters and Development. Available at http://www.snh.org.uk/publications/on-line/wildlife/otters/effects.asp. (Accessed: 01/05/2015)

which stated that SNH is not aware of any osprey nest sites within the vicinity of the Pile Test Site. An email from the Osprey Coordinator for the Lothian and Borders Raptor Study Group to Midlothian Council on 24th April 2015 also confirms that there are no recorded nesting ospreys within 6km of the Pile Test Site. Furthermore, the Pile Test Site itself does not provide suitable nesting features for osprey. As such, no disturbance to nesting osprey will occur as a result of the Pile Test, particularly as mitigation measures to reduce potential impacts on nesting birds proposed as part of the Pile Test works have already been implemented, as detailed in Chapter 5 and Appendix 4 of the Environmental Appraisal[3].

Overall, as stated in Chapter 5 of the Environmental Appraisal, the habitats within both the Pile Test Site and 150m buffer area surveyed are common and widespread and no evidence of protected species was identified. The Pile Test is not considered likely to have an adverse effect on ecology.

2.6 Objection Point 6

Point 6 refers to potential effects on angling as a leisure pursuit associated with the Pile Test. As documented within the Environmental Appraisal, the proposed works will be undertaken over a total of 19 weeks. During this period, piling will only be undertaken over seven weeks and even then the piling will not be continuous but rather focussed on 24 three-hour sessions. This amounts to an average of less than 1.5 hours per day of piling over the seven week piling period. As a result, the impact on the Fishery as a leisure destination is considered to be minimal.

The point raised in terms of the impact on leisure gives rise to wider socio economic considerations, being: (1) employment generated directly (i.e. in specific relation to the Pile Test) and indirectly (i.e. in relation to the development for which it is required, namely the Neart na Gaoithe Offshore Wind Farm, particularly throughout the construction of both onshore and offshore elements, as well as ongoing servicing and maintenance); and (2) the national economic benefit of securing a long-term supply of energy. As a key component of the wider Neart na Gaoithe Offshore Wind Farm development, the Pile Test contributes significantly to its overall positive socio economic impact.

Concern is also raised about the selection of the Pile Test site, suggesting that an alternative should be considered. As noted in Chapter 2: Site Selection and Alternatives of the Environmental Appraisal, a detailed site selection process was undertaken which considered a number of sites with similar geology to the offshore wind farm site. A number of alternative sites were considered as potential locations for the Pile Test; however, the geology in all of these sites was found to be unsuitable following preliminary geophysical and geotechnical surveys.

In addition, there were a number of other criteria, as stated in the Environmental Appraisal, which had to be met by the final choice of site, including:

- suitability of access;
- absence of any significant environmental constraints;
- presence of rock outcrops where coal measures and interbedded siltstone and sandstone were evident; and
- sufficient space available to accommodate the Pile Test works and equipment.

On the basis of the lack of alternative sites with suitable geology, in addition to the other factors considered above, the site is still considered to be the most appropriate location for the Pile Test.

Point 6 of the objection also refers to vibrations from the Pile Test travelling beyond the 500m range

[3] Flicker tape was installed at the start of March 2015 in the area of woodland located to the north of the Pile Test Site.

considered in detail in the Environmental Appraisal. It is of note that in Appendix 3: Acoustic Assessment of Temporary Test Piling Works of the Environmental Appraisal, the vibration dose value (VDV) (a metric system typically used for the prediction of human disturbance from intermittent/transient vibration) is considered for Newbigging Cottages which are over 500m from the Pile Test at approximately 685m. In accordance with BS 6472-1:2008 there is *"low probability of adverse comment"* associated with the vibration level at this distance as a result of the Pile Test. Due to the nature of the appraisal and the uncertainties associated with e.g. intervening ground conditions, it is difficult to be more precise about how the vibration will dissipate at distances greater than 500m[4]. However, as noted above and in the Environmental Appraisal, calculations show that vibrations at residential properties greater than 500m from the Pile Test, the likelihood of 'adverse comments' (in accordance with the criteria in BS 6472-1:2008) is low.

[4] As noted in Appendix 3: Acoustic Assessment of Temporary Test Piling Works of the Environmental Appraisal, the vibration dose value (VDV; a measure of human disturbance from intermittent/transient vibration) is predicted based on the peak particle velocity (PPV) for a given scenario. Whilst the PPV calculation methodology used is robust, it is based on measured data up to 111m from the pile and for hammer energies up to 85kJ. As such, the proposed plant and Pile Test Site are outwith the range of parameters for which the predictors used have been proven and therefore whilst it has been concluded that the risk of adverse comments is low at properties over 500m from the Pile Test, the assessment is operating outside the parameters of the calculation methodology and, as such, it is difficult to be more specific about the vibration effects at these greater distances.

3 Conclusion

The above information has been provided to address the concerns raised by Rosslynlee Trout Fishery in relation to the proposed Pile Test at Newbigging OCCS. This shows that no further environmental effects of concern are predicted to occur and highlights the temporary nature of the works. The findings of the Environmental Appraisal submitted with the planning application for the Pile Test are considered to remain valid.

From: [redacted]
To: Graeme King
Subject: piling tests
Date: 27 May 2015 21:44:04

Ref. 15/00158/DPP

Dear Sir
Although the date for objections has passed, having just read the response to our objections to the proposed piling project made by Neart Na Gaoithe Offshore Wind, I feel that I must respond to the statements made by them regarding our objections.
I feel that the approach by the applicant has been underhand with many wrong details and that they have been conservative with the truth. Although the applicant made one visit to us regarding their application, I was not present. At this meeting it was made abundantly clear by my wife that we were not in any way happy with this application. The applicant seems to suggest that consultations were conducted and that we had no concerns. This cannot be further from the truth as both my wife and Mrs Moore in Reservoir Cottage made it abundantly clear their concerns with this proposal. This was also made clear to Ms Scurr during a telephone conversation that I had with her earlier this year.
The word 'unlikely' is used in response to many of our objections. Does this mean the same as 'will not'? Many assumptions are being made without hard evidence, in particular concerning the security of the dam. I would dispute the distances from the site that are stated and would suggest that the site is closer to our property and dam than stated and the qualified dam engineer that we employ has also made his concerns known. It is stated in their response to our objections that they will place vibration monitors on our dam yet we have not been consulted about this matter. We would suggest that this reflects the offhand attitude that they have shown towards our situation.

Our anglers arrive at the Fishery for a few hours of enjoyment and the minimum permit time is 4 hours. If one of the 3-hour spells of piling occurs during this period, I am sure you will agree that their enjoyment will have been totally lost. On top of this my wife and I have to be present at the Fishery at all times and we will be subjected to the disturbance for the entire time whether there are breaks or not and the same situation will have to be endured by Mrs Moore as she is retired.
The argument put forward by the applicant is regarding the Scottish Governments attitude to renewable energy but they have mentioned to us that there are 4 further suitable geological sites and surely as the owner of a popular leisure amenity we and our anglers are entitled to the same considerations.
Mention is made about the suitability of the shore of our reservoir being unsuitable for an otter holt although the applicant has at no time used anybody to conduct any inspection of our property and this is also the case other wildlife. I would inform you that a dead dog otter was removed from the front of Reservoir Cottage on the A6094 after being hit by a car on 4th May and there is still the remains of a badger on the road opposite the gates to the open-cast which had also been hit by a car so the statement that there is no evidence of otters or badgers is incorrect. I would invite any representative of your choosing to attend the Fishery at any time after dark to observe the female otter and her 2 young cubs fishing in the reservoir.
The applicant may state that there is no evidence but they have at no time taken the time to make proper investigations.
I would once again point out that we suffered over 10 years of Scottish

Coal disturbance and still have the uncertainty of the Hargreaves site hanging over us and assume that the correct considerations be given to us on this matter.
The map shown to the planning officers is so old, it does not show our house , 18 years old, and our reception cabin, 14 years old, plus the water-pump sheds. We have found Ms Scurr to be economical with the truth and very unprofessional.

Robert & Joan Pitcairn

From: [redacted]
To: Graeme King
Subject: our response to mainstream
Date: 01 June 2015 15:19:09

Rosslynlee Fishery

Sir
Please let me know that you have received this e-mail. thank you.

Ref. 15/00158/DPP

After reading the response by Mainstream Renewable Power to our objections to the piling test application at Newbigging, we believe that, although the company was given extra time to prepare these, many details are still incorrect, not up to date, and lacking in the truth.
The application form itself, completed by Ms Scurr, indicated that only 1 property would be affected-Reservoir Cottage yet Ms Scurr had been in our house here and saw the Fishery, so 2 properties would be affected plus the Fishery business. An old map was offered to the planners and I believe this was intentional so that they would be unaware of the proximity of our house and reservoir. The house here is around the same distance as Reservoir Cottage to the proposed work site.
There was no proper consultation with us by Ms Scurr. She came to tell us about the proposal. I was almost in tears as I told her it would be disastrous for us, devastating and would ruin our business of 14 years and bankrupt us. We had managed to stay in business even after the noise and dust from Scottish Coal's work but this 'temporary' project would put us out of business and the area would lose a good fishing amenity.
As the piling work would be so close to the A6094, where no-one really knows what ancient mine shafts are underneath, surely the local part of the road will suffer. The machines would be in full view to motorists and the sudden hammering starting up would cause distractions. The local part of the road already has walls, fences and hedges broken in many places because of crashes.
The non-residential elements of the Fishery should also have been appraised. The Fishery itself is a MORE NOISE-SENSITIVE receptor. It is an establishment providing an outdoor recreational sporting activity. Scottish Coal acknowledged this. The predicted noise levels, which are being played down by Mainstream, are much above recommended levels for work near recreational activities in rural areas. I believe the government recommended limit is 10 dB A. Above 55 dB A is considered serious annoyance.
How can steps be taken to minimise the impact of this hammering noise disturbance and vibration? Scottish Coal did this by building large bunds along the full boundary length between their site and the road. Some of these are no longer in place. We have a business here open every day mornings to evenings. Excessive noise levels are known to interfere with concentration, sleep, stress causing changes of mood and temperament and detract from the quality of life. The noise would most certainly prohibit enjoyment of the Fishery. A Fishery only thrives on peace and quiet.
It is stated that calculations show predicted noise levels would not exceed the Category A threshold (most onerous potential significance). Any noise above 55 dB A is considered very serious annoyance.
The actual piling tests over 7 weeks would be 7 weeks too long for us. The weeks before and after this with machines for ground preparation and later restoration would cause noise disturbance and air pollution. We know this as we have suffered this before when Scottish Coal was working

close to us. Every day we were coughing, choking and had sore throats. The anglers were also affected and all of us covered in dust at times. This is most definitely considered a nuisance.
For answers to certain questions by the Environmental Health Officer, the word 'unlikely' is used as Mainstream cannot give an exact answer. Mainstreams' people say a pre-commencement survey of the dam will be undertaken and vibration sensors installed and monitored. We have not been consulted about this.

Mainstream/Neart na Gaoithe can move their work sites.
We can not move the Fishery or our home.

We still strongly object to this application.

Joan Pitcairn

Mr. Graham King,
Head of Planning Department.
Fairfield House,
8 Lothian Road,
Dalkeith. EH22
Midlothian.
23rd March, 2015.

Dear Mr. Graham,

Ref: Mainstream Renewable Power: Test Piling Works.

With reference to the above proposal and our telephone conversation regarding the Test Piling Project - I have decided to object to the proposal.

I will list my objections and detail my concerns:

1) **NOISE**

It has been brought to my attention that the noise levels which are in direct line to my house will be horrendous, with the piling on a three hour program with one hour respite period. This would be impossible to live with as I am retired and at home every day. I have also been informed the works will last for three months and the noise levels will be unbearable.

2) **DAMAGED TO FOUNDATIONS.**

As I understand it, the piling will create a great deal of disturbance to the ground - I believe that a certain distance has to be maintained from where the pilings are carried out and any adjacent buildings. I have been informed by a neighbour who has examined the plans of the intended works and these show that my house falls inside the distance limits. I fear that damage may be caused to my property and extremely concerned as to who pays for any damage caused. I respectfully request that conditions are placed on Mainstream Renewable Power to make good all damage and carry out any repairs resulting from any works. This should be proposed and agreed to prior to granting permission to Mainstream Renewable Power to proceed.

This is also a major concern for my neighbour who owns and runs Rosslynlee Trout Fishery, which is a man-made reservoir built circa 1870. Should any damage be caused as a result of the piling works, this may damage / destroy the reservoir and my neighbours home and therefore his livelihood.

3) **WATER.**

The water which feeds the house is via a private pipe line, paid for and used by three houses. I am greatly concerned that damage maybe caused to this essential pipeline would ask that a condition be placed on Mainstream Renewable Energy granting them permission to carry out the intended works that any damage caused as a result of the said works be made good and paid for by Mainstream Renewable Energy.

4) **RECOMMENDTIONS.**

I have taken your advice and I will contact my Member of Parliament this Saturday at the Temple Surgery and will give them a copy of this letter.

I wish to thank you for your help and assistance in this matter and I hope you will give this objection your full attention and cognisance is taken of my concerns.

Yours sincerely,

[redacted]

Isobel Moore.

RESERVOIR COTTAGE
NEWBIGGING
PENICUIK
EH26 8QF

From: Alan Heatley
To: Graeme King
Subject: FW: test piling at newbigging
Date: 19 March 2015 15:24:57

Graeme

I refer to the application for test piling proposed at Newbigging, and the concerns raised by the owners of Rosslynlee (Reservoir) Trout Fishery, regarding the integrity of the earth embankment dam holding back the reservoir.

Under the Reservoirs Act 1975, it is the Undertaker/Owner of the reservoir/dam who is responsible for its management and integrity, and as such are required to arrange for regular inspections, maintenance and repair. To do this they are required to appoint a qualified Supervising Engineer to act on their behalf. Also, under the Act, Midlothian Council is the Enforcement Authority for the reservoir and it is our duty to ensure that the Undertaker/Owner complies with their duties. Therefore, with respect to this application, the Applicant does not fall under the powers of the Enforcement Authority.

Notwithstanding, and with respect to the process for considering planning applications, in this case I am not sure that the normal consultations would ensure that the reservoir owner's concerns would be addressed. An assessment of the impact the proposed piling may have on adjacent properties/structures, including and in particular, the reservoir dam, does not appear to have been provided, and should perhaps be a requirement of this application. The application should take cognisance of the nearby dam and should perhaps provide a statement describing a method for monitoring vibration and any ground movement/settlement at the dam during the piling operations and for a period thereafter. Such a statement, I assume, should also make clear that any damage to the dam (or other structures/properties) attributed to the piling works would be reinstated at the Applicant's expense. There is also a question whether the Applicant should provide insurance against the consequences of any damage attributed to the piling works, for example, repairs to the dam or consequences from the escape of water. I suggest that such an assessment/report, and undertakings, be sought from the Applicant through the planning process, or take the form of a Condition should consent be given.

I have clarified to the reservoir owners the limited powers under the Act we have at this stage, and have urged that they to make their concerns known to Applicant and liaise directly with them to agree measures for mitigating the impact of the proposed piling and monitoring of vibration and any settlement at the dam.

Regards

Alan Heatley
Network & Structures Manager
Midlothian Council
Road Services
Dundas Buildings
62a Polton Street
Bonnyrigg
Midlothian
EH19 3YD

t: 0131 561 5311
f: 0131 561 5312
e: alan.heatley@midlothian.gov.uk

Rosie Scurr

From: Joan [redacted]
Sent: 02 April 2015 01:14
To: Rosie Scurr
Subject: piling works

Follow Up Flag: Follow up
Flag Status: Completed

I have just caught up with Emails and noticed your message sent 1st April. In reply We are in the process of attempting to halt your application. About 85% of our income is gained between May to November each year and if your proposal is granted it could very possibly bankrupt us. We cannot use financial loss as an objection to a planning application. You are asking us for a copy of our anual inspection which costs us £600 p.a. and the ten year inspection which costs us about £2600 p.a. so that you can mitigate a proposal which could have a catistrophic effect on our business and our lives. Are you for real and do you have any concern about the stress this is placing on us? Send us an Email explaining how this could possibly be in our interest but do not take us for stupid.
Perhaps you should have done your research correctly in the first place.
Over the past 12 years we have been downtrodden first by Scotish Coal and then by Hargreaves who lied to us. We are a lot wiser now.

Robert Pitcairn

From: Graeme King <Graeme.King@midlothian.gov.uk>
Sent: 12 June 2015 17:11
To: Rosie Scurr
Subject: Further Environmental health comments

Follow Up Flag: Follow up
Flag Status: Flagged

Rosie

As discussed here are Environmental Health's comments in reply to Mainstream's submission of 22nd May 2015. The comments will be available to view via our online planning facility on Monday. I do not feel that there would be anything to be gained by further discussion on this matter; I will prepare a report on the basis of the information already submitted. The notification of the recommendation will be circulated to Council Members at some point next week.

I hope this is of assistance.

Regards

Graeme

Graeme King
Planning Officer
Planning
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

Tel: 0131 271 3332
Fax: 0131 271 3537
Email: graeme.king@midlothian.gov.uk
Web: www.midlothian.gov.uk

From: Lilianne Lauder
Sent: 12 June 2015 14:42
To: Graeme King
Subject: FW: Your consultation response to application ref. 15/00158/DPP

Apologies Graeme,
Alistair has sent in some additional comments.
See comments below:

Review comments

1 What is the activity and how should it be assessed?

There should be clarity regarding the proposed use on this site. This site is to be used to test plant and machinery. It could have been to test compressors, generators, cranes, etc., it just happens to be piling equipment. For example, garage premises operate compressors; office buildings may have standby generators; an industrial facility may have cranes - but none of these are construction sites. Although this proposed testing facility is time-limited, it does not change the fact that it is not a construction site and that other applicants (or this applicant) could wish to make use of the site as a testing facility in the future.

It is suggested that, as the activities have not started yet, it is inappropriate to take account of nuisance. However, the very wording of statutory nuisance provisions dictate that this is not so. A statutory notice can be served in anticipation of a nuisance. In fact, even if an activity is not present, a local authority has statutory duties in terms of preventing the occurrence of nuisances likely to occur. These provisions are referred to in Annex A.1 of BS5228. As a plant testing facility, it is entirely appropriate for Midlothian Council to consider the impact of this development in terms of the potential for loss of amenity, annoyance and statutory nuisance.

The following was stated in the last Environmental Health and is worth repeating as BS5228 itself acknowledges there are contextual considerations necessary to make sure the advice in the standard is not misapplied.
Para 8.1, in the section headed 'Control of Noise', is particularly relevant when considering whether it is appropriate to apply this Standard to any proposed site use or activity. Reasons are given for the Standard applying to certain activities. One such reason given is that a construction site "cannot be excluded by planning control, as a factory can, from those sensitive to noise". In other words, construction sites are regarded as a means to an end, eg the factory, which can be prevented through the planning decision-making processes.

BS5228 contains a significant amount of noise data associated with the operation of piling plant and equipment. Therefore, it is entirely appropriate for this standard to be used to predict noise levels associated with the proposed piling test activity. However, for the reasons given above and those given in the original Environmental Health response, this does not mean it is appropriate to use the BS5228 assessment methodology in terms of adequately representing the significance of impact.

2. Are commercial uses always less sensitive to residential?

Acceptability or annoyance is based on reasonable expectations in relation to the activities or use impacted. It is suggested that because the fishery is commercial and not residential, it has to be of lesser sensitivity. This is not accepted. During the day there would certainly be an equivalent expectation of peace and quiet at a rural fishing facility compared to neighbouring residential uses. There are many non-residential uses/spaces with equal or greater noise sensitivity when compared to residential. For example: hospital, recording studio, library, boardrooms.

3. The prediction of LA01 noise levels

It is confirmed that the predicted LA01 levels are based on the calculated 12 hour LAeq . This is a misapplication of the guidance given in BS 5228. The relationship between LAeq and LA01 can be approximated by adding a correction factor related to the strike rate of the piling over one driving cycle. It is not possible to extrapolate an LA01 in relation to a long term LAeq which includes non-piling activity. The guidance is clearly presented in para 8.5.2.5 of the BS5228 standard.

Summary

The submitted information has been reviewed and it is recommended that the contested points be rejected. Midlothian Council is entitled to consider this development as a plant testing activity and not a construction site. They are therefore also entitled to adopt the position that their assessment should be based on whether the resultant noise and vibration levels will be acceptable in terms of anticipated annoyance and/or nuisance to any sensitive neighbouring occupiers.

In terms of making such a judgement:
• it is accepted by the applicant that the vibration levels are excessive, and
• it is advised that the LA01 noise levels would best reflect the likelihood neighbour impact
• the LA01 noise levels should be based on the driving cycle LAeq and not the 12hr LAeq. As the drive cycle LAeqs are not given it is not possible to comment on the revised LA01 values of 79 and 75 dB.

Sent from my iPad

On 25 May 2015, at 16:05, Lilianne Lauder <Lilianne.Lauder@midlothian.gov.uk> wrote:

Alistair,
Additional commends from Rosie Scurr re the test piling. Do you have time to look?
Thanks

Lilianne

From: Graeme King
Sent: 25 May 2015 14:50
To: Lilianne Lauder
Subject: FW: Your consultation response to application ref. 15/00158/DPP

Lilianne

Application reference: 15/00158/DPP
Formation of temporary test piling facility; associated car parking, access roads and buildings
At Shewington, Rosewell

I have received the above attachment in response to your consultation response for the above application. Do you wish to add any further comments?

Regards

Graeme

From: Grant Young [mailto:gy@scotthobbsplanning.com]
Sent: 22 May 2015 16:37
To: Rosie Scurr; Graeme King
Cc: Ewan Walker
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Graeme,

Further to Rosie's email, below, please find attached a response addressing your environmental health colleague's objection.

We have also this week responded to SEPA, addressing the points in their objection in accordance with discussions over the past few weeks. I am hopeful that they will have been in touch with you, but if not please do let me know and we will chase it along from this end.

Rosie remains on annual leave so if you've any queries next week please give me a call.

Regards,
Grant

Grant Young BA (Hons) MSc URP MRTPI
Planning Director

<image003.png>

Scott Hobbs Planning

e. gy@scotthobbsplanning.com
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t. 0131 226 7225 m. 07969 737 838
www.scotthobbsplanning.com

Follow us on Twitter: @ScottHobbsPlan

Registered in Scotland No. SC338885

From: Rosie Scurr [mailto:Rosie.Scurr@mainstreamrp.com]

Sent: 14 May 2015 14:30
To: Graeme King; Lilianne Lauder
Cc: Ewan Walker; Grant Young
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Dear Graeme

I am writing to confirm that we would request you take Option 2 as outlined below in your email of May 12th. However, as agreed in our phone call, you will hold off circulating a recommendation until w/c May 25th to allow us to submit a response to the EHO's objection and to conclude our discussions with SEPA, hopefully allowing them to be in a position to remove their objection. As agreed, we will have any further information to you by 17.00 on Friday May 22nd.

I am on leave from tomorrow, returning June 1st. In my absence, your primary contact is our Planning Consultant Grant Young (cc'd).

Regards,

Rosie Scurr
Environment Manager

Tel: +44 (0)141 206 3864
Mob: +44 (0)7967 445 717
rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

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From: Graeme King [mailto:Graeme.King@midlothian.gov.uk]
Sent: 12 May 2015 16:35
To: Lilianne Lauder; Rosie Scurr
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Rosie

In light of Lilianne's response I don't feel that there is anything to be gained from extending the application process further. I would therefore propose 2 options to consider:

1. Withdraw the application and re-submit it once you have prepared the information that seeks to address the various issues raised in the objections from Environmental Health and SEPA.
2. I proceed to assess the application on the basis of the application currently submitted. My aim would be to circulate the recommendation to council members next week.

I would be grateful if you could confirm which course of action you wish me to follow by 5pm on Friday 15th May.

Thank you for your assistance.

Regards

Graeme

Graeme King
Planning Officer
Planning
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

Tel: 0131 271 3332
Fax: 0131 271 3537
Email: graeme.king@midlothian.gov.uk
Web: www.midlothian.gov.uk

From: Lilianne Lauder
Sent: 11 May 2015 19:38
To: 'Rosie Scurr'
Cc: Graeme King; 'alistair.somerville@gmail.com'
Subject: RE: Your consultation response to application ref. 15/00158/DPP

Dear Ms Scurr,

Sorry I missed your call earlier today.

Environmental Health and our appointed consultant, Alistair Somerville have spent a large amount of time dealing with this proposal, both at the pre-planning stage and at the full planning application stage.

We do not agree with the findings of the report. Our concerns were most recently discussed in a telephone call between Oliver Atack and Mr Somerville. As there was no further contact at this time, Environmental Health resubmitted its consultation response to Graham King, Planning Officer.

Whilst I don't think there is any additional benefit in meeting to discuss this application, if there is any additional information you wish to submit, then it should be submitted via Graeme King, Development Control, and will be considered by Environmental Health.

Regards

Lilianne Lauder
Environmental Health Group Leader (Public Health)
East and Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZH
0131 271 3370

From: Rosie Scurr [mailto:Rosie.Scurr@mainstreamrp.com]
Sent: 05 May 2015 14:48
To: Lilianne Lauder
Subject: Your consultation response to application ref. 15/00158/DPP

Dear Lilianne

I am writing in reference to your consultation response to our planning application for the onshore test piling works at Newbigging. We are preparing a formal written response to your objection, but we would appreciate an opportunity to meet with yourself, and Alistair Somerville if necessary, in person to discuss your concerns, the works and our proposed response.

Could you please advise your availability in the coming weeks? We would be available to meet in either Haddington or Dalkeith as is convenient for you.

Kind Regards,
<image004.gif>
<image005.jpg>
Rosie Scurr
Environment Manager

Mainstream Renewable Power Ltd.
3rd Floor
2 West Regent Street
Glasgow
G2 1RW

Tel: +44 (0)141 206 3864
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rosie.scurr@mainstreamrp.com
www.mainstreamrp.com

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<150522 OPT response to EHO - final.pdf>

From: Graeme King <Graeme.King@midlothian.gov.uk>
Sent: 18 March 2015 17:35
To: Rosie Scurr
Subject: Planning application at Shewington, Rosewell

Rosie

Application Reference 15/00158/DPP
Formation of temporary test piling facility; associated car parking, access roads and buildings
At Shewington, Rosewell

I am the case officer who has been allocated the above application. I am awaiting various consultation responses and once I have the responses I will be able to form a fuller opinion of the proposals. In the mean time I would be grateful to receive your comments on a specific issue that has been raised in an objection that we have received. An objection has been received from the owner of the Rosslynlee Trout Fishery, the reservoir that sits 75m to the South of the application site. Amongst a number of points raised are concerns regarding the possible impact that vibrations from the piling would have on the stability of the dam. Failure of the dam would pose a significant flood risk.

The objection was received on 18th March 2015 and can be viewed via our online planning facility at https://planning-applications.midlothian.gov.uk/OnlinePlanning/ I would be grateful to receive your comments on the possible impact of the proposed operations on the stability of the dam.

Thank you for your assistance.

Regards

Graeme King

Graeme King
Planning Officer
Planning
Midlothian Council
Fairfield House
8 Lothian Road
Dalkeith
EH22 3ZN

Tel: 0131 271 3332
Fax: 0131 271 3537
Email: graeme.king@midlothian.gov.uk
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Midlothian

Fairfield House 8 Lothian Road Dalkeith EH22 3ZN

Tel: 0131 271 3302

Fax: 0131 271 3537

Email: planning-applications@midlothian.gov.uk

Applications cannot be validated until all necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 000127057-001

The online ref number is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the Planning Authority about this application.

Applicant or Agent Details

Are you an applicant, or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application) ☐ Applicant ☑ Agent

Agent Details

Please enter Agent details

Company/Organisation:	Mainstream Renewable Power
Ref. Number:	
First Name: *	Rosie
Last Name: *	Scurr
Telephone Number: *	0141 206 3864
Extension Number:	
Mobile Number:	
Fax Number:	
Email Address: *	rosie.scurr@mainstreamrp.com

You must enter a Building Name or Number, or both:*

Building Name:	3rd Floor
Building Number:	2
Address 1 (Street): *	West Regent Street
Address 2:	
Town/City: *	Glasgow
Country: *	UK
Postcode: *	G2 1RW

Is the applicant an individual or an organisation/corporate entity? *

☐ Individual ☑ Organisation/Corporate entity

Applicant Details

Please enter Applicant details

Title:		You must enter a Building Name or Number, or both:*	
Other Title:		Building Name:	3rd Floor
First Name:		Building Number:	2
Last Name:		Address 1 (Street): *	West Regent Street
Company/Organisation: *	Neart na Gaoithe Offshore Wind Ltd	Address 2:	
Telephone Number:		Town/City: *	Glasgow
Extension Number:		Country: *	UK
Mobile Number:		Postcode: *	G2 1RW
Fax Number:			
Email Address:			

Site Address Details

Planning Authority: Midlothian Council

Full postal address of the site (including postcode where available):

Address 1:		Address 5:	
Address 2:		Town/City/Settlement:	
Address 3:		Post Code:	
Address 4:			

Please identify/describe the location of the site or sites.

Land at Shewington, Rosewell

Northing	660454	Easting	328562

Description of the Proposal

Please provide a description of the proposal to which your review relates. The description should be the same as given in the application form, or as amended with the agreement of the planning authority: *
(Max 500 characters)

Review of the refusal of planning application reference 15/00158/DPP, for "formation of temporary test piling facility; associated car parking, access roads and buildings at Shewington, Rosewell"

Type of Application

What type of application did you submit to the planning authority? *

- [x] Application for planning permission (including householder application but excluding application to work minerals).
- [ ] Application for planning permission in principle.
- [ ] Further application.
- [ ] Application for approval of matters specified in conditions.

What does your review relate to? *

- [x] Refusal Notice.
- [ ] Grant of permission with Conditions imposed.
- [ ] No decision reached within the prescribed period (two months after validation date or any agreed extension) – deemed refusal.

Statement of reasons for seeking review

You must state in full, why you are seeking a review of the planning authority's decision (or failure to make a decision). Your statement must set out all matters you consider require to be taken into account in determining your review. If necessary this can be provided as a separate document in the 'Supporting Documents' section: * (Max 500 characters)

Note: you are unlikely to have a further opportunity to add to your statement of appeal at a later date, so it is essential that you produce all of the information you want the decision-maker to take into account.

You should not however raise any new matter which was not before the planning authority at the time it decided your application (or at the time of expiry of the period of determination), unless you can demonstrate that the new matter could not have been raised before that time or that it not being raised before that time is a consequence of exceptional circumstances.

Please refer to accompanying 'Local Review Statement'

Have you raised any matters which were not before the appointed officer at the time the determination on your application was made? * ☐ Yes ☑ No

Please provide a list of all supporting documents, materials and evidence which you wish to submit with your notice of review and intend to rely on in support of your review. You can attach these documents electronically later in the process: * (Max 500 characters)

Please refer to accompanying 'List of Supporting Documentation'

Application Details

Please provide details of the application and decision.

What is the application reference number? * 15/00158/DPP

What date was the application submitted to the planning authority? * 20/02/15

What date was the decision issued by the planning authority? * 30/06/15

Review Procedure

The Local Review Body will decide on the procedure to be used to determine your review and may at any time during the review process require that further information or representations be made to enable them to determine the review. Further information may be required by one or a combination of procedures, such as: written submissions; the holding of one or more hearing sessions and/or inspecting the land which is the subject of the review case.

Can this review continue to a conclusion, in your opinion, based on a review of the relevant information provided by yourself and other parties only, without any further procedures? For example, written submission, hearing session, site inspection. *

☐ Yes ☑ No

Please indicate what procedure (or combination of procedures) you think is most appropriate for the handling of your review. You may select more than one option if you wish the review to be conducted by a combination of procedures.

Please select a further procedure *

Holding one or more hearing sessions on specific matters

Please explain in detail in your own words why this further procedure is required and the matters set out in your statement of appeal it will deal with? * (Max 500 characters)

Determination of the review will benefit from further discussion on a number of technical matters relating to the proposed development, which relate specifically to the reasons for refusal

In the event that the Local Review Body appointed to consider your application decides to inspect the site, in your opinion:

Can the site be clearly seen from a road or public land? * ☐ Yes ☑ No

Is it possible for the site to be accessed safely and without barriers to entry? * ☑ Yes ☐ No

If there are reasons why you think the Local Review Body would be unable to undertake an unaccompanied site inspection, please explain here. (Max 500 characters)

An unaccompanied site inspection would be possible, however access to the land should be coordinated with the landowner in advance, via the Appellant's agent

Checklist - Application for Notice of Review

Please complete the following checklist to make sure you have provided all the necessary information in support of your appeal. Failure to submit all this information may result in your appeal being deemed invalid.

Have you provided the name and address of the applicant? * ☑ Yes ☐ No

Have you provided the date and reference number of the application which is the subject of this review? * ☑ Yes ☐ No

If you are the agent, acting on behalf of the applicant, have you provided details of your name and address and indicated whether any notice or correspondence required in connection with the review should be sent to you or the applicant? * ☑ Yes ☐ No ☐ N/A

Have you provided a statement setting out your reasons for requiring a review and by what procedure (or combination of procedures) you wish the review to be conducted? * ☑ Yes ☐ No

Note: You must state, in full, why you are seeking a review on your application. Your statement must set out all matters you consider require to be taken into account in determining your review. You may not have a further opportunity to add to your statement of review at a later date. It is therefore essential that you submit with your notice of review, all necessary information and evidence that you rely on and wish the Local Review Body to consider as part of your review.

Please attach a copy of all documents, material and evidence which you intend to rely on (e.g. plans and drawings) which are now the subject of this review * ☑ Yes ☐ No

Note: Where the review relates to a further application e.g. renewal of planning permission or modification, variation or removal of a planning condition or where it relates to an application for approval of matters specified in conditions, it is advisable to provide the application reference number, approved plans and decision notice (if any) from the earlier consent.

Declare - Notice of Review

I/We the applicant/agent certify that this is an application for review on the grounds stated.

Declaration Name:	Rosie Scurr
Declaration Date:	29/09/2015
Submission Date:	29/09/2015

APPENDIX C

MIDLOTHIAN COUNCIL

DEVELOPMENT MANAGEMENT
PLANNING APPLICATION DELEGATED WORKSHEET:

Case Officer: Graeme King **Site Visit Date:**

Planning Application Reference: 15/00158/DPP

Site Address: Shewington, Rosewell

Site Description: The application site was previously used as the entrance area and main site compound for open cast coal workings at Newbigging and Shewington. The site is predominantly flat and most of the top soil has been stripped and hard standing laid to accommodate the coal operations. There are some small areas of bunding within the site.

The site is adjacent to the A6094 and is approximately 3 kilometres South of Roswell and approximately 2.5 kilometres North of Howgate. To the North the closest residential properties are at Newbigging Farm and Cottages; a distance of 685 metres from the centre of the application site. To the South the closest residential properties are at Rosslynlee Fishery, where there are 2 residential properties and a fishery that utilises a long established reservoir. The reservoir is formed using an earth embankment dam. The properties at Rosslynlee are 230 metres from the centre of the application site.

Proposed Development: Formation of temporary test piling facility; associated car parking, access roads and buildings

Proposed Development Details: The application is for a temporary consent to establish a test piling facility. The applicant has obtained permission for the formation of an offshore windfarm in the outer Firth of Forth. Prior to undertaking the offshore construction works the applicant has identified a need to carry out test piling to allow for testing of the proposed piles to ensure that the chosen approach will withstand the anticipated strains.

It is proposed to install eight piles; the piles will be 20 metres in length and will be installed to an embedment depth of 18 metres. Four of the piles will have a diameter of 1.1 metres and the remaining four will have a diameter of 1.65 metres. The installation method involves a hollow steel pile being driven into the ground using a hydraulic hammer; when the point of refusal is reached, i.e. the point at which further blows with the hammer no longer drive the pile into the ground, the hammer is removed and a drill is used to drill down through the pile and beyond the pile. The hammer is then used again to drive the pile in further; the hammering and drilling cycle is repeated until the pile has reached the required depth. To facilitate the piling and drilling, a mobile piling rig (with a maximum height of 35 metres); a mobile drilling rig (with a maximum height of 28 metres); and a mobile crawler crane (with a maximum height of 40 metres) will be used on site.

Once installed the piles will be tested by applying a vertical load to each pile. Two possible methods have been suggested, an H shaped testing rig or an internal beam and jack. The H shaped testing rig measures 12 metres long, 4.5 metres wide and has a maximum height of 6.3m; the rig is supported by four clusters of four 0.75 metre diameter piles embedded to a depth of 8 metres. The rig is placed over the pile to be tested and welded to the pile; the vertical strain is applied via hydraulic jacks sitting on top of the supporting piles. The internal beam and jack method involves the installation of a concrete plug below the pile to be tested. A 20 metre long vertical steel beam is placed on top of the concrete plug and a crossbeam is installed across the top of the pile; the vertical strain is applied via a hydraulic jack placed between the vertical beam and the cross beam. Strain gauges in the piles will measure the strain as the loads are applied; it is anticipated that the maximum movement of the piles during testing will be centimetres at most.

Once testing is completed it is proposed to cut the piles at least 1.5 metres below ground level and remove the protruding sections. The remaining lengths of pile will be left in the ground; steel plates will be welded over the top of the piles and the plates will be covered with soils from the site.

To support the operations existing access roads will be upgraded via levelling and infilling of potholes; in addition car parking and external storage areas will be formed. It is anticipated that the maximum number of staff on site at any one time will be 31; to provide support facilities for the staff, such as office space, changing rooms, canteen et cetera, it is proposed to site 15 temporary containers on site.

The operations are expected to take 19 weeks in total; of which 6 weeks will be required for set-up, 8 weeks for installation and testing of the piles, and 5 weeks for dismantling and site reinstatement. The installation of the piles will be undertaken over 24 separate piling operations, each of approximately 3 hours duration.

Background (Previous Applications, Supporting Documents, Development Briefs): As noted above the application site was formerly used as the entrance area and main site compound for open cast coal workings at Newbigging and Shewington. Consent (application reference 02/00614/FUL) was first granted in 2004 for opencast extraction of coal at Newbigging; the extraction occurred on land immediately to the North and East of the application site. The operations were amended and extended via consents 05/00162/FUL and 05/00725/FUL. Reinstatement works for the Newbigging site have been carried out.

In 2007 consent (application reference 05/00840/FUL) was granted for further extraction at the site that came to be known as Shewington. The main area of extraction was 1.3 kilometres North East of the application; although the application site continued to be used for access and as a site compound. The Shewington operation was subsequently extended via consents 09/00131/FUL and 10/00515/DPP. Reinstatement works for the Shewington site have commenced but have not been completed.

In November 2013 application 13/00105/DPP for the opencast extraction of coal at Cauldhall Moor was considered by Midlothian Council's Planning Committee. The Council is minded to grant the consent subject to agreement being reached on

conditions, monitoring arrangements, restoration bonds and a legal agreement to secure community benefit contributions and developer contributions. At present no decision has been issued. The Cauldhall Moor relates to land to the South and East of the application site; the Cauldhall Moor site is intended to utilise the application site for access and as a site compound.

In August 2014 the applicant submitted a request for a screening opinion to determine whether or not an environmental statement, complying with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 201, would be required for the application. Midlothian Council, as the planning authority, confirmed that an environmental statement would not be required.

In April 2015 planning permission 14/00940/DPP was granted for the "Erection of buildings for drying and storage of biomass woodchips" at the location of the former wheel washing facility for the opencast sites; the site is 300 metres North East of the application site.

Consultations:
The Council's **Archaeology** consultant has no recommendations or comments to make.

NATS (who are responsible for managing air traffic control in the UK) have no safeguarding objection to the proposal.

Edinburgh Airport have no objection to the proposal.

The **MOD Safeguarding** team have confirmed that they have no objection to the proposal.

The Council's **Biodiversity** consultant has no objection to the proposal.

Scottish Natural Heritage (SNH) have confirmed that the proposal falls below their threshold for consultation and that they do not intend to offer comment.

The **Coal Authority** initially objected to the proposal on the grounds that insufficient information had been provided regarding the mining history of the site. Following additional information being submitted the objection was withdrawn.

Scottish Water have no objection to the proposal.

The Council is the Enforcement Authority with regard to the **Reservoirs** Act 1975. The Council's **Network and Structures Manager** has confirmed the Council's regulatory role with regard to the legislation and advised that consideration should be given to the impact of the piling works on the structure of the dam at the neighbouring fishery site.

The Council's **Transportation Policy and Road Safety** consultant has no objection to the principle of the development. It is noted that there will be some abnormal loads, however the proposal is for a temporary period and general activities will

generate large volumes of traffic. Consideration of the impact of the piling works on the structure of the dam is recommended.

Scottish Environmental Protection Agency (SEPA) initially objected to the application on the grounds of lack of information in respect of surface water drainage and the potential impact on the water environment. The consultation response also offered comments in relation to flood risk with particular regard to the proposal's impact on the dam at the fishery site. The comments note the Council's role as Reservoir Authority and recommend that consideration be given to the downstream flood risk should a failure of the dam occur.

Following receipt of the consultation response further discussions took place between the applicant and SEPA regarding the applicant's proposals. Additional information was submitted to the Planning Authority and SEPA then withdrew their objection. The email confirming withdrawal of SEPA's objection recommends that if planning permission is granted an informative note is added detailing that the drainage principles accord with the revised scheme.

The email also notes that discussions are ongoing between the applicant and SEPA regarding authorisation required under the Water Environment (Controlled Activities) (Scotland) Regulations 2011; SEPA is the regulatory authority in respect of these regulations.

The Council's **Environmental Health** section recommends that the application be refused. The response notes that the site is in a relatively quiet rural environment and that there is an expectation of a low noise environment for the enjoyment of the fishery. It is advised that assessment of the application should be based on the impact on amenity and the potential nuisance, and not on construction site noise standards.

The response advises that the predicted average noise levels and impulsive noise events at noise sensitive premises are considered to be excessive; and that the levels and duration of noise exposure are likely to result in a significant loss of amenity. With regard to vibration levels, it is noted that the predicted levels will be significant at neighbouring residential properties and are likely to cause complaint. Due to the absence of development benefits at the site it is unlikely that the adverse impact could be managed via prior warning and information being provided to residents.

Following reports of an osprey being sited in the area the following additional consultations were carried out:

Both **SNH** and the Council's **Biodiversity** consultant confirmed that while the siting was likely to be genuine it did not alter their previous consultation responses.

The **Scottish Raptor Study Group** confirmed that the closest osprey nest was more than 6km away and that the proposal would not have an impact on the birds.

RSPB Scotland confirmed that they have no concerns about the proposed development in respect of ospreys.

Representations: There have been 13 objections received from 11 different households. In addition a petition, objecting to the application, containing 59 names of regular anglers at Rosslynlee Trout Fishery has been submitted by the fishery owners. The various grounds for objection include:

- The disruption to local residents and users of the fishery caused by noise and vibration from the piling.
- The possible impact, from noise and vibration, on local wildlife. Reference is made in a number of objections to otters being sited at the fishery.
- The impact of the vibrations on the structure of the dam and the possible flood risk should the dam fail.
- The impact on road safety.
- The impact on the fishery business.
- The possible impact of the vibrations on the buildings at Reservoir Cottage and Rosslynlee Fishery.
- The possible impact on the water supply pipe that passes through the application site and serves Reservoir Cottage and the house at Rosslynlee Fishery.

Relevant Planning Policies: Section 37 of the Town and Country Planning (Scotland) Act 1997 (as amended) states that in dealing with an application for planning permission the Planning Authority shall have regard to "the provisions of the development plan, so far as material to the application, and to any other material considerations". Due to the unusual nature of the proposed development there are relatively few policies within the adopted development plan, the Midlothian Local Plan 2008, which relate directly to the proposed development. The following policies are of some relevance to the proposal:

Midlothian Local Plan Policy **RP1: Protection of the Countryside** states that development in the countryside will only be permitted if: it is required for the furtherance of agriculture, including farm related diversification, horticulture, forestry, countryside recreation, tourism, or waste disposal (where this is shown to be essential as a method of site restoration); it is within a designated non-conforming use in the Green Belt; or it accords with policy DP1;

Midlothian Local Plan Policy **RP8: Water Environment** aims to prevent damage to water environment, including groundwater and requires compliance with SEPA's guidance on SUDs;

Midlothian Local Plan Policy **RP13: Species Protection** requires that any development that would affect a species protected by law will require an appropriate level of environmental and biodiversity assessment. Where development is permitted, proposals will require: A. measures for mitigation; and B. measures for enhancement or sustainable habitat replacement, where appropriate;

Midlothian Local Plan Policy **RP14: Habitat Protection Outwith Formally Designated Areas** requires that where a development affects sites which contain habitat of some significance, effects on the habitat as well as mitigation measures will be taken into account.

Midlothian Local Plan Policy **RP18: Protecting Areas From Surface Mineral Extraction** outlines constraints to protect the environment, local residents and businesses from mineral extraction.

Midlothian Local Plan Policy **MIN1: Areas of Search For Surface Mineral Extraction** identifies 4 areas where surface mineral extraction may be acceptable in principle subject to the proposal meeting operational criteria relating to: blasting vibration, noise and dust; traffic; operating hours; extraction; duration of extraction; visual impact; restoration and aftercare; prime agricultural land; and impact on water resource.

Planning Issues: The main planning issue to be considered in determining this application is whether the proposal complies with development plan policies unless material planning considerations indicate otherwise. The representations and consultation responses received are material considerations.

The Midlothian Local Plan identifies the application site and the surrounding area as being countryside. The main policy in the plan in relation to development in the countryside is policy RP1 Protection of the Countryside. The policy seeks to protect the character of Midlothian's countryside and offers some scope for rural development related to specific countryside activities including farm diversification, horticulture, forestry, countryside recreation, tourism and waste disposal as a method of site restoration. While it is acknowledged that the proposal is of an unusual nature it is clear that the nature of development proposed does not meet any of the acceptable categories of development specifically referred to in policy RP1. The proposal does not comply with policy RP1 of the Midlothian Local Plan.

In certain locations the plan offers support for specific types of development in the countryside, for example the extraction of mineral resources or renewable energy developments. While the proposed development is sited at a site that was previously used for surface mineral extraction it is clear that the proposal is not related to this type of development. From the applicant's perspective the proposal forms part of a larger renewable energy development; however as the renewable energy development will be located at a significant distance from Midlothian it would not be appropriate to assess the proposal against policies relating to renewable energy development within Midlothian. There are no specific policies within the Midlothian Local Plan that support the proposed development.

While it is acknowledged that the proposed development is intended to play an important role in the delivery of a renewable energy project of national significance, the key factor in assessing the impact of the proposal on Midlothian is whether the proposal would unacceptably affect the amenity of existing land and buildings. The clear view of the Council's Environmental Health section is that the noise and vibration levels associated with the proposal will have a significant detrimental impact on the amenity of the occupants of the houses at Rosslynlee Fishery and Reservoir Cottage, and on the users of Rosslynlee.

In support of the proposal the applicant has assessed the noise and vibration generated from the piling operation against British Standard BS 5228 Code of practice for noise and vibration control on construction and open sites. BS 5228 recognises that many activities associated with construction are inherently noisy and disruptive and that there are limits to the practical mitigation and control measures that are possible. The standard accepts that the temporary impacts of construction can be offset by the long-term benefits once development on a site is completed.

The predicted noise levels at the nearest noise sensitive properties are anticipated to be within the thresholds for noise set out in BS 5228; while the predicted vibration levels will exceed the thresholds set out in BS 5228 and would be likely to cause complaints from those experiencing the vibration. In response, the Council's view is that while BS 5228 contains a significant amount of data associated with the operation of piling plant and equipment that is of use in predicting noise levels the proposed activities should not be assessed as construction activities. Should planning permission be granted it would be on the basis of the site being used as a test facility; there would be no long-term benefit to Midlothian once the operations ceased. It would therefore be reasonable to assess the proposal in terms of the potential for loss of amenity, annoyance and statutory nuisance; assessed on this basis the noise levels would be excessive and would result in a significant loss of amenity.

With regard to vibration levels the applicant's supporting information acknowledges that the assessment results show that the piling would cause significant vibration at residential receptors within 500 metres of the site. Given the predicted levels vibration will be noticeable and would be likely to cause complaints. The applicant acknowledges that there are limited mitigation measures that would be possible and would seek to mitigate the impact on the properties at Rosslynlee Fishery and Reservoir Cottage by regular notification of forthcoming activities thereby allowing occupiers to plan domestic activities around the piling works. The applicant stresses the temporary nature of the operation and the fact that piling will occur during normal working hours. From the information provided by the applicant it is clear that the vibration levels at Rosslynlee Fishery and Reservoir Cottage would be excessive and would result in a significant loss of amenity.

The majority of the objections received made reference to concerns about the impact on wildlife in general, with particular reference being made to otters. The Council's biodiversity consultee has considered the proposal in relation to its impact on statutorily designated sites in the area and has not objected to the proposal.

The owners of the fishery have raised concerns regarding the impact of the vibrations on the integrity of the dam at the fishery. In response to the objection from the fishery the applicants have submitted an additional statement responding to the points raised in relation to the dam. The applicant's further assessment indicates that no damage to the dam is likely to occur. Notwithstanding this assessment the applicant has stated that a pre-commencement survey of the dam would be undertaken; that vibration sensors would be installed and monitored throughout the works; and that a post-completion survey would be undertaken. The applicant has made clear that they would be fully insured for liabilities associated with structural damage.

The proposal does not comply with any policies in the development plan and must be assessed solely on material considerations. While it is acknowledged that the offshore windfarm development that the proposal is ultimately intended to support will make a significant contribution to national targets on renewable energy these national benefits do not outweigh the very significant local amenity impacts caused by the noise and vibration associated with the proposal. On balance the material considerations in favour of the proposal are outweighed by the material considerations against the proposal.

Recommendation: Refuse Planning Permission

Reasons for refusal:

1. The application does not relate to the furtherance of an existing acceptable countryside use; the proposal is therefore contrary to policy RP1 of the Midlothian Local Plan.
2. The use of the site as a piling test facility is not supported by any policies in the Midlothian Local Plan; the proposal is therefore contrary to the aims of the Midlothian Local Plan.
3. The noise associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage.
4. The vibration associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage.

APPENDIX D

Refusal of Planning Permission

Town and Country Planning (Scotland) Act 1997

Reg. No. 15/00158/DPP

Neart Na Gaoithe Offshore Wind Limited
3rd Floor
2 West Regent Street
Glasgow
G2 1RW

Midlothian Council, as Planning Authority, having considered the application by Ms Rosie Scurr, 3rd Floor, 2 West Regent Street, Glasgow, G2 1RW, which was registered on 6 March 2015 in pursuance of their powers under the above Acts, hereby **refuse** permission to carry out the following proposed development:

Formation of temporary test piling facility; associated car parking, access roads and buildings at Shewington, Rosewell,

in accordance with the application and the following plans:

Drawing Description.	Drawing No/Scale	Dated
Location Plan	UK02-0814-053-MRP-OPT_APP1-DRG-A 1:10,000	06.03.2015
Site Plan	UK02-0814-055-MRP-OPT_APP_2BDRG-A	06.03.2015
Proposed cross section	UK02-0814-065-MRP-OPT BASIN-DRG A 1:1000 1:200	06.03.2015
Proposed elevations	UK02-0814-064-MRP-ELEVATIONS DRG-A 1:750	06.03.2015
Proposed elevations	UK02-0814-064-MRP-ELEVATIONS DRG-A 1 1:750	06.03.2015
Illustration/Photograph	UK02-0814-054-MRP-OPT_APP_2A DRG A	06.03.2015
Environmental Appraisal		06.03.2015
EA – Appendix 1 Scoped out topics		06.03.2015
EA – Appendix 2 Coal Mining Risk Assessment		06.03.2015
EA – Appendix 2 Coal Mining Risk Assessment Appendix 1		02.04.2015
EA – Appendix 2 Coal Mining Risk Assessment Appendix 2		02.04.2015
EA – Appendix 2 Coal Mining Risk Assessment Appendix 3A		02.04.2015
EA – Appendix 2 Coal Mining Risk Assessment Appendix 3B		02.04.2015
EA – Appendix 2 Coal Mining Risk Assessment Appendix 3C		06.03.2015
EA – Appendix 3 Acoustic Assessment		06.03.2015

EA – Appendix 4 Habitat Survey		06.03.2015
EA – Appendix 5 Archaeology		06.03.2015
EA – Appendix 6 Transport		06.03.2015
EA – Appendix 7 Water and Soil Quality		06.03.2015
EA – Figure 1		06.03.2015
EA – Figure 2		06.03.2015
EA – Figure 3A		06.03.2015
EA – Figure 3B		06.03.2015
EA – Figure 4		06.03.2015
EA – Figure 5		06.03.2015
EA – Figure 6		06.03.2015
EA – Figure 7		06.03.2015
Response to Objections		11.05.2015
Response to EH consultation		26.05.2015
Response to SEPA consultation (1)		09.06.2015
Response to SEPA consultation (2)		12.06.2015

The reasons for the Council's decision are set out below:

1. *The application does not relate to the furtherance of an existing acceptable countryside use; the proposal is therefore contrary to policy RP1 of the Midlothian Local Plan.*

2. *The use of the site as a piling test facility is not supported by any policies in the Midlothian Local Plan; the proposal is therefore contrary to the aims of the Midlothian Local Plan.*

3. *The noise associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage.*

4. *The vibration associated with the piling activities will have a significant detrimental impact on the amenity of the occupants and users of Rosslynlee Fishery and Reservoir Cottage.*

Dated 30 / 6 / 2015

.....

Duncan Robertson
Senior Planning Officer; Local Developments
Fairfield House, 8 Lothian Road, Dalkeith, EH22 3ZN