NHS
Dumfries
& Galloway

Dumfries and Galloway Royal Infirmary
Garroch Farm Site

Environmental Statement

Non-Technical Summary

January 2013

Non-Technical Summary

NHS Dumfries & Galloway Board has submitted an application to Dumfries & Galloway Council for planning in principle to construct a new hospital facility at Garroch Farm, Dumfries.

An Environmental Statement (ES) has been prepared in support of the application to Dumfries & Galloway Council. This Non-Technical Summary (NTS) provides a summary of the findings of the environmental impact assessment (EIA) of the likely significant environmental effects of the proposed development. Technical Appendices also accompany the ES along with a volume of Figures and Drawings.

The ES describes the environmental effects of the proposals, examines the nature and scale of these effects and recommends measures to manage and control adverse impacts. Beneficial impacts are also considered.

The environmental topics addressed include: Air Quality; Archaeology and Cultural Heritage; Ecology; Geology, Soils and Contamination; Landscape and Visual Impact; Noise and Vibration; Water Environment; Cumulative and Residual Impacts. The results of these studies are summarised in this document.

The document has been compiled by:

ENVIRO Centre

In conjunction with the following companies:

Headland Archaeology

keppie

Mott MacDonald

MVA SYSTRA GROUP

1. INTRODUCTION

1.1 Documents

This document, the "Non-Technical Summary" (NTS) is a "condensed" version of a much larger document called an Environmental Statement which has been prepared and assesses the environmental effects of the proposed hospital development.

The assessments include both the construction and operational effects of the proposed development. The NTS is set out in the same chapter number format as the Environmental statement (ES), so that if someone wants to know more about a particular matter, they can easily find the information in the ES. The sections within this NTS are as follows:

2. Description of Project;
3. Scoping Outcome
4. Planning Context;
5. Ecology;
6. Landscape and Visual;
7. Noise and Vibration;
8. Cumulative Impacts;
9. Residual Impacts; and
10. Environmental Management Plan (EMP).

The NTS summarises the key findings from the environmental assessment process. Where the assessment identifies potential negative effects on the environment, measures to address and control effects, known as mitigation measures are identified. The assessment then presents the overall effects remaining after mitigation has been applied; these are referred to as the residual effects.

Copies of the full ES and corresponding appendices have been submitted to Dumfries and Galloway Council in conjunction with the Planning Permission in Principle application. Additional hard copies of the ES and associated documents are available from EnviroCentre Ltd at a cost of £125. CD copies are available at £20. For further information please contact:

EnviroCentre Limited
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA
0141 341 5040 / www.envirocentre.co.uk

1.2 Limitations

The ES is written to comply with the requirements of the EIA Regulations and adhere to good practice guidelines. It aims to be comprehensive, objective and easy to understand.

It is important to understand that this ES is based upon information available at the time of undertaking. Due to the complexity of designing and funding a development of this scale and nature, this has resulted in this EIA being based on an indicative design only which is subject to change during the detailed design stages prior to confirming the final design.

There has been a change to the initial site boundary from that proposed at the scoping stage in that the area has increased to include the roundabout on the A75(T) and provision to accommodate an alternative access on the eastern boundary. As these changes were made following the completion of the site visits, these have not been directly considered in the ES. It is however considered that these are not significant changes and that the conclusions made would not differ.

The absence of a detailed design may mean that updates to, or additional environmental studies may need to be undertaken, as may be specified through the PPP determination.

2. DESCRIPTION OF PROJECT

2.1 Site History

The Garroch Farm site comprises 20.39 hectares of agricultural land and is located approximately four kilometres south west of Dumfries off the A75(T) at grid reference NX 294 575. Figure 2.1 shows a site location map.

Garroch farm has been a site of agricultural activity pre-dating the 1850s. The site is 18.24 hectares in size and comprises mainly of grazing ground for livestock along with small areas of broadleaved trees and hedgerow. From the 1850s through to the 1950s the 'Glasgow and South Western Railway' ran along the east of the site, this was a triangular route connecting Glasgow, Stranraer and Carlisle.

In 1960 Garroch Business Park was built adjacent to the east of the site, comprising large and medium scale industrial facilities. The business park has led to the provision of improved access roads to Dumfries and the surrounding area, particularly the port at Stranraer, benefiting the region by increasing connections to the rest of the UK.

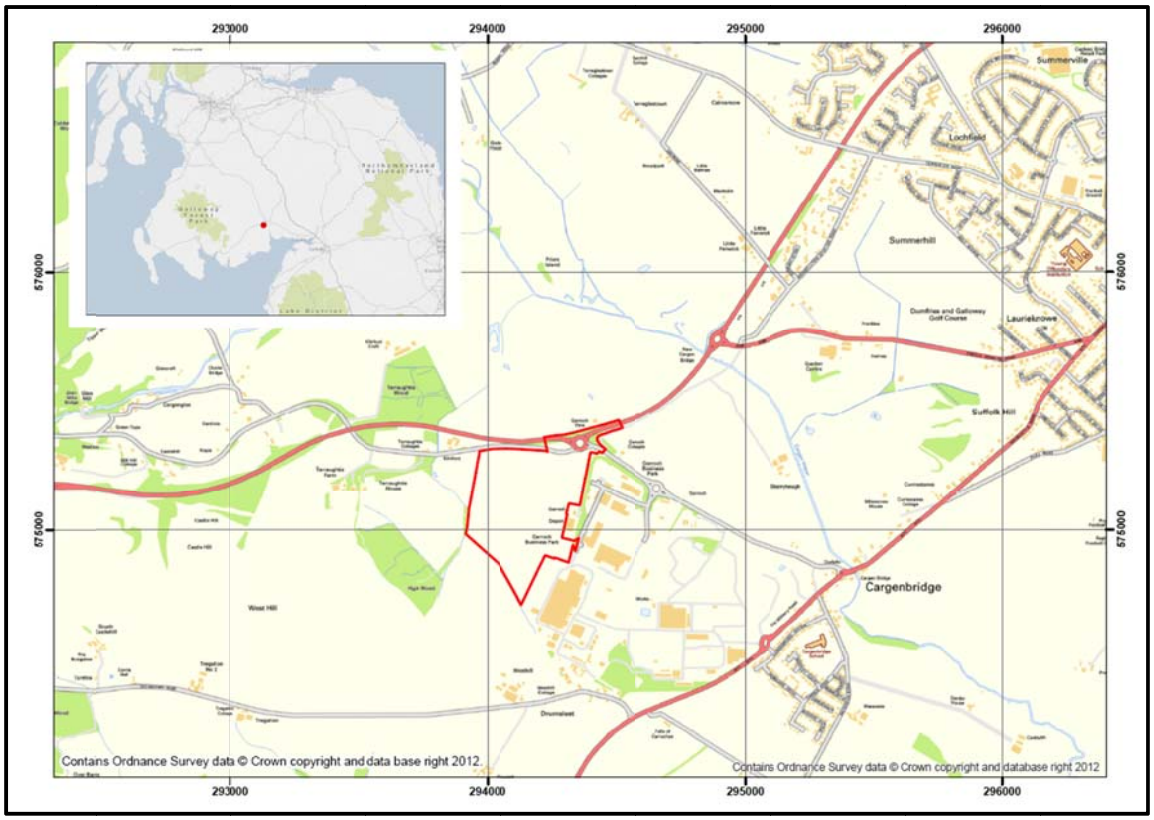
2.2 The Proposed Development

The proposed development is to design and build a hospital that will be able to serve the entire Dumfries and Galloway Region. It is anticipated that it will accommodate 30,000 inpatients and up to 100,000 outpatients annually. The hospital will include new wards, as well as a helipad and extensive car parking areas to allow easily accessible health care from all areas within the Dumfries and Galloway region.
In addition to improved health services, the new hospital design will decrease traffic congestion from Dumfries town centre by taking large transport flows away from the area. It will also improve emergency access throughout the region. Combing these two aspects is expected to allow for shorter travel times for patients, whilst improving the existing and future delivery of clinical services.

The proposed hospital has been designed so as to allow expansion in the future if necessary. This facilitates the changes that are anticipated will occur within clinical practice.

The existing road networks will need to be upgraded and a larger roundabout put in place to accommodate the increase in traffic flow numbers to the area.

Figure 2-1: Location Plan



There will be extensive cut and fill measures to the existing site however, material which will be removed in this process is proposed to be used for temporary site bunding/screening and shall be reused at later stages of the construction for landscaping purposes.

2.2.1 Construction Works

The construction works are anticipated to be undertaken over a two year period currently expected to commence in autumn 2015. The main activities that will be undertaken during the construction works comprise:

1. Extensive cut and fill to existing land on site;
2. A substructure formed from a grid of concrete piles extending over the entire footprint of the building with a reinforced in situ cast concrete basement/lower ground floor slab;
3. Superstructure comprising a structural steel frame with concrete floor and roof slabs with insulated envelope and curtain walling façade; and
4. Adoption of Sustainable Urban Drainage systems (SUDs) designs as appropriate. These are systems put in place to control surface water run-off.

2.3 Alternative Sites

The NHS D&G Project Board has undertaken a detailed exercise to identify the preferred site for the new Dumfries and Galloway Royal Infirmary.

Deciding upon the preferred site was a complex process and large amounts of information were made available to the general public to allow them to make informed decisions around their preference.

Of an initial 22 possible sites, five were short listed for further appraisal. The size, location, access, ground conditions and environmental constraints of each site were analysed. After an in-depth appraisal of the five sites the list was shortened further to two.

Through the public consultation exercise the Garroch Farm site came out as the preferred site as minimal changes to the existing road network will be required and the site is currently grassland surrounded by greenspace which is considered a critical design feature when considering a hospital build due to the restorative and recovery benefits gained from the views and surroundings.

3. SCOPING OUTCOME

Scoping is defined as 'the way in which key issues are identified from a broad range of potential concerns for inclusion in EIA studies, the areas affected, and the level to which they should be studied'. The importance of effective and accurate scoping cannot therefore be over emphasised.

In September 2012 EnviroCentre issued an Environmental Impact Assessment Scoping Report ('Scoping Report') to key stakeholders. The primary objective of the Scoping Report was to engage with the relevant Statutory and Non-Statutory Consultees to obtain their views on the proposal; identify potential impacts; identify existing environmental information; and agree methods for the assessment of the nature and significance of these impacts in order to ensure that all relevant environmental issues were covered by the assessment. Furthermore, the scoping process enables the topics covered in the ES to be agreed in advance and for those topics not considered pertinent to be scoped out or reduced in scale.

This exercise resulted in the key topics to be included in the ES being confirmed as follows:

- Access, Traffic and Transport;
- Air Quality;
- Ecology;
- Geology, Soils and Contamination;
- Landscape and Visual impacts;
- Noise and vibration; and
- Water Environment (including flood risk).

Through the aforementioned consultation exercises and development of the PPP design, the scope of the assessment for the following topics was revised at this stage:

- Access, transport and traffic - a Transportation Assessment (TA) has been carried out by MVA Ltd Consultants. As this has subsequently been identified as a key aspect of the EIA, EnviroCentre have undertaken a detailed appraisal of the study and have included a full chapter in the ES;
- Air Quality - whilst an assessment has been undertaken for the purposes of informing the PPP stage, due to the limited amount of design information available at this time it is anticipated that depending upon the levels of increased traffic flows and future operations of the adjacent business park. We recommend this should be assessed for the detailed planning application. Further details relating to this are provided in the corresponding chapter (Section 6);
- Geology of the site is not sensitive to the proposed development. Although commissioned, a detailed geoenvironmental assessment into ground and groundwater contamination has not been completed at the time of the PPP submission. As a result, the details of this study are deferred to the detailed design stage. Only the consideration of the potential impacts to hydrology and ecology are to be made within the corresponding chapters; and
- Water environment - as the detailed design of the site has not been advanced at this time, the details of the proposed associated SuDS infrastructure are not known. The corresponding chapter is therefore only able to provide an overview of the projected design requirements. It also includes an extensive flood risk assessment.

It is important also to note that through the consultation exercise the following topic was not considered to require a full chapter within the ES based on the corresponding rationale:

- Archaeology and Cultural Heritage - this study is to comprise a desk based assessment (DBA) only since it is understood from the scoping and preliminary assessment that there are no designated archaeological or cultural sites within the site boundary or the immediate surrounding area.

4. PLANNING CONTEXT

The proposed development is seeking Planning Permission in Principle (PPP) and the EIA has been produced to support this Planning in Principle application by the evaluation of the potential environmental effects and determination of suitable mitigation to protect the surrounding environment.

PPP is an undetailed application (*i.e.* detailed, architect-drawn or to-scale drawings are not required) for permission 'in principle' for development on a specified site. PPP is granted subject to conditions that the development in question will not begin until certain matters (*e.g.* access issues, design, environmental constraints *etc.*) have been approved by the Planning Authority. If PPP is granted, the applicant is still required to apply for full (detailed) planning permission before commencing development, and there are no guarantees that the full planning permission application will be accepted.

Local, regional and national planning conditions must be considered when undertaking an EIA. The current development plan of the area comprises the Dumfries and Galloway Structure Plan 1999 and the Nithsdale Local Plan 2006. These have been considered in the site selection and proposed site design.

5. ECOLOGY

Desk based surveys using information from Scottish natural Heritage (SNH), the National Biodiversity Network and the Dumfries and Galloway Environmental Resources Centre (DGERC) were undertaken to allow ecological baseline conditions to be established for the area.

EnviroCentre was contracted to undertake the Ecological Impact Assessment for the proposed new development to support the PPP application. Specialist studies were undertaken to evaluate the current baseline conditions for badgers, bats, water vole, otters and red squirrel. In conjunction with this a specialised tree survey was also undertaken to determine the health and status of the tress within and bordering the site.

In the long term, the integrity of the area will not be significantly affected. In the short term, there will be disturbance due to noise and human activity from the site clearance, site preparation and site access. However, the integrity of the area will not be significantly affected.

Much of the relevant/necessary mitigation is already built into the design of the hospital build and will also be enhanced by following standard best practice guidance during the works. In general, the works most likely to disturb animals and birds are to be programmed to avoid their peak activity periods (*e.g.* breeding and nesting). There will also be a substantial efforts made to retain as many trees as possible and to create new habitats including a pond through the proposed adopted SUDS design.

Of the studies undertaken, further mitigation is required to limit the potential impacts on badgers. The removal of large areas of the grazed grassland, identified as a key foraging ground, is unavoidable therefore badgers will be likely to start crossing the A75 to access the fields on the other side of the road. To avert badger road collisions with road traffic specialised badger under passes and fences are proposed to allow badgers to cross safely.

Once the hospital becomes fully operational the re-colonisation of the site by animals is to be encouraged by low speed limits for traffic and sensitive lighting. These factors allow animals to forage and commute undisturbed over the previously disturbed area. The habitat will also be enhanced through appropriate landscaping.

6. LANDSCAPE AND VISUAL

Baseline conditions of the landscape and visual characteristics of the area were established through a combination of desk based study and site visits. The assessment focused on a five kilometre area surrounding the proposed development for both the landscape and visual assessments. The assessment was however limited by the lack of a Zone of Theoretical Visibility (ZTV) model which was not available due to design information still being developed.

From the assessment undertaken it was concluded that the landscape character types and landscape designations within the study area would not be significantly affected by the proposed development. There will be visual impact at a local level with Garroch Farm deemed to experience the most significant visual impact due to its immediate proximity on the eastern site boundary. Terraughtie House will also experience visual impacts but these are considered to be of less significance to that of Garroch Farm as these are offset by screening of the existing views of the Garroch Business Park industrial facilities. It is expected that a ZTV will be produced during the detailed design stage to confirm these findings.

The detailed design stage will utilise the conclusions of the landscape and visual impact assessment to further enhance the proposed final design. This will include careful consideration to the sensitive use of appropriate construction materials; to befitting site landscaping to minimise, where practicable, the visual impacts on the local environment; to the use of appropriate landscape features and or sculptures to act as visual landmark to define the setting of the site; and to manage the topography of the site to minimise the impact of high buildings.

During the construction phase landscape and visual mitigation measures are to include: the appropriate storage and location of plant and construction materials; the management of equipment and material deliveries to site; and use of appropriate screening and bunding using cut and fill material to screen impacts from neighbouring receptors.

7. NOISE AND VIBRATION

Due to the nature of the construction and operation of the site there is the potential for noise levels in the area surrounding the proposed development to be affected.

As the existing farm site is located adjacent to the A75 and the Garroch Business Park the site is already considered to be significantly impacted by noise. There is however potential for the noise from the construction activities to impact upon local residential receptors. Once the hospital is fully operational there is also potential for traffic accessing the site and noise from the hospital itself to cause a nuisance to residents living in close proximity to the site as well as those who reside along the main access routes.
Noise is not considered to be an issue once the hospital is fully operational due to the planned design of the building, and due to the nature of the practices which will be undertaken in the hospital it is considered to be sensitive to noise and vibration therefore design mitigation will be put in place to minimise this.

The noise assessment undertaken involves the following stages:

- A desktop review and site walkover to identify existing noise sources and appropriate assessment criteria;
- Consultation with Dumfries & Galloway Council ;
- Noise monitoring to establish the baseline noise conditions and existing noise sources;
- Assessment of noise levels against appropriate assessment criteria; and
- Recommendations to address potential impacts through appropriate mitigation measures;

Due to the limited design information, and hence the engineering approach is not yet confirmed (see section 1.2), a construction noise assessment has not been undertaken. It is considered that this will be completed once the appropriate information is made available following the advancement of the detailed design.

8. CUMULATIVE IMPACTS

The combined assessment of potential impacts has focused on whether construction of a new hospital on the proposed site would generate a significant adverse impact upon sensitive receptors within the surrounding area.

It is concluded that the construction of a hospital development will be cumulative in a number of ways:

- It will extend the existing area of development (within an existing industrial context) within the western area of the urban Dumfries boundary;
- It will lead to a minor alteration of the existing landscape; and
- There is the potential for some localised short term impacts resulting from the construction activities.

No significant cumulative impacts have been identified. Any negative cumulative impacts identified are minor and generally relate to the initial construction works rather than the long term operation of the facility.

9. RESIDUAL IMPACTS

The residual impacts associated with the proposed development have been assessed with none of the residual effects predicted as having the potential for a moderate (or greater) impact. This conclusion is conditional upon the effective implementation of the mitigation measures presented in each chapter and as summarised in the Construction Environmental Management Plan (EMP). These mitigations are to be considered throughout the detailed design stage and the plan revised accordingly.

It is concluded that with the application of appropriate best practice mitigation measures, the residual impacts are low and commensurate with the long term operational effects of a modern hospital facility.

10. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

The EIA process has identified a number of potential site specific environmental impacts which unchecked could lead to negative environmental impacts. Practical and specific mitigation measures have been proposed in the ES and it is recommended that these measures are implemented.

These measures have been included in an outline cEMP which is designed to complement the NHS D&G Environmental Management System (EMS) which will be provided to each appointed contractor prior to commencing works on site. The EMS would provide guidance on general environmental good practice measures expected of all contractors.

The cEMP summarises the site specific mitigation and control measures to be implemented, the aim of which is to help ensure that the mitigation measures committed to in the ES are considered during the detailed design stage and followed during the construction works and operational phase.