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Planning Application
To High Peak Borough Council

For the proposed redevelopment and expansion of canal moorings, ancillary building and associated landscape works to Furness Vale Marina, Station Road, Furness Vale.

On behalf of J Purcell.

ENVIRONMENTAL STATEMENT

November 2013

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On behalf of J Purcell.

NOVEMBER 2013

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CONTENTS

Non Technical Summary (published separately)

Volume 1

Section 1: Background

- Chapter A: Introduction & Method Statement
- Chapter B: Description of the Project, Site & Surroundings Including alternatives
- Chapter C: Conclusion of Scoping Exercise – the Key Issues
- Chapter D: Planning & Policy Framework

Section 2: Assessment of Environmental Effects by Topic Area

- Chapter E: Ecological Impact Assessment
- Chapter F: Hydrological and Hydrogeological Assessment
- Chapter G: Landscape and Visual Impact
- Chapter H: Need & Socio-Economic Statement
- Chapter I: Arboriculture
- Chapter J: Heritage
- Chapter K: Transport
- Chapter L: Environmental Health
- Chapter M: Lighting

Section 3:

- Chapter N: Impact Assessment & Conclusions

Volume 2: Appendices

- Appendix Ci: Pre-application Scoping Submission to High Peak Borough Council
- Appendix Cii: Scoping Response from High Beak Borough Council
- Appendix Ciii: Canal & River Trust Expression of Interest Response
- Appendix Ei: Individual Survey Reports
- Appendix Eii: SSSI and LWS Citations
- Appendix Eiii: Location of Huddersfield Narrow Canal SSSI
- Appendix Eiv: Map of Cumulative Impacts
- Appendix Ev: Conversion of Lock Count Data to Boat Movements
- Appendix Fi: Drawing 1695/HIA/01 – Site Location

- Appendix Fii: Drawing 1695/HIA/02 – Site Layout
- Appendix Fiii: Drawing 1695/HIA/01 – Ecological Sites of Interest
- Appendix Fiv: Drawing 1694/HIA/01 – Water Features, Abstractions and Discharges
- Appendix Fv: Drawing 1694/HIA/01 – Environment Agency Flood Map
- Appendix Fvi: Photograph 1695/HIA/P1 – Issues discharging into canal
- Appendix Fvii: Appendix 1695/HIA/A – Details of ecological sites of interest
- Appendix Gi: A – Methodology
- Appendix Gii: B – Visual Assessment Table
- Appendix Giii: C – Initial Viewpoint Correspondence
- Appendix Giv: D – Figures
- Appendix Ii: A - Tree Survey Schedule
- Appendix Iii: B – Existing Layout and Tree Survey Plan
- Appendix Iiii: C – Tree Protection Plan (Phase 1)
- Appendix Iiv: D – Tree Protection Plan (Phase 2)
- Appendix Iv: E – Tree Protection Plan (Entire Site)
- Appendix Ivi: F – Tree Protection Plan (TPO Section)
- Appendix Ivii: G – TPO 112/A1 Plan
- Appendix Iviii: H – Protective Fencing Signage
- Appendix Iix: I – References
- Appendix Ki: Bus Timetables
- Appendix Kii: Annual Casualty Report
- Appendix Kiii: Transport Designations Plan
- Appendix Mi: External Lighting Plan

Volume 3: Supporting Reports

- Chapter O: Statement of Community Involvement (SCI)
- Chapter P: Application Plans
- Chapter Q: Design & Access Statement

CHAPTER A:

INTRODUCTION & METHOD STATEMENT

CHAPTER A: INTRODUCTION & METHOD STATEMENT

1.1 Introduction

NextPhase Development Ltd has been commissioned by J Purcell to co-ordinate an Environmental Impact Assessment (EIA) and prepare an Environmental Statement (ES) for a proposed redevelopment and expansion of canal moorings, ancillary buildings and associated landscape works to Furness Vale Marina, Station Road, Furness Vale which is located adjacent to the Peak Forest Canal.

1.2 The existing marina and proposed extended area occupies land in the district authority of High Peak Borough Council (HPBC). The planning authority is determined by means of screening opinion that an EIA is necessary.

1.3 Guidance from this statement has been taken from the Town & Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 2011.

1.4 The statement has also had regard to;

- Department for the Environmental Transport and the Regions (DETR) Circular O2/99 Environmental Impact Assessment;
- Environmental Impact Assessment: a Guide to Good Practise and Procedures (DCLG Consultation Paper, June 2006);
- Guidance on EIA Scoping (European Commission June 2001);
- The Essex Guide to Environmental Impact Assessment 2007 (First published 1992); and
- National and Local Planning Policies and other guidance relevant to the environmental topics being assessed.

1.5 The objectives of this report to identify the key environmental impacts that could arise during the construction and operation of the extended marina and detail any mitigation measures necessary to reduce these impacts. Each environmental topic will be assessed in a separate chapter with the methodologies used to identify the key receptors and potential impacts detailed, and suitable mitigation and enhancement measures discussed where appropriate.

1.6 Throughout the process of planning and designing the extended marina project, environmental information has been gathered and analysed in order to make any necessary amendments to the proposal and to mitigate any adverse environmental effects. The changes to the design from that which was originally proposed are described in Chapter B.

1.7 The Environmental Statement attempts to adhere to the advice in the Essex Guide that it should be presented in an understandable form for public scrutiny.

1.8 The people preparing the designs and producing this Environmental Statement for the extension of Furness Vale Marina project have worked together throughout the EIA process to identify issues, develop design solutions and provide mitigation, this includes the client. The team is as follows:

- J Purcell – Applicant.
- Christopher Whitehouse – Planning Consultant, NextPhase Development Ltd
- Land & Water Services Ltd
- Lucy Key – Landscape Architect, Enzygo Ltd
- Heather Macleod – Hydrologist, Hafren Water
- Sarah Allen – Ecologist, Peak Ecology
- Jason Humphreys – Arboriculturalist, Outline Trees

1.9 Team meetings have taken place where necessary at key points in the design and assessment process together with regular liaison between consultants and the client throughout.

1.10 The existing marina and the clients understanding of it has been central to the evolution of the design, ensuring that at all times the consideration of impacts and potential impacts have been discussed with all the appropriate consultants and with the existing infrastructure in mind in light of the relevant environmental information.

1.11 Liaison between subgroups of consultants has enabled effective improvements to be achieved throughout.

1.12 The programme of work for the EIA was planned for a significant period of time following the receipt of scoping feedback from High Peak Borough Council on 30th January 2013.

1.13 General Overview of The Process

The EIA has been carried out in 5 stages, as follows:

- Phase 1: Screening;
- Phase 2: Scoping and consultation;
- Phase 3: Baseline data gathering;
- Phase 4: Assessment of impacts, consultation, design improvements and identification of mitigation;
- Phase 5: Preparation of Environmental Statement including Non Technical Summary.

1.14 Each of these phases are descried briefly in the following sections and in more detail in each of the topic chapters.

1.15 Phase 1 and 2: Screening & Scoping

On 11th October 2012 we requested a screening opinion for the proposed redevelopment and extension of Furness Vale Marina with a request for scoping opinion under the terms of the Town & Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 1999 (as amended). The council thus responded to advise us that whilst the proposal falls under the general size of a requirement for an EIA the proposal has the potential to impact upon the Huddersfield Narrow Canal Site of Special Scientific Interest (SSSI) and with the SSSI in mind together with the potential cumulative impact of the proposal an EIA was considered necessary. Scoping opinion was provided in the same response by HPBC within which the topics and issued that should be addressed within the EIA and Environmental Statement was agreed. This response was issued on 30th January 2013.

1.16 The scoping request was submitted to HPBC on 11th October 2012 and is required by Regulation 13, this request included the following information:

a) "Are plans sufficient to identify the land;
b) A brief description of the nature and purpose of the development and of its possible effects on the environment;
c) Such other information or representations as the person making the request may wish to provide or make."

1.17 Based on the guidance, the request used the information and criteria check list provided by the guidance to identify the potential for significant effects in the following areas.

- Biodiversity
- Impact on landscape and visual environment
- Impact on cultural heritage
- Impact on geology and ground conditions

- Impact on environmental health in the form of noise, air quality and lighting
- Transport
- Socio-Economic impacts

1.18 The response from HPBC of 30th January 2013 agreed with the scoping topics proposed for the Environmental Statement and also further requested information on water and arboriculture.

1.19 Phase 3: Biodiversity Baseline

The site lies within the designated Peak Forest Canal Furness Vale Wildlife Site. Furthermore to the north west of the site is the Goytside Local Nature Reserve and in accordance therefore with Paragraph 109 of the National Planning Policy Framework (NPPF) new development proposals would need to minimise any impact on biodiversity. The site is identified on Derbyshire Wildlife Register and therefore in line with Policy OC8 development proposals likely to have an adverse effect on a local nature reserve or the Wildlife Register will only be permitted where measures are in place to ensure appropriate mitigation measures are provided.

1.20 Water Baseline

The principle objectives of water study in this instance are to determine the baseline conditions in relation to the water environment at the proposed site and assess the impact of development on surrounding hydrology and hydro-geology during construction upon completion. The council identified that the study should assess the potential for impact upon water quality and that the following features will need protecting:

- Peak Forest Canal Furness Vale Wildlife Site
- Goystide Local Nature Reserve
- Huddersfield Narrow Canal Site of Special Scientific Interest

- Which marginal vegetation communities exist along the canal banks including wetland, grassland and woodland species and the canal acts as a wildlife corridor. The aquatic fauna is considered by Derbyshire Wildlife Trust to be poor and floating with sparse submerged aquatic vegetation.

1.21 Landscape Baseline

The site lies within the settled valley pastures landscape character area and the site is within the HPBC improvement corridor (Policy GD3) which are priority areas for conservation improvement. This includes physical improvements within these corridors as resources and opportunities permit that should enhance wildlife value, increase access for recreation and opportunities for the river corridors. Within reasonable proximity of the site there is one conservation area, New Mills conservation area which is located 1.3km north west of the site. There are many listed buildings in the study area the closest to the site of which are Peak Forest Canal Aqueduct Bridge on Peak Forest Canal near Station Road which is located on the eastern tip of the proposal site, Yeardsley Hall, a Grade II listed building which is located approximately 0.5km south west of the site and Peathill farmhouse and barn which is located approximately 0.6km east the site. There are a number of national PRoW's (Public Rights of Way) and local trails within the study area including the Pennine Cycle Way, The Midshires Way and Goyts Way. The application site sits within the National Character Area Profile 51 Dark Peak as identified by Natural England in 2012 but it also sits close to Character Area Profile 53 South West Peak and 54 Manchester Pennine Fringe.

1.22 Socio-Economic Baseline New Land

Part of the application site is currently an existing and fully operational canal side marina. The area of land designated to form phase one of the proposal is vacant and poor quality field land (albeit in the Green Belt) that sits immediately adjacent to the

north of the existing marina. The area of land relating to phase one of the proposal is a low quality uneconomic parcel of land.

1.23 Cultural Heritage Baseline

The canal is recorded on Derbyshire's Historic Environmental Record as the Peak Forest Canal - upper level. The canal and its tow path is a spur off the Cheshire Ring which played an important role in the Derbyshire industrial development during the 1800s. It is therefore considered that the impact on the proposal as a Non Designated Heritage Asset should be taken into account in line with paragraph 135 of the National Planning Policy Framework.

1.24 Transport Baseline

The proposal incorporates the use of the existing marina access and therefore it is not proposed to construct any further access points from the application area. However the proposal does incorporate new vehicular perimeter pathways between the existing marina, the phase two area and the phase one area. The Environmental Statement should concentrate on any potential growth of traffic movement associated with the proposed development together with construction traffic during the construction phase.

1.25 Noise Baseline

Guidance on noise and vibration has established for the proposed extension of the marina has identified that there would be no noise and vibration impacts of any significance. However some analysis of current and predicted noise has been undertaken to further enhance the environmental health analysis of the proposal.

1.26 Air Quality Baseline

The proposal is essentially an extension to an existing marina and whilst there are roads within 1km of the development site it is not expected that the road nor other sources are likely to be affected by air quality. No air quality management areas have been declared and no air quality monitoring is carried in the immediate vicinity of the extended marina.

1.27 Phase 4 – Assessment Process

Under each heading the potential for significant effects have been considered according to the following structure:

- Direct and indirect effects during construction;
- Direct and indirect effects during operation;
- Cumulative effects arising from the proposed extension to the marina project with other development within proximity.

1.28 A process of iteration has been undertaken by identifying adverse effects and where appropriate develop design amendments and measures to eliminate or mitigate effects identified. As part of the EIA process and in accordance with the EIA regulations, difficulties encountered during the assessment work and the limitations and assumptions used for assessments are identified and set out in the topic chapters.

1.29 Some preliminary consultation with statutory and key non statutory bodies have taken place during the scoping stage and throughout the baseline data gathering and assessment stages.

1.30 Consultation

Consultation is an integral part of the EIA process and has formed an important part of the Environmental Statement. Consultation has been undertaken with officers from

HPBC together with relevant officers and members of key stakeholder professional bodies including the Environment Agency, Natural England and Derbyshire County Council. The Canal & River Trust have also be consulted during the EIA process including the undertaking of an Expression of Interest Stage and Feasibility Submission stage as required.

CHAPTER B:
THE PROJECT, SITE AND SURROUNDINGS

CHAPTER B: THE PROJECT, SITE AND SURROUNDINGS

2.1 Nature and Purpose of Development

The project seeks to gain planning permission for a 2 phase development. The proposed scheme takes into consideration the northern online adjacent moorings bay of the established Furness Vale Marina and looks to realign and reconfigure the bay in order to bring it offline, creating 3 moorings in the process (at this present time the area contains 21 moorings this will be realigned to create 24).

2.2 The first phase of the application would look to create a new offline section of the marina on an adjacent field to the north of Phase 2 with a moorings capacity of 35 boats whilst providing a new ancillary facilities building and 32 car parking spaces to service a marina. The realignment of the existing northern gate of Phase 2 will form a new road connection through to Phase 1.

2.3 The aim is to create an extension to the marina that sits appropriately in its natural environment and is sustainable in its use of water and resources. It is designed to be a modern and aesthetically pleasing extension of a popular existing marina.

2.4 To achieve this, the intention is to create a marina that relates to the existing marina and the characteristics of the Peak Forest Canal and Furness Vale itself. The design principles of the redevelopment and extension are set out in the Design & Access Statement, and will look to create economic, social and environmental sustainability; a facility of exceptional quality which sits naturally in the landscape and provides a recreational and leisure amenity for both boating and the local community. The proposal will look to improve and enhance landscape and wildlife habitats, facilitate the reciprocal and holistic environment created with the local waterside, PRoW's and trail paths with extensive advertising notification of these facilities within the marina.

2.5 The predominant function of the extension of the marina will be to provide further leisure facilities enabling a significant number of boats to use the location as their "home base" and provide further access to the waterside for the local public in a pleasant and welcoming environment.

2.6 The proposed marina facilities building will provide 24 hour access to toilets, showers and laundry together with daytime access to a reception and managers office as will generally be expected from a modern marina service and which will replace the small marina office as the predominant management hub of the marina. The design of the facilities building has taken the local vernacular into consideration and is aesthetically suitable to its immediate area in accordance with Local Planning Design Guides. This is further considered in the Design & Access Statement in chapter Q.

2.7 The new car park will be screened by suitable vegetation and landscaping and the "hard" landscaping as a whole (roadways, car parks and footpaths) will be surfaced in a permeable bound gravel service material in continuation of the services found within the existing marina area.

2.8 Marina jetties will be surfaced in timber and lit with low level lighting bollards for health and safety reasons as per the existing marina.

2.9 Excluding the redevelopment to Phase 2 area the other existing moorings found within the established Furness Vale Marina to the south east and closer to the access road off Station Road will not change from their current form or function.

2.10 <u>Characteristics of the Proposed Site and its Surroundings</u>

The Phase 2 area of the project is currently a moorings bay that makes up part of the existing Furness Vale Marina. The bay is located directly adjacent to the western

boundary of the Peak Forest Canal on the opposing side to the tow path, at national grid reference SK0047684011.

2.11 The application area that forms Phase 1 is currently vacant field land located directly adjacent to the northern boundary of Phase 2 and again directly adjacent to the western boundary of the Peak Forest Canal at grid reference SK0040284133. It is separated from the existing marina by a single track road that connects to a farm on the opposite side of the canal and provides access to the A6 Buxton Road via a small canal bridge. From the application area this access road runs east under a railway bridge before connecting with the A6 Buxton Road following deviation past an industrial estate. It is proposed to realign the existing marina perimeter vehicular track and northern gate (at the north end of Phase 2) to connect with a track at the southern end of the Phase 1 area.

2.12 The site lies within the administrative area of HPBC and is located within the village of Furness Vale, the town of Chapel-en-le-Frith is located 8km away via the A6 Buxton Road. The site covers a total area of approximately 1 hectare and is irregular in shape.

2.13 The site consists predominantly of the existing marina to the south, the railway line and some residential properties to the western boundary and more field land running adjacent to the canal to the north of Phase 1. The Peak Forest Canal runs along the eastern boundary with a scattered mix of residential, agricultural and industrial properties found west of the tow path.

2.14 Access to the site will be located via the established access road off Station Road. Station Road intersects with the A6 Buxton Road 40m south west of the access point to the far side of the railway station level crossings. The access road into the site runs

to an existing car parking area before a vehicular track runs from this area right up to the northern gate (to the north of Phase 2) where it is proposed to connect with the Phase 1 area via a similar track.

2.15 The application site partly sits in an area currently designated as Green Belt land although the extent of the Green Belt designation within Furness Vale is currently under review as part of the Local Development Framework of HPBC which will supersede the Local Plan once adopted.

2.16 A swing bridge is located on the Peak Forest Canal adjacent to the proposed track connection point between Phases 1 and 2 and provides a connection to the aforementioned farm track from the A6 Buxton Road. It is considered that whilst this access road connection and the swing bridge will remain untouched the predominant access road to service both Phases 1 and 2 will remain as the existing access for Furness Vale Marina and the extended perimeter vehicular track.

2.17 Elevations on site are up to approximately 165 metres Above Ordnance Datum (mAOD). The canal lies at approximately 158 mAOD. Land rises to the west to a local high of 298 mAOD at Kilnknowe, 1.2km to the south west of the site. Elevations decline steeply to the River Goyt, 100m to the east, at its closest reach. A railway borders and parallels the site to the west and agricultural land and various properties are located to the east. Beyond these the River Goyt meanders north westwards towards New Mills and Marple. Land use remains predominantly agricultural for 7km in the area surrounding the canal.

2.18 No statutory sites of ecological interest exist within 2km of the proposed site. The application area lies within the Peak Forest Canal Furness Vale Local Wildlife Site, registered with the Derbyshire Wildlife Trust. Goyt Meadows Local Nature Reserve

(LNR) is located approximately 200m north west of the application area. It is locally important due to the unimproved and semi natural acid and neutral grassland, marsh/wet grassland, semi natural broad leaf woodland, scrub and hedgerows. The Huddersfield Narrow Canal Site of Special Scientific Interest (SSSI) is linked to the Peak Forest Canal via the Ashton Canal. The SSSI is located approximately 23km downstream from the site.

2.19 The site lies within the catchment of the River Goyt. The river flows predominantly north westwards and is joined by the River Etherow 8km north west of the site. The River Goyt joins the River Tame at Stockport to form the River Mersey. 3 small tributaries of the River Goyt occur within 1km of the site. The first flows eastwards through Furness Clough, under the Peak Forest Canal and joins the River Goyt approximately 300m north east of the marina. The second and third tributaries enter the River Goyt from its north and do not pass the Peak Forest Canal. The Peak Forest Canal commences at Bugsworth Basin 2.6km south east of Furness Vale. The Whaley Bridge Branch, which commences at Whaley Bridge Marina, joins the main Peak Forest Canal at the Whaley Bridge Junction. The canal flows generally north eastwards through Furness Vale to Marple Junction where it joins the Macclesfield Canal and the Peak Forest Lower Canal.

2.20 Furness Vale is a small village clustered around either side of the A6 Buxton Road and adjacent to Whaley Bridge, sitting to its north. The area is serviced by Whaley Bridge Parish Council and is in the main a residential conurbation with some clusters of industrial estates in and around the A6. A significantly sized industrial park is located immediately east of the existing marina and accessed via Calico Lane which intersects with Station Road approximately 150m north east of the marina access road. Furness Vale is serviced by a railway station and bus connections offering regular access to Buxton, Chapel-en-le-Frith and Stockport. With reference to retail and leisure

facilities, Furness Vale currently has 2 public houses, "Soldier Dick" and "The Crossings", a post office and village store, a take away facility in the form of a fish and chip shop and a restaurant facility in the form of a Cantonese restaurant.

2.21 The PRoW and trails of the area offer a popular leisure facility that runs adjacent to the marina. Aligning the eastern side of the canal is the Goyt Way and Midshires Way a long distance trail identified within HPBC's Planning Policy TR13. These trails are considered to be important resources for walkers and cyclists and provide an element of tourism to the area.

2.22 Facilities to be Provided

The proposed facilities for the redevelopment and extension of the existing marina consists of:

- The creation of 35 new moorings within a lay-by style of marina;
- The reconfiguration of existing moorings to add an additional 3 berths (24 in total);
- Facilities building with toilets and showers;
- 32 car parking spaces;
- Site security;
- Landscaping

2.23 Alternatives Considered

The identified current and ongoing need for inland waterways moorings in the UK and particularly in the area known the "Welsh Borders, Peak and Potteries" within which the marina sits (from the Montgomery and Llangollen Canals to the south west to the Four Counties Ring to the north east) which comprises of over 4,200 occupied berths with 800 new offline berths provided in post 2009 marina developments which best represents the considerable growth in use of the north west borders network

which is now only second in popularity in the UK to the central Shires network. Average occupancy levels currently stand at nearly 100% occupied at those marinas that are fully established (over 3 years in business) there is an ongoing need to provide further offline moorings to satisfy the existing and future demand within the area and also to improve the navigability of the canal and waterways network by encouraging online moorings to move offline. In terms of assessing the proposed extension of the marina in comparison to other potential sites, the assessment of potential sites were considered in a systematic way against the following criteria:

1. Appropriate navigational safety
2. Appropriate topography
3. Appropriate geology
4. Association with existing residential and work development
5. Existing building mass
6. Appropriate access
7. Connection to existing multi model transport
8. Connection to existing public utilities

2.24 It is considered that following assessment of alternatives no alternative sites can satisfy these criteria as thoroughly as the application site considering its existing marina use, infrastructure and facilities which sit directly adjacent to the centre of the village.

2.25 Layout and Design Matters

The processes of design, public consultation and EIA have been very closely interrelated throughout. As each process has evolved decisions have been taken which have impacted upon the design. The refined design has been produced with the findings of the baseline data of the relevant environmental areas in mind which have evolved the design into one which satisfies all environmental criteria and provides sufficient mitigation measures where appropriate.

2.26 The Construction Stage

The proposal is to be built within 2 phases. This has a number of functions:

1. To enable the moorings to be brought into being in a regulated way whilst keeping pace with existing and future demand;
2. To enable earth to be moved around the site in a pre-planned and orderly manner;
3. To allow landscaping in and around the site to become established in the most efficient manner;
4. To enable extended public access from an earlier stage as possible;
5. To reduce any potential impact on PRoW and trails during the construction process.

2.27 Site preparation works will commence immediately after the granted planning permission and will involve the construction of the Phase 1 area following on from which the existing moored boats within the Phase 2 area will be relocated into Phase 1. The Phase 2 area will then begin construction following on from which the boats will be relocated into Phase 2.

2.28 The pace of construction will be determined by a combination of factors, together with seasonal ecological constraints that will guide certain aspects of the construction programme.

CHAPTER C:
KEY ISSUES ARISING FROM THE SCOPING PROCESS

CHAPTER C: KEY ISSUES ARISING FROM THE SCOPING PROCESS

3.1 Scoping the Potential Environmental Impacts

A range of activities associated with the proposed extension and renovation of the marina may affect the environment. These include both the construction phase and operation of the marina.

3.2 This chapter identifies the potential environmental impacts during the lifetime of the project. It includes the issues raised by stakeholders during the consultation and presents the outcome as a matrices which identifies the main potential environmental risks associated with the extension and renovation of Furness Vale Marina.

3.3 In October 2012 NextPhase Development requested a Scoping and Screening Opinion from HPBC and was advised that an EIA would be required for the marina.

3.4 At the scoping stage NextPhase Development prepared an initial scoping check-list to identify the topic areas to be investigated in the EIA, together with the potential effects. These topics were as follows:

- Planning Policy
- Socio-Economic
- Cultural Heritage
- Ecology
- Geology and Ground Conditions
- Noise, Dust and Lighting
- Landscape and Visual Impact
- Transport

3.5 The list identifies the number of effects that potentially will be acknowledged. The scoping check-list prepared the path for individual topic areas ensuring that the applicant was able to identify a suitable team of consultants and specialists to undertake detailed EIA assessments.

3.6 The scoping opinion of HPBC considered the following predominant issues that needed investigating within the relevant environmental sectors and which form the basis of study within the Environmental Statement:

- Sustainable tourism (See Chapter D – Planning & Policy Framework, and Chapter H – Need & Socio-Economic)

In general terms the National Planning Policy Framework, paragraphs 28 and 73, support the developments of sustainable tourism. Within the Adopted Local Plan the Peak Forest Canal is recognised as a recreation and tourism resource of importance, has the potential for enhancement and lies within an improvement corridor. In principle the proposals were considered to provide an enhanced facility that will enable the promotion of the canal and its surrounding area for tourism purposes. It was considered that the proposal within the vicinity of the Peak Forest Canal would be supported provided that it did not impede the route of the canal or its tow path, and would not cause undue harm to the ecological and heritage value of the site and its surroundings. It was concluded that the site as a sensitive marina development could potentially contribute towards further tourism growth in the location.

- Green Belt considerations

The proposed site lies within the designated Green Belt, with respect to the additional moorings paragraph 90 of the National Planning Policy Framework states that engineering operations are not inappropriate forms of development providing that they preserved the openness of the Green Belt and do not conflict with the purposes of including land within the Green Belt. It was considered by HPBC that the development

proposals would not necessarily conflict with Green Belt Policy and therefore may be regarded as appropriate development. However further clarification on the proposed level of car parking and overall size of the proposed building need further clarification.

- Ecological Considerations (Chapter E):

The site lies within the designated Peak Forest Canal Furness Vale Wildlife Site and close to the Goytside Local Nature Reserve and in accordance with paragraph 109 of the National Planning Policy Framework states the new development proposals would need to minimise any impact on biodiversity and this needs to be identified within the proposal.

- Heritage Considerations (Chapter J):

The canal is recorded on the Derbyshire Historic Environmental Record at playing an important part in the industrial development of Derbyshire in the 1800s and therefore as a Non Designated Heritage Asset the site should be considered in line with guidance of Derbyshire County Council's Heritage Team and paragraph 135 of the National Planning Policy Framework .

- Arboriculture (Chapter I):

A tree survey is recommended to be undertaken to establish what impact if any the proposals would have on protected trees. As there is Tree Preservation Order immediately south of the site (DCCTOP112).

- Landscape Considerations (Chapter G):

The development needs to accord with the characteristics of the landscape identified within the Settled Valley Pastures Landscape Character Area as defined in the Adopted Landscape Character Supplementary Planning Document 2006. As the proposals involve the incorporation of a new car park and building it was recommended to review the document to inform the type of building materials and ensure that the proposals would not have a detrimental impact on landscape and visual impact of the area.

- Water Quality (Chapter F):

HPBC considered the impact on the water quality of the area and the hydrology and the hydro-geology of both the immediate area and the SSSI within reasonable proximity of the site and how they will be affected.

3.7 The Conservation & Design Team of the environmental services sector of Derbyshire County Council were also contacted in relation to the proposal and requested a number of potential view points were analysed as part of the Landscape and Visual Impact report that forms part of the Environmental Statement. The conservation team requested that numerous footpaths to the east and the west of the site were, as sensitive receptors, analysed for the vista impact on the proposal and this was acknowledged and incorporated within the Landscape and Visual Impact Assessment (LVIA).

3.8 The Canal & River Trust (CRT) were consulted during the proposal in the form of the initial Expression of Interest submission that resulted in an approval appraisal on the 2nd September 2013. The CRT confirmed that the water resources for the proposal were acceptable and provided a scoping matrices for the areas of guidance in assessment of the EIA.

CHAPTER D:
PLANNING AND POLICY FRAMEWORK

CHAPTER D

CONTENTS

Item	Description
1.0	Planning Policy Assessment
2.0	Consultation
3.0	Identification and Analysis of Policy Issues

1.0 PLANNING POLICY ASSESSMENT

1.1 Planning History

The proposed scheme is split into 2 definitive phases. Phase 1 of the proposal which sits to the north of the existing marina area has no planning history relating to the site in question that has relevance to the application. The most recent relevant planning history for the Phase 2 area consists of an application that was approved on 13th February 1991 for additional moorings within Furness Vale Marina. It is understood that these additional moorings were located within the area currently known as Phase 2 within this application (Planning Reference HPK/0003/0090).

1.2 Local Planning Policy

High Peak Saved Local Plan Policies from the High Peak Local Plan (March 2005)

Within the Local Plan Saved Policy Document the location for the application is classed up as within a built up area boundary, as detailed in Policy 1: GD2 – Built up Area Boundaries, the site is located within Furness Vale which sits in the "central area" of the built up area boundaries of the district.

1.3 Policy 2: GD3 – Improvement Corridors, states in part:

"The improvement corridors will cover the following areas defined on the proposals map and high priority will be given to the environmental enhancement within them;...Peak Forest Canal; planning permission will be granted for development within the improvement corridors, provided that:

Its layout, scale, design, external appearance, boundary treatment and landscaping will enhance the appearance of the area; and

There will be no undue detrimental affect on existing important landscape, townscape, historic, wildlife or water features".

1.4 Policy 3: GD4 – Character Form and Design, states that planning permission will be granted for development providing that "its scale, siting, layout, density, form, height, proportions, design, colour and materials of construction, elevations and fenestration and any associated engineering, landscaping or other works will be sympathetic to the character of the area, and there will be no undue detrimental affect on the visual qualities of the locality or the wider landscape".

1.5 Policy 4: GD5 – Amenity, states that planning permission will be granted for development providing that:

"It would not create unacceptable loss of, nor suffer from unacceptable levels of, privacy or general amenity, particularly as a result of:

- Overlooking;
- Loss of daylight and sunlight;
- Overbearing affects of development;
- Air, water, noise; light and other pollution;
- Risk from hazardous substances and processes;
- Traffic safety and generation.

Where appropriate, conditions will be imposed and / or planning obligations sought to ensure amelioration measures are taken to adequately address the impact on amenity".

1.6 Policy 5: GD6 – Landscaping, states that planning permission will be granted for development provided that:

"Where appropriate, it will contain a high standard of hard and / or soft landscape treatment in keeping with the character of the area, including the integration of existing features and the use of native species suitable to that location. Conditions will be imposed and / or planning obligations sought, to ensure that appropriate steps are taken to maintain and manage landscaping features".

1.7 Policy 6: GD7 – Crime Prevention, states that planning permission will be granted for development providing that:

"Its design layout and landscaping will help create a safe and secure environment and minimise the opportunities for crime to be committed".

1.8 It is considered that the proposal will have a significant enhanced impact on the Peak Forest Canal and therefore on its improvement corridor as the proposals layout, boundary treatment and landscaping will enhance the appearance of the area and will have undue detrimental impact on important environmental features as demonstrated within this Environment Statement. The proposed development in its form, scale, layout and design are considered sympathetic to the character of the area and will have no undue detrimental impact on landscape and visual impact to nearby receptors as demonstrated within this Environmental Statement. It is considered that the proposals adhere to the amenity requirements of Policy 4: GD5, as the proposals offer no unacceptable levels of environmental health impact on nearby receptors as demonstrated further in this statement. It was also considered that the proposal has taken on board a high standard of hard and soft landscaping treatment in keeping with the area and integrated the existing features to provide a development with a naturalistic feel to its surrounding area.

1.9 Policy 10:OC2 – Green Belt Development, States that:

"In the area of Green Belt defined on the proposals map approval will not be given, except in very special circumstances, for the construction of new buildings for purposes other than:

- Agriculture and forestry;
- Essential facilities for outdoor sports and recreation and cemeteries,
- Limited extension, alteration or replacement of existing dwellings;
- Limited infilling or redevelopment at existing major developed sites.

Other developments, including material changes in the use of land and buildings will only be permitted where it maintains the openness of the Green Belt and does not compromise Green Belt purposes. Development within or conspicuous from Green Belt should not injure the visual amenities of the Green Belt".

1.10 It is considered that the proposal, as will be detailed further in the chapter, and with consideration to National Planning Policy Framework policies, the application demonstrates that the development proposals would not necessarily conflict with Green Belt policy and therefore would be regarded as appropriate development. These will be detailed further on in this chapter.

1.11 Policy 12: OC4 – Landscape Character and Design, states that:

"Planning permission will be granted for development considered appropriate in the countryside providing that its design is appropriate to the character of the landscape. Appropriate design of development shall accord with the characteristics of the type of landscape within which it is located including having regard to and conserving:

- The land form and natural patterns of drainage;
- The pattern and composition of trees and woodland;
- The type and distribution of wildlife habitats;
- The pattern and composition of field boundaries;
- The pattern and distribution of settlements and roads;
- The presence and pattern of historic landscape features;
- The scale, layout, design and detailing of vernacular buildings and other traditional man made features.

Existing features which are important to the local landscape character, shall be retained, incorporated into the development and protected during construction work. Where appropriate the Local Planning Authority will impose planning conditions

and or seek to enter a planning obligation under Section 106 of the Town & Country Planning Act 1990".

1.12 Landscape considerations will be detailed further on in the chapter following discussion of the Supplementary Planning Document (SPD) that is relevant to its consideration. It is considered that the proposals, including new hard standing and built development on the site have taken on board the landscape requirements of the area and supplemented and enhanced the aesthetic of the site, strengthening its relationship with the landscape and design character of the immediate area.

1.13 Policy 15: OC8 – Sites of Importance for Nature Conservation, states that:

"Developments which individually or cumulatively with other developments may affect a proposed or designated site of European importance will be subject to rigorous examination and will only be permitted where:

- There are no imperative reasons of overriding public interest for the development such as human health or public safety, or for beneficial consequences of primary importance for nature conservation;
- There is no alternative solution; and
- Development in or likely to affect Sites of Special Scientific Interest will be subject to special scrutiny and will only be permitted where:
- Measures are put into place to ensure the protection and enhancement of the sites nature conservation interest;
- The reasons for development clearly outweigh the nature conservation value of the site itself; and

• Development likely to have an adverse affect on local nature reserves, a Derbyshire wildlife registered site or a regionally important geological site will only be permitted where:

- Measures are in place to ensure appropriate mitigation and compensatory measures including the management of such provision:
- It can clearly be demonstrated that there are reasons for the proposal that outweigh the need to safeguard the substantive nature conservation value of the site".

1.14 It is understood that the site lies within the designated Peak Forest Canal Furness Vale Wildlife site. Furthermore to the north west of the site is a Goytside local nature reserve. In accordance with National Planning Policy Framework paragraphs that we will come onto further in the statement, a significant level of biodiversity assessment has been undertaken addressing the potential impacts on local nature reserves and where appropriate identifying measures to ensure significant and more than appropriate mitigation measures to address any potential impacts. The detail of these studies can be found further on in the Environmental Statement.

1.15 Policy 16: OC10 – Trees and Woodlands, states that planning permission will be granted for development provided that:

"It will not result in the loss of, or materially injure the health of, a woodland (in whole or in part) or other significant individual, group or area of trees, unless required in the interest of safety, good tree management or a wider scheme of conservation and enhancement; or

Exceptionally, where loss or injury is accepted, adequate replacement planting, in terms of numbers, species, planting density and location, will be provided as part of the development.

Conditions will be imposed, and or planning obligation sought to ensure adequate protection and management of individual, groups and areas of trees and woodland which are important for landscape, amenity, recreation or nature conservation reasons".

1.16 A full Aboricultural Survey has been undertaken as part of the application to detail both the significance, health and incorporation of existing and new tree planting within the proposed scheme and this forms a forthcoming chapter in the Environmental Statement. It is considered that the proposals, inclusive of mitigation measures, will have a negligible impact upon local receptors. It is therefore considered that the proposal adheres to Policy OC10.

1.17 Policy 17: BC1 – External Materials, states that planning permission will be granted for the development providing that:

"The type, colour, and specification of all external materials and the way they are applied will be sympathetic to the character and appearance of the immediate surroundings and the wider area.

In particular natural facing materials will be required in locations conspicuous from public viewpoints within:

- Areas conspicuous from the Peak District National Park and in conservation areas and their settings;
- Other areas where natural materials predominate".

1.18 It is considered that the proposed external facing materials of the incorporated ancillary facilities building for the proposal is sympathetic to the character and appearance of the immediate surrounding and has taken into consideration the advice in the Supplementary Planning Document in providing detail for the natural facing material required on site that are conspicuous with its immediate surroundings. It is considered therefore that the proposal adheres to and accords with Policy 17: BC1.

1.19 Policy 66: LT7 - Intensive Outdoor Recreation, states that planning permission will be granted for outdoor commercial recreation facilities or extensions to existing facilities providing that:

- "The development, including its fencing, lighting, buildings, access and parking areas will not unduly harm the character of the area or residential amenity; and
- The development site will be accessible by public and private transport, cyclists and pedestrians; and
- The visual impact of light columns, fences and pylons will not have a detrimental affect on the character of the area or residential amenity.

Where appropriate planning conditions will be imposed relating to hours of operation, height of columns, level of illumination including the output and intensity of lighting proposed and the horizontal and vertical setting".

1.20 It is considered that the proposal is essentially an extension to an existing facility, Furness Vale Marina, and therefore the development should be granted planning permission on the basis that the extended development has demonstrated within the Environmental Statement that its boundary treatment, and extension specification do not unduly harm the character of the area or residential amenity in nearby proximity; The site is accessible by public and private transport and by other sustainable means as it is in the central area of Furness Vale and opposite the train station. It is also considered that the visual impact of extended lighting, boundary fencing and further built development on site do not have a detrimental impact on the character of the area or residential amenity as further detailed in the Environmental Statement. It is therefore considered that the proposal adheres and accords to Policy 66: LT7 of the Local Plan.

1.21 Policy 69: LT11 - Canals and Canal Basins, states that planning permission will be granted for development "within the vicinity of Peak Forest Canal, New Mills Wharf, Hog's Yard, Whaley Bridge Basin and Bugsworth Basin proving that the development:

- Will not permanently impede or otherwise harm the route or navigability of the canal or its tow path; and
- Will not adversely affect the existing or potential tourism or recreational opportunities of the canal or its tow path; and
- Will not cause undue harm to the ecological and heritage value of the site and its surroundings".

1.22 The proposed extension to Furness Vale Marina along the Peak Forest Canal does not harm the route or navigability of the canal or its tow path and will enhance the potential tourism and recreational opportunities of the canal and its tow path as outlined within the Socio-Economic Statement as accompanies this part of the application; the forthcoming chapters in the Environmental Statement identify the fact that the proposal would not cause harm of an ecological or heritage nature to the site and its surroundings and therefore it is considered that the proposals adhere to Policy 69: LT11.

1.23 Policy 82: TR5 – Access, Parking and Design, states that planning permission will be granted for the development, providing that:

"It will make safe and appropriate provision for the access and egress by pedestrians, cyclists, public transport users and the private car.

It includes a high standard of design and layout having regard to the parking, access, manoeuvring, servicing and highways guidelines set out in Appendix 1 (Parking Standards) and relevant Government guidance and good practise where appropriate.

Where the development is expected to generate a high level of car use than can accommodated by the maximum parking standards or would significantly exasperate

existing traffic problems the applicant should submit a travel plan to reduce car dependency. Where appropriate, conditions will be imposed and or planning obligations sought to ensure that adequate parking, manoeuvring and service space will be available at all times".

1.24 The proposal incorporates a highways statement that forms a subsequent chapter of this Environmental Statement it is considered that the additional car parking spaces which are detailed and delineated within the chapter and within the accompanying plans are more than suitable and adhere to the parking standards expected of such a development and in collaboration with the incorporation of cycling facilities, existing pedestrian footpaths and direct access to Furness Vale railway station, it is considered that the proposals adhere in a beneficial nature to Policy 82: TR5.

1.25 Policy 85: TR11- Footpaths, Bridleways and Byways, states that planning permission will be granted for development which will affect a footpath, bridleway or byway providing that:

"The horizontal and vertical alignment of a right of way will remain substantially unchanged or will be enhanced; or

Where the existing route cannot reasonably be incorporated, the development will make provision for a diverted route which will not materially lessen its convenience or attractiveness to users; and

The width, surface treatments and levels of the diverted route will be adequate for its users; and

Adequate landscape treatment will be provided and existing important landscape and wildlife features will be retained and, where possible, enhanced;

Public safety and security will not be prejudiced.

Where a public route cannot reasonably be incorporated into the development and its diversion is not practicable or desirable, planning permission will not be granted, unless convenient and attractive alternative routes outside the site exist".

1.26 Policy 86: TR13 – Long Distance and Local Trails.

"The following trails and paths indicated on the proposal map where will be developed, maintained and where appropriate improved as strategic routes;...Existing Trails:

- Goyt Way
- Midshires Way"

1.27 Policy 87: TR14 – The Protection and Construction of Trails, states that planning permission will be granted for development upon or in close proximity to the routes of the trails identified on the proposals map, providing that:

"The development will not prejudice construction or upgrading of the trail; and

The development will not unduly obstruct or prejudice the enjoyment of the trail due to its use, siting, scale, design, external appearance, boundary treatment or environmental affects;

and, where the development creates the need for cycle and pedestrian facilities:

The section of the trail within the control of the developer will be constructed to integrate with the development in a manner which is safe and convenient for public use;

Conditions will be imposed and or planning obligations sought to ensure adequate construction, dedication, maintenance and diversion of the trail as appropriate".

1.28 The proposal incorporates the public right of way, Whaley 1, which dissects the centre of the proposals between phases 1 and 2 and crosses over the canal bridge. It is considered that the proposals as detailed within this application do not significantly

affect this right of way and therefore a realignment or diversion of the route is not necessary. It is understood that the eastern side of the canal is the Goyt way and Midshires Way a long distance trail which is identified in Policy TR13 and which are known to be an important resource for walkers and cyclists providing a recreational resource for local residents and visitors to the area. It is considered that the proposals provide an opportunity to promote the designated trail and incorporate further recreational resources to it which will be considered attractive to walkers, cyclists, local residents and visitors. It is considered therefore that the proposal more than adheres to Policy 85: TR11.

1.29 Local Planning Policy, Supplementary Planning Document (SPD)

High Peak Borough Council Local Development Framework – Landscape Character, Supplementary Planning Document (adopted March 2006)

The SPD indicates that the proposal sits within the Settled Valley Pastures Landscape Character Area of which the key and landscape characteristic which need to be considered within any proposal consist of:

"Moderate to steep lower valley slopes dissected by stream valleys;

Poorly draining soils over carboniferous shale and sandstone;

Wooded character associated with tree belts along streams and cloughs, scattered hedgerows trees and tree groups around settlements of farmsteads;

Localised bracken in some road verges and rushes associated with damp hollows;

Small, irregular fields enclosed by mixed species hedgerows and occasional dry stone walls;

Settled landscape of small nucleated settlements and scattered stone farmsteads with stone slate roofs;

Stone terraces on lower slopes associated with historic mills;

Network of winding lanes with irregular verges, sometimes sunken on steeper slopes;

Pastoral farming with extensive improved pasture;

Enclosed landscape with views filtered by trees;

Roofs are generally dark slate or stone tiles".

1.30 Policy OC4 of the Local Plan requires that new development must contribute to and not erode the landscape character and sense of place and therefore the development principles for the application within this particular landscape character area should consider the landscape characteristics as outlined above. The proposal has taken into consideration the landscape characteristics within the landscape and visual impact assessment that forms a chapter within the Environmental Statement and the planting and biodiversity guidance has been taken on board and considered within the biodiversity chapter of the Environmental Statement also. The proposed facing materials and design of the ancillary facilities building has taken into consideration the building form and detail identified within the SPD and incorporated it where appropriate into the proposal. It is therefore considered that the landscape SPD has been taken fully into consideration within the design and interpretation of the proposals.

1.31 National Planning Policy

Department for Communities and Local Government – National Planning Policy Framework (NPPF) (March 2012):

Sets out the Governments requirements for the planning system and is a material consideration in planning decisions. The main objective of the NPPF is to push the planning system to contribute to the achievements of "sustainable development" through the performance in three mutually dependent roles; an economic role, a social role and an environmental role. In Paragraphs 9 and 10 of the NPPF it states:

"Pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in peoples quality of life, including (but not limited to):

Making it easier for jobs to be created in cities, towns and villages;

Moving from a net loss of biodiversity to achieving net gains for nature;

Replacing poor design with better design;

Improving the conditions in which people live, work, travel and take leisure;

Widening the choice of high quality homes;

Plans and decisions need to take local circumstances into account, so that they respond to the different opportunities for achieving sustainable development in different areas".

1.32 Paragraph 28 of the NPPF, "Supporting a Prosperous Rural Economy", states that policies should support rural economic growth to open up new job opportunities and accelerate prosperity by positively encouraging "sustainable development". Plans should:

"Support the sustainable growth and expansion of all types of business and enterprise in rural areas both through conversion of existing buildings and well designed new buildings;

Promote the development and diversification of agricultural and other land based rural businesses;

Support sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors and which respect the character of the countryside. This should include supporting the provision and expansion of tourist and visitor facilities in appropriate locations where identified needs are not met by existing facilities in rural service centres; and

Promote the retention and development of local services and community facilities in villages, such as local shops, meeting places, sports venues, cultural buildings, public houses and place of worship".

1.33 Paragraph 73 of the NPPF, states that "access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well being of communities. Planning policy should be based on robust and up to date assessment of the needs for open space, sports and recreation facilities, and opportunities for new provision. The assessment should identify specific needs and quantitative or qualitative deficits or surpluses of open space, sports and recreational facilities in the local area. Information gained from the assessment should be used to determine what open space, sports and recreation provision is required".

1.34 Chapter 9 of the NPPF considers Green Belt land. Paragraph 80 states that the Green Belt serves 5 purposes:

"To check the unrestricted sprawl of large built up areas;

To prevent neighbouring towns merging into one another;

To assist in safeguarding the countryside from encroachment;

To preserve the setting and special character of historic towns;

To assist in urban regeneration, by encouraging the recycling of derelict and other urban land".

1.35 Paragraph 81 states that once Green Belt has been defined Local Authorities should "plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land"

1.36 Paragraph 89 of the NPPF, states that Local Authorities should regard the construction of new buildings as inappropriate in the Green Belt except for situations in which the buildings are a "provision of appropriate facilities for outdoor sport,

outdoor recreation and for cemeteries, as long as it preserves the openness of the Green Belt and does not conflict with the purposes of including land within it".

1.37 Paragraph 90 of the NPPF, states that other certain forms of development are not inappropriate in the Green Belt as long as they maintain the openness of the Green Belt and do not conflict with the purposes of including land within it. These certain form of developments include:

"Mineral extraction;

Engineering operations;

Local transport infrastructure which can demonstrate a requirement for Green Belt location;

The re-use of buildings providing that the buildings are of a permanent and substantial construction; and

Development brought forward under a community right to build order".

1.38 With reference to Chapter 12 – Conserving and Enhancing the Historic Environment of the NPPF, paragraph 135 states that "the effect of an application on the significance of a Non-designated Heritage Asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly Non-designated Heritage Assets, a balanced judgement will be required having regards of the scale of any harm or loss and the significance of the Heritage Asset". It is considered that the indirect impact on the Non-designated Heritage Assets of the area have been significantly assessed and considered within the Heritage Statement that forms a chapter of this Environmental Statement and it is considered that the proposal will have a negligible impact on Heritage Assets and therefore accord with paragraph 135.

1.39 The proposed development has comprehensively identified Local, Regional and National Planning Policy and important constraints to development at the site

including in particular the land being within the Green Belt and the Settled Valley Pastures Landscape Character Area. The specific issues identified when examining the development against planning policies will be assessed further within this chapter and within other forthcoming chapters of the Environmental Statement.

2.0 CONSULTATION

2.1 As part of the planning application process a significant amount of consultation has been undertaken with relevant stakeholders in respect to the application process itself and the relevant environmental designations in and around the site. The consultations undertaken form appendices within each of the relevant environmental chapters in the forthcoming Environmental Statement and also in the predominant appendices for the Environmental Statement as a whole.

2.2 A pre-application to High Peak Borough Council requesting a formal screening opinion on whether the proposal required an Environmental Impact Assessment in October 2012. The reply from High Peak Borough Council was received on 30th January 2013 and identified the planning policies that would need to be considered in detail within an Environmental Statement (which was considered necessary) and importantly identified that the proposals appeared to the Council to provide an enhanced facility which would enable the promotion of the canal and it surrounding for tourism purposes. The Council considered that the proposal could potentially contribute towards further tourism growth in the locality and that the proposals would not necessarily conflict with Green Belt policy and could be regarded as appropriate development on the basis that further detail was provided on the environmental elements agreed as part of the Environmental Statement. The Council identified that the proposals could provide an opportunity for the new development to promote the use of the designated trails in and around the site and that the proposal would need to take into consideration and assess the impact of the proposal on the Huddersfield Narrow Canal Site of Special Scientific Interest.

2.3 It is considered that the response from High Peak Borough Council was extremely positive towards the application on the basis that the relevant environmental studies were undertaken and could suitably support the proposal and the points outlined by

the Case Officer in the pre-application feedback have been expanded on in this Environmental Statement to demonstrate the suitability of the proposal for the locality.

2.4 A request was also made to the Canal & River Trust (CRT) for pre-application feedback in the form of an Expression of Interest for the proposal. The response was received from CRT on 3rd September 2013 and considered that the proposal in principle would be acceptable to the CRT on the basis that the feasibility submission (which has been submitted to the CRT in the intervening period on the basis that they add their response to it will form part of their consultation response to High Peak Borough Council in a consideration of this application) will further detail information in relation to environmental considerations in a similar fashion to those identified within the Environmental Statement. The CRT accept within the Expression of Interest that there are significant and suitable water resources on the Peak Forest Canal to support the application and on the basis that a number of navigational safety specifications are adhered to, together with the relevant planning and environmental considerations of this Environmental Statement then the proposal is suitable for its locality.

2.5 It is considered that, along with the consultation undertaken within the specific environmental areas for the proposal as outlined in each individual chapter that a significant amount of quality consultation has been undertaken as part of the application and that the consultation provided has gone far to demonstrate that the proposals are in accordance with local planning and environmental policies and are suitable for its location.

3.0 IDENTIFICATION AND ANALYSIS OF PLANNING POLICY ISSUES

3.1 Green Belt

The site lies within a designated Green Belt area and therefore it is subject to the Green Belt policies outlined above. It is considered that the creation of the additional moorings, with reference to paragraph 90 of the NPPF are not inappropriate forms of development as outlined within this application they preserve the openness of the Green Belt and do not conflict with the purposes of including land within the Green Belt. It is considered that the other additional facilities proposed in this application with particular emphasis placed upon the ancillary facilities building that accompanies the northern extension of the site should be considered in line with paragraph 89 of the NPPF in stating that new buildings in the Green Belt are an appropriate acceptance in specific cases including the provision of facilities for outdoor recreation as long as they preserve the openness of the Green Belt and do not conflict within the proposes of including land within it.

3.2 It is considered that the facilities building proposed is an ancillary and necessary provision for the facilities of the outdoor recreation provided on site and the aesthetic and scale of which have been significantly considered with reference to local design considerations of SPDs and on that basis the facilities building is considered to preserve the openness of the Green Belt and not conflict with the purposes of including land within it.

3.3 The Green Belt serves 5 purposes as outlined in paragraph 80 of the NPPF and it is considered that the proposals on site do not conflict with any of these purposes. Furthermore paragraph 81 of the NPPF states that local plans should be positively plan led in order to enhance the beneficial use of Green Belt such as providing access, outdoor sports and recreation, and the enhancement of landscapes. It is considered that the proposal provides considerable and beneficial access to outdoor sports and

recreation, provides significant increase of sustainable tourism for the area and offers the opportunity to both enhance landscapes, visual amenity and improve biodiversity in and around the site. It is therefore considered that the proposed development does not conflict with Green Belt policy, accords with it where relevant and therefore is regarded as appropriate development.

3.4 As each of the individual environmental chapters have taken into consideration the relevant planning policy considerations that could potentially have an impact upon their individual elements of the design of the scheme it is considered following the outcomes of these chapters that the environmental impact of the proposal is negligible and therefore when weighed against a proposal that for the most part is appropriate development in the Green Belt in collaboration with the significant material benefit of the enhanced tourism aspects of the proposal, including socio-economic spend in the area and the proposed enhancement of information relating to the designated heritage trails in the area it is considered that the proposal significantly outweighs any potential impacts on its locality and therefore forms sustainable development that is in accordance with Green Belt planning policy.

3.5 Having taken into consideration the other environmental impacts of the proposal as outlined within the cumulative receptor chapter within the Environmental Statement it is considered that the planning application should be supported and planning permission should be granted.

CHAPTER E:
ECOLOGICAL IMPACT ASSESSMENT

Issue record

Issue	Date	Prepared by	Checked by	Approved by
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Table of contents

1 INTRODUCTION 1

1.1 Project Overview 1
1.2 Project description 1
1.3 Ecological studies 1
1.4 Ecological Impact Assessment 2
1.5 Authorship 2

2 GUIDANCE AND CONSULTATION 2

2.1 Planning policies 2
2.2 Other legislation, standards and guidance 3
2.3 Consultation 4
2.4 Evaluation and Impact Assessment methods 5
2.5 Cumulative Impact Assessment 10

3 THE ECOLOGICAL BASELINE 10

3.1 Designated Sites 10
3.2 Habitats 12
3.3 Evaluation of habitats with biodiversity value 13
3.4 Species of Principal Importance 13
3.5 Identification of Valued Ecological Habitat Resources 16

4 IMPACTS AND MITIGATION 19

4.1 Introduction 19
4.2 Potential construction effects on Valued Ecological Resources 20
4.3 Potential operational effects on Valued Ecological Resources 23
4.4 Other Ecological Receptors requiring mitigation during construction 28
4.5 Cumulative Impact Assessment 31
4.6 Summary statement of impacts 31

5 REFERENCES 32

TABLES

Table 1: Review of ecological scope of work and methods. 4
Table 2: Evaluation of ecological value 6
Table 3: Designated Sites within Desk Study Area 10
Table 4: Refined List of Habitats with Spatial Data....12
Table 5: Identification of Valued Ecological Habitat Resources....17
Table 6: Peak Forest Canal LWS – mitigation measures 21
Table 7: Otter – mitigation measures....22
Table 8: Bats – mitigation measures 22
Table 9: Predicted additional boat movements per year through the SSSI 24
Table 10: Increase in boat movements per year....24
Table 11: Huddersfield Narrow Canal SSSI – mitigation measures....25
Table 12: Peak Forest Canal LWS – mitigation measures 26
Table 13: Otter – mitigation measures....27
Table 14: Bats – mitigation measures 27
Table 15: Construction and operation impact matrix 29

APPENDICES SUBMITTED AS A SEPARATE DOCUMENT.

1 INTRODUCTION

1.1 Project Overview

Next Phase Development (NPD), working on behalf of J Purcell, are proposing to redevelop the existing Furness Vale Marina to create additional mooring spaces, improved car parking and ancillary facilities.

NPD submitted a Pre-Application report in relation to this scheme to High Peak Borough Council in October 2012. In High Peak Borough Council's response, dated 30/01/2013, they indicated that an Environmental Impact Assessment (EIA) would be required. In particular they referred to the potential for the marina expansion to impact upon the Huddersfield Narrow Canal Site of Special Scientific Interest (SSSI).

Peak Ecology Limited were appointed by NPD in July 2013, to act as ecological advisors for the proposed scheme.

1.2 Project description

The project will comprise two phases, as detailed below.

Phase 1

- Creation of a new offline section to the marina on land to the north of the existing marina to provide an additional capacity for 35 boats;
- An ancillary facilities building, providing 24hour access to showers, toilets and laundry facilities, as well as daytime access to a reception and site manager's office;
- New car parking to provide, in total, 32 car parking spaces.

Phase 2

- Realignment and reconfiguration of the northern online-adjacent moorings bay at the existing Furness Vale Marina to create 24 berths in total (an increase of 3);
- Realignment of the existing northern gate of this area to provide a link with the new moorings (Phase 1). The moorings currently within the Phase 2 location will be moved to Phase 1 after its construction, to allow for Phase 2 works.

1.3 Ecological studies

Peak Ecology carried out an Extended Phase 1 Habitat Survey at the site in July 2013, including a scoping exercise to determine the requirements for additional ecological survey work. The following surveys and reports have now been completed;

- Peak Ecology (2013a) *Proposed Expansion to Furness Vale Marina in the High Peak, Derbyshire – Extended Phase 1 Habitat Survey*;

- Peak Ecology (2013b) *Proposed Expansion to Furness Vale Marina in the High Peak, Derbyshire – Riparian Mammal Survey;*

- Peak Ecology (2013c) *Proposed Expansion to Furness Vale Marina in the High Peak, Derbyshire – Bat Activity Survey;*

- Peak Ecology (2013d) *Proposed Expansion to Furness Vale Marina in the High Peak, Derbyshire – Terrestrial Invertebrate Survey.*

Copies of each individual survey report are provided in **Appendix 1**.

1.4 Ecological Impact Assessment

Ecological Impact Assessment (EcIA) is the ecological component of the full EIA process. It considers impacts upon designated nature conservation sites; habitats; assemblages of species (e.g. breeding birds, bats or riparian mammals); individual species (e.g. great crested newts *Triturus cristatus* and badgers *Meles meles*); or combination features such as hedgerows that support breeding birds, trees that support roosting bats or ponds that support breeding great crested newts.

The EcIA described herein follows the Institute of Ecology and Environmental Management's (IEEM) (now the Chartered Institute of Ecology and Environmental Management CIEEM) '*Guidelines for Ecological Impact Assessment in the United Kingdom*' (IEEM, 2006). These 'guidelines' allow for the use of professional judgment in their interpretation and application, as opposed to being a set of strict rules. This will be expanded on in the following sections.

1.5 Authorship

This report has been prepared by Sarah Allen BSc (Hons) MSc MCIEEM, Senior Ecologist at Peak Ecology and overseen by Dr. Mark Webb BSc (Hons) PhD CEnv MCIEEM and Jonathan Brickland BSc (Hons), MSc, CEnv, MIEEM, both Directors at Peak Ecology. All are full members of CIEEM and Mark and Jonathan have Chartered Status with the Society for the Environment. Sarah has over seven years' experience of ecological consultancy, specialising in Extended Phase 1 Habitat Surveys and Bat Surveys. Mark has 20 years of experience in ecological consultancy and has provided training on the subject of EcIA for CIEEM. Jonathan has 7 years' experience in ecological consultancy and 16 years in aquatic ecology within the public sector, including British Waterways and the Environment Agency.

2 GUIDANCE AND CONSULTATION

2.1 Planning policies

A review of the planning policies relevant to this development was undertaken and is described below.

- The National Planning Policy Framework (2012) – sets out the Government's planning policies for England and gives guidance as to how these should be adopted by local councils;

- The High Peak Local Plan – High Peak Borough Council are currently reviewing their local planning policies and working towards a new Local Development Framework. However, at this current time, High Peak Borough Council are working within an Adopted Local Plan (March 2005).

Both the NPPF and the Adopted Local Plan include details on designated sites and protected species. Policy 15 from the Adopted Local Plan states that

"Development which individually or cumulatively with other development may affect a proposed or designated Site of European Importance will be subject to rigorous examination and will only be permitted where:

- there are no imperative reasons of over-riding public interest for the development such as human health or public safety or for beneficial consequences of primary importance for nature conservation.

- there is no alternative solution; and

Development in or likely to affect Sites of Special Scientific Interest will be subject to special scrutiny and will only be permitted where:

- measures are put in place to ensure the protection and enhancement of the site's nature conservation interest.

- the reasons for development clearly outweigh the nature conservation value of the site itself; and

Development likely to have an adverse effect on Local Nature Reserves, a Derbyshire Wildlife Register site or a Regionally Important Geological Site will only be permitted where:

- measures are in place to ensure appropriate mitigation and compensatory measures including the management of such provision

- it can be clearly demonstrated that there are reasons for the proposal that outweigh the need to safeguard the substantive nature conservation value of the site."

2.2 Other legislation, standards and guidance

The EcIA was undertaken with reference to the following legislation and guidance documents:

- the Conservation of Habitats and Species Regulations (2010) as amended;

- the Wildlife and Countryside Act (1981) as amended;

- the Protection of Badgers Act (1992);

- the Natural Environment and Rural Communities (NERC) Act (2006);

- the Hedgerow Regulations (1997);

- the UK Post-2010 Biodiversity Action Framework which supersedes the UK Biodiversity Action Plan (BAP) (UKBAP 1992-2012), and;

- the Peak District Local BAP (LBAP) (2011).

2.3 Consultation

NPD submitted a Pre-Application Report to request a scoping advice letter from High Peak Borough Council in October 2012. Jane Colley, a Senior Planning Officer with High Peak Borough Council, responded in January 2013. This response takes into account a number of considerations but ultimately recommends an EIA is undertaken, with specific reference to the potential for the scheme to impact upon the Huddersfield Narrow Canal SSSI.

An expression of interest was also made to Canal & River Trust (CRT) in October 2012. A response was compiled by Carl West in November 2012. This response made specific mention of the potential for the proposals to impact upon the Huddersfield Narrow Canal SSSI, the Peak Forest Canal Site of Biological Importance (elsewhere referred to as Peak Forest Canal Local Wildlife Site (LWS), otters *Lutra lutra* and bats. A boat traffic model in relation to the Huddersfield Narrow Canal SSSI was also obtained from CRT in October 2013.

2.3.1 Definition of study area

The study area comprised two components: the field survey area and the desk study area.

The field survey area comprised the land that will be directly affected by the proposals and the surrounding habitats to a distance of approximately 50m (where access permitted).

However, the desk study data was collected for a 2km radius from the centre of the survey area; Grid Ref. SK 004 840 (“the desk study area”) and impacts on the Huddersfield Narrow Canal, which occurs approximately 15.5km north, have also been assessed in light of comments made as part of the pre-application advice from High Peak Borough Council. In addition, the southern end of the Rochdale Canal Special Area of Conservation (SAC) is located approximately 21km to the northwest.

2.3.2 Detailed methodologies

Detailed methodologies relevant to each of the individual ecological topics are included in the series of Survey Reports (see Section 1.4). For ease of reference, **Table 1** provides a concise review of the study area, ecological scope of works and methods used.

Table 1: Review of ecological scope of work and methods.

Study	Study area	Methodologies/Further details
Desk Study	Initial search for all designated sites and species of principal importance[1] within 2km of the field survey area’s	Web searching using the Multi-Agency Geographical Information for the Countryside (MAGIC) website. Data supplied by the Derbyshire Wildlife Trust and Peak District National Park Authority. Consultation with the Water for Wildlife Project Manager (Chris Wood) at

Study	Study area	Methodologies/Further details
	centre point.	Derbyshire Wildlife Trust was also undertaken.
Extended Phase 1 Habitat Survey	Field Survey Area	Standard approach to classification and mapping of Phase 1 habitats and use of Target Notes (Joint Nature Conservation Committee JNCC, 2010).
	Field Survey Area	Extension of standard Phase 1 Habitat Survey to include assessment of habitats for their potential to support protected or notable species (Institute of Environmental Assessment (IEA), 1995)[2], including great crested newts, reptiles water vole, otter, bats, breeding birds, invertebrates and any signs of badger
Riparian mammals survey	Field Survey Area plus approximately 50m up and down stream.	Standard survey methods for water voles (Strachan, Moorhouse & Gelling, 2011) and otters (National Rivers Authority, 1993) were used. With water voles, there was an emphasis on identifying and mapping habitat with the potential to support them, due to the mobile nature of the species.
Bat surveys	Field Survey Area	An autumn bat activity transect was carried out, along with seven nights of static monitoring. The transect was devised to incorporate the area of potential impact, as well as the wider area. Methods followed the Bat Conservation Trust's 'Bat Surveys: Good Practice Guidelines, Second Edition' (Hundt, 2012).
Terrestrial Invertebrate surveys	Northern part of Field Survey Area (semi-improved grassland)	An evaluation of habitat potential with respect to terrestrial invertebrates and a brief field survey were carried out on 17th October 2013.

[1]Species of Principal Importance include statutory protected species, species listed on Section 41 of the NERC Act (2006), the UK BAP (the priority species and habitats remain following the 2010 review) or Peak District LBAP.

[2]The Extended Phase 1 Habitat Survey was carried out in line with JNCC (2010), IEA (1995) and IEEM's new Guidelines for Preliminary Ecological Appraisal (IEEM, 2012).

2.4 Evaluation and Impact Assessment methods

2.4.1 Evaluation methodology

The approach adopted here is based upon the EcIA guidelines (IEEM, 2006) which suggest that it is best to use the geographical scale at which a receptor (i.e. a habitat, species or other ecological resource) is important as the appropriate measure of value.

The following geographical scale categories are appropriate (reproduced from IEEM, 2006):

- international;

- UK;
- national (i.e. England/Northern Ireland/Scotland/Wales);
- regional;
- county (or metropolitan - e.g. in London);
- local or parish; and
- within zone of influence only (which might be the project site or a larger area).

IEEM recommend that legal protection be considered separately from ecological value, and suggest that it is better to use professional judgment when carrying out evaluations. For example, IEEM suggest that a very small population of great crested newts should not be given the same weight as a very large one, and that it is better to consider the population present on a given site and to apply judgment as to the geographic scale at which it is important, rather than use a set 'pigeon hole' system.

With regard to the proposed marina expansion at Furness Vale, the above geographical scale has been interpreted as presented in **Table 2** below:

Table 2: Evaluation of ecological value

Geographical Scale from Guidelines	**Interpretation**
International	International
UK	UK
National (*i.e.* England/Northern Ireland/Scotland/Wales)	England
Regional	East Midlands
County (or Metropolitan - *e.g.* in London)	Derbyshire
District (or Unitary Authority, City or Borough)	High Peak
Local or Parish	Furness Vale
Within zone of influence only (which might be the project site or a larger area).	Application site 'red line' boundary

In practice, decisions made on the geographical scale of importance require the application of professional judgment and are to a degree subjective.

2.4.2 Impact assessment methodology

According to the EcIA Guidelines the starting point for an ecological impact assessment is to determine which ecological receptors within the site are both of sufficient value to be included in the assessment and vulnerable to significant impacts arising from the development. It is suggested that only Valued Ecological Resources (VERs) which might be impacted upon

significantly are considered (the term VER is interpreted as synonymous with the more usual 'receptor' and these terms are interchanged frequently). The approach aims to avoid describing or quantifying effects which might not be significant, for example if they affect receptors of low or little value.

In terms of identifying VERs these include sites, habitats, species assemblages, individual species or combination features and the idea is to review the geographical scale of importance at which each receptor is considered important. In practice, it seems appropriate to include all receptors considered important at above the County scale but to exercise professional judgment over the inclusion of locally important receptors, with a view to only including them where particular circumstances suggest their inclusion.

The assessment of the potential impacts of the proposed development needs to take into account both on-site impacts and those that may occur to adjacent and more distant ecological features. Impacts can be described as positive/beneficial or negative/adverse in terms of ecological impact. Impacts can be permanent or temporary, direct or indirect and can include:

- direct loss of wildlife habitats;
- fragmentation and isolation of habitats;
- changes to key habitat features; and
- changes to the local hydrology, water quality and/or air quality.

Additionally, IEEM (2006) suggest it important to consider the likelihood that a change/activity will occur as predicted and to quantify the degree of confidence in the impact assessment presented. The following model is given as an example:

- certain/near-certain: probability estimated at 95% chance or higher;
- probable: probability estimated above 50% but below 95%;
- unlikely: probability estimated above 5% but less than 50%; and
- extremely unlikely: probability estimated at less than 5%.

These 'confidence limits' have been used repeatedly during the EcIA process; essentially at each major decision making stage. When describing changes/activities and impacts on ecosystem structure and function, the guidelines recommend that reference should be made to the following parameters:

- positive (beneficial) or negative (adverse);
- magnitude/extent;
- duration;
- reversibility; and

- timing/frequency.

Magnitude/Extent

Magnitude refers to the 'size' or ‘amount’ of an impact, determined on a quantitative basis if possible. For example, it might be possible to estimate the proportion of an animal population that would be lost to a development. The extent of an impact is the area over which the impact occurs. When the receptor being considered is the habitat itself, magnitude and extent may in fact be synonymous.

Duration

Duration refers to the time for which the impact is expected to last prior to recovery or replacement of the resource or feature. This should be defined in relation to ecological characteristics (for example species lifecycles) rather than human timeframes. For example, five years, which might seem short-term in the human context or that of any other long-lived species, would span at least five generations of dragonflies.

The duration of an activity may differ from the duration of the resulting impact caused by the activity. For example, if short-term construction activities cause disturbance to birds during their breeding period, there may be longer-term implications due to a failure to reproduce in the disturbed area during that season.

Reversibility

An irreversible (permanent) impact is one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) impact is one from which spontaneous recovery is possible or for which effective mitigation is both possible and an enforceable commitment has been made.

In some instances, the same activity may cause both irreversible and reversible impacts. For example, consider two of the potential impacts arising from the placement of a temporary access through an ancient wood that is subsequently allowed to grow over. The change experienced by common woodland birds of the loss of food and shelter in the woodland edge may be reversible in as little as ten years, as these resources will be replaced once the access route has grown over. Many birds are sufficiently mobile and adaptable to accommodate this change with no significant impact on populations. But, the impact on ground flora along the route of the access may be irreversible (or effectively so) if the fragile woodland soils on which they depend have been compacted.

Timing and frequency

Some changes may only cause an impact if they happen to coincide with critical life-stages or seasons (for example, the bird nesting season). This may be avoided by careful scheduling of the relevant activities.

The frequency of an activity and hence the resulting impact should also be considered. For example, there may be occasions when a single person walking a dog will have very limited effect on nearby waders using wetland habitat. However, if numerous walkers subject the waders to

frequent disturbance, then feeding success may be significantly reduced. In extreme cases the birds could be permanently displaced.

Assessment of Impact Significance

An ecologically significant impact is defined as an impact (negative or positive) on the *integrity* of a defined site or ecosystem and/or the *conservation status* of habitats or species within a given geographical area.

The value of any feature that will be significantly affected is then used to identify the geographical scale at which the impact is significant. This value relates directly to the consequences, in terms of legislation, policy and/or development control at the appropriate level. A significant negative impact on a feature's importance at one level would be likely to trigger related planning policies and, if permissible at all, generate the need for development control mechanisms, such as planning conditions or legal obligations, as described in those policies.

If an impact is found not to be significant at the level at which the resource or feature has been valued, it may be significant at a more local level.

Significant impacts on features of ecological importance should be mitigated (or compensated for) in accordance with guidance derived from policies applied at the scale relevant to the value of the feature or resource.

Impacts are described using standard EIA terminology, i.e. negligible, minor, moderate and major adverse and minor, moderate and major positive. Negligible impacts are not considered significant. The terms minor to major provide a general index of the significance of the impact, with a minor impact being less significant than a moderate impact, and so on.

Integrity

A particular definition of site integrity is provided in the *Government circular: biodiversity and geological conservation – statutory obligations and their impact within the planning system (*Office of the Deputy Prime Minister Statutory Instrument 06/2005) as follows:

> *'The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.'*

A site/ecosystem that achieves this level of coherence is often referred to as being in favourable condition.

Conservation status

For habitats, conservation status is determined by the sum of the influences acting on the habitat and its typical species, that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area; and

For species, conservation status is determined by the sum of influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.

Conservation status may be evaluated for any defined study area at any defined level of ecological value. The extent of the area used in the assessment will relate to the geographical level at which the feature is considered important.

2.5 Cumulative Impact Assessment

As part of CRT report on the Expression of Interest submitted by Next Phase Development in relation to this proposed scheme, a map was produced showing marina applications within a 56 mile radius of Furness Vale. These included operational marinas, marinas where planning had been submitted, where planning had been approved and where planning had been refused. This data was used to assess the potential cumulative impacts on Huddersfield Narrow Canal SSSI. The Cumulative Impact Assessment is presented in Section 5.5 below.

3 THE ECOLOGICAL BASELINE

3.1 Designated Sites

The desk study returned details of four designated sites within 2km of the field survey area centre, as shown in **Table 3** below. Additionally, as it had been specifically referred to by High Peak Borough Council and the CRT in their consultation responses, the Huddersfield Narrow Canal SSSI has also been included within this section.

Table 3: Designated Sites within Desk Study Area

Designated sites	Approximate locations from survey site (closest point)	Reason for designation/site information
International designations (statutory)		
There are no internationally designated sites within 2km of the site boundary.		
National designations (statutory)		
Goytside Meadows Local Nature Reserve (LNR)	430m north-west	No information provided
Huddersfield Narrow Canal SSSI	15.5km north-west	The canal is the best example of a flowing eutrophic water system in Greater Manchester. The open water communities are particularly diverse and prolific.
Rochdale Canal SAC	21.2km north-west	The canal supports a population of floating water plantain *Luronium natans* which is part of a relatively diverse plant community including various pondweeds *Potamogeton* sp..
Non-statutory ecological sites		
Peak Forest Canal Furness Vale LWS	The Peak Forest Canal forms the eastern boundary of the field survey area and is included within the LWS designation. The designated site stretches approximately 300m north of the Field Survey Boundary and 1km	Supports species-rich marginal vegetation communities comprising wetland, grassland and woodland species.

Designated sites	Approximate locations from survey site (closest point)	Reason for designation/site information
	south, with a total length of approximately 1.68km.	
Furness Vale Millpond #1 LWS	390m south-east	No information provided
Goytside Meadow LWS	430m north-west	Species-rich mosaic of vegetation communities that supports a high diversity of plant species.

SACs are statutorily designated sites which are created under the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora, commonly known as the EC Habitats Directive, these sites are therefore important at an international level. As a prerequisite to designation under the Habitats Directive sites have to be designated by member states as nationally important, in the UK therefore, these sites also SSSIs.

SSSIs are statutorily designated sites, representing the UK's best wildlife and geological sites In England SSSIs are identified by Natural England, who are responsible for their protection under the Wildlife and Countryside Act (as amended) 1981. LNR are also statutorily designated, although they are designated by local councils and represent sites important for wildlife, geology, education or public enjoyment. They are controlled by the Local Authority.

LWS are non-statutorily designated sites that complement nationally designated sites, being of local importance for nature conservation. LWS are selected within a local authority area, a process usually managed by the local Wildlife Trust in partnership with the local authority and other local wildlife groups.

Given the distance of the proposed development site from Goytside Meadows and Furness Vale Millpond #1, the lack of connection between these designated sites and the Peak Forest Canal and the nature of the proposed development, impacts to these sites are considered extremely unlikely and they are not considered further within this assessment.

The Rochdale Canal SAC supports a significant population of floating water-plantain *Luronium natans* in a botanically diverse waterplant community which also holds a wide range of pondweeds *Potamogeton* spp. The canal has predominantly mesotrophic water. This population of floating water plantain is representative of the formerly more widespread canal populations of north-west England.

The Huddersfield Narrow Canal SSSI citation describes it as the best example of a flowing eutrophic water system in Greater Manchester. The main habitats present, as well as the standing and running water, are swamp, tall fen and fragmentary marginal vegetation. The open water communities are particularly diverse and prolific, which may be attributed to the high water quality of the canal. A particularly diverse assemblage of pondweeds is also present, as well as diverse emergent vegetation. Several nationally rare and scarce plants are present and the aquatic fauna is also particularly diverse.

The Peak Forest Canal LWS supports species-rich marginal vegetation communities including wetland, grassland and woodland. Species present include meadowsweet *Filipendula ulmaria* , reed sweet grass *Glyceria maxima*, great willowherb *Epilobium hirsutum*, soft rush *Juncus effusus*, gipsywort *Lycopus europaeus*, marsh woundwort *Stachys palustris*, spearmint *Mentha spicata*,

butterbur *Petasites hybridus*, sweet cicely *Myrrhis odorata*, water mint *Mentha aquatica*, common fleabane *Pulicaria dysenterica* and skullcap *Scutellaria* sp. The aquatic fauna is thought to be poor and floating and submerged vegetation is sparse. A local angler reported (pers. comm. with Mark Webb) the presence of typical coarse fish species from the Peak Forest Canal, including perch *Perca perca*, pike *Esox lucius*, carp *Cyprinus* sp. and tench *Tinca tinca*.

Further information is provided within the citations for the Huddersfield Narrow Canal SSSI and the Peak Forest Canal LWS, provided in **Appendix 2**. **Appendix 3** shows the location of the Huddersfield Narrow Canal SSSI in relation to the proposed marina expansion site.

3.2 Habitats

3.2.1 Overview

The field survey area comprised two distinct areas; the southern section comprised shortly mown amenity grassland adjacent to the existing moorings, with scattered trees and scattered shrubs/scrub. This area was well managed and included a vehicular access track, with several parked cars, suggesting it was well used. Security lighting was also present here. The northern section comprised a semi-improved grassland field, with a stable building and occasional scattered scrub. A tall ruderal margin formed the boundary between this grassland and the canal in this location.

3.2.2 Spatial statistics

The Phase 1 habitat survey mapping includes six specific habitat types. The total land area was 1.09Ha. **Table 4** shows the percentage of the site occupied by each of the habitat types and the percentage of each habitat that will be lost as part of the development proposals.

Table 4: Refined List of Habitats with Spatial Data

Habitats	% of study area	% of each habitat lost
Amenity grassland	27.9	0.1
Building	0.5	100.0
Hardstanding	9.7	20.8
Semi-improved grassland	53.2	100.0
Standing water	1.1	0.0
Tall ruderal	7.6	100.0

The surveyed area was dominated by the two types of grassland, which formed the majority of the survey site (over 80%). The standing water only made up a small proportion of the land surveyed, as only the nearside bank was mapped as part of the Extended Phase 1 Habitat Survey. Additionally, trees and scrub were not included within the spatial statistics, as their canopy cover did not appear to have influenced the species composition of the grasslands below.

Building and hardstanding are not considered further within this assessment, due to their lack of botanical species and common occurrence within the vicinity. Additionally, the building was not considered suitable for roosting bats.

3.3 Evaluation of habitats with biodiversity value

None of the habitats recorded within the field survey area were considered representative of UK BAP or Local BAP Priority Habitats.

3.4 Species of Principal Importance

3.4.1 Badgers

The '*Extended Phase 1 Habitat Survey report*' (Peak Ecology, 2013a) has been used as the basis of this assessment. This contains desk study data and data collected from field surveys carried out in 2013.

There was no evidence of badger within the field survey area and given the isolated nature of the site's location, it was considered extremely unlikely that badgers would pass through the site, despite there being existing records of badger in Furness Vale. Badgers are not therefore considered further within this assessment.

3.4.2 Bats

The '*Extended Phase 1 Habitat Survey* and *Bat Survey reports*' (Peak Ecology, 2013a and 2013c) have been used as the basis of this assessment. The Extended Phase 1 Habitat Survey contains an assessment of habitat potential for both roosting and foraging bats, as well as desk study data. The Bat Survey contained results from specific bat survey work undertaken in 2013.

A single tree was assessed as potentially providing features suitable for use by roosting bats. However, it is understood that this tree will remain unaffected by the proposed development and there were no other features within the field survey area potentially suitable for roosting bats. Specifically, the building was assessed as of negligible potential for roosting bats. Roosting bats are not therefore covered further within this assessment.

The canal was considered to provide potential for foraging and commuting bats and some further bat survey work was recommended in order to gather further information on the species and numbers of bats using this site. To date, an autumn bat activity transect has been carried out, as well as seven nights of static monitoring. Additional surveys are planned for spring and summer, prior to the onset of construction work.

The data gathered during the autumn work is considered sufficient to assess the potential impacts of the marina development on bat species, with the further surveys informing decisions on mitigation and/or compensation requirements and ensuring compliance with the standard survey guidelines.

Bat species common in Derbyshire, including common *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula* and *Myotis* bats were recorded foraging along the canal during the transect survey and some bat activity from the same species was

recorded during the static monitoring. Activity was not continual and there was no indication that bats that bats were using the canal as an important commuting roost from a nearby roost, as the times of activity were variable.

3.4.3 Breeding birds

'The '*Extended Phase 1 Habitat Survey report*' (Peak Ecology, 2013a) has been used as the basis of this assessment. An assessment of the habitat potential for breeding birds was made as part of the Extended Phase 1 Habitat Survey and desk study data was collected.

The desk study data did not produce records of specially protected bird species from within the desk study area. A number of UK and Local BAP species were recorded within 2km, although not from the field survey area itself.

A number of common bird species were identified during the Extended Phase 1 Habitat Survey including grey heron *Ardea cinerea*, barn swallow *Hirundo rustica*, mallard *Anas platyrhynchos* and blackbird *Turdus merula*. The nature of the habitats present and the small size of the overall field survey area suggests that the presence of specially protected or notable birds is extremely unlikely. Additionally, large areas of suitable nesting and foraging habitat is present in close proximity, including the River Goyt, the Peak Forest Canal and various pasture fields with scattered trees and scrub. Specific bird surveys were not therefore considered necessary. However, common bird species were considered likely to utilise the trees, scrub and shrubs, as well as the water's edge, for nesting.

3.4.4 Great Crested Newts

'The '*Extended Phase 1 Habitat Survey report*' (Peak Ecology, 2013a) has been used as the basis of this assessment. This Extended Phase 1 Habitat Survey included an assessment of the habitat within the site for its potential to support great crested newts, an appraisal of the surrounding habitats using online aerial photography and OS maps and collection of existing records of amphibians.

There was no potential breeding habitat suitable for great crested newts within the field survey area or within 500m. The terrestrial habitat was also considered generally sub-optimal for use by this species and was isolated from other habitats by the canal and the railway. The desk study did not return records of great crested newts and impacts to this species are therefore considered extremely unlikely. Specific great crested newt surveys were not therefore recommended and great crested newts are not considered further within this assessment.

3.4.5 Reptiles

'The '*Extended Phase 1 Habitat Survey report*' (Peak Ecology, 2013a) has been used as the basis of this assessment. This Extended Phase 1 Habitat Survey included an assessment of the potential for the site to support reptile species and a data search for existing records of reptiles.

The closest reptile record returned as part of the desk study was over 1.4km from the field survey area. The field survey area was isolated between the canal and the railway and the terrestrial habitats within the site offered only marginal potential for reptiles. Specific reptile surveys were not

therefore considered necessary. Grass snake *Natrix natrix* may however use the canal for foraging and/or passage and may pass through the field survey area.

3.4.6 Riparian Mammals

'The '*Extended Phase 1 Habitat Survey* and *Riparian Mammal Survey reports*' (Peak Ecology, 2013a and 2013b) have been used as the basis of this assessment. The Extended Phase 1 Habitat Survey comprised an assessment of the habitat for its potential to support riparian mammals. A specific riparian mammal survey was then also carried out. Desk study data was also collated as part of the Extended Phase 1 Habitat Survey.

No evidence of otter was found during the survey. Existing records of otter occur on the River Goyt, with the closest record approximately 130m east. Otters have extensive home ranges and can utilise a variety of watercourses as part of their foraging patterns (Mason and Macdonald 2008). Their occasional passage through the Peak Forest Canal cannot therefore be ruled out.

The desk study data showed records of water vole from the Peak Forest Canal, approximately 380m away. However, no evidence of this species was found during the survey. The majority of banks within the field survey area were reinforced and offered limited opportunities for water vole burrowing. Furthermore, the field survey area lacked emergent and marginal vegetation to provide foraging resources for water vole. A short stretch of marginal vegetation was found, on closer inspection, to comprise mainly tall ruderal species such as common nettle *Urtica dioica* and meadowsweet *Filipendula ulmaria*. This vegetation was dense and considered sub-optimal for use by water vole. It is therefore considered unlikely that water vole will begin to use habitats within the field survey area, despite their known presence on this canal.

3.4.7 White-clawed crayfish

'The '*Extended Phase 1 Habitat Survey report*' (Peak Ecology, 2013a) has been used as the basis of this assessment. This contains desk study data collated in 2013.

The distribution of white-clawed crayfish in the canal network around Greater Manchester is relatively well known and there are no known records for this species on the Peak Forest Canal (pers. comm. Jonathan Brickland). The presence of white-clawed crayfish was therefore considered unlikely due to this lack of existing records in relation to the Peak Forest Canal. White-clawed crayfish are not therefore considered further within this report.

3.4.8 Terrestrial Invertebrates

'The '*Extended Phase 1 Habitat Survey and Terrestrial Invertebrate Survey reports*' (Peak Ecology, 2013a and 2013d) have been used as the basis of this assessment. An assessment of the habitat with relation to terrestrial invertebrates was made as part of the Extended Phase 1 Habitat Survey and records of invertebrates were also included in the desk study. A specific terrestrial invertebrate survey was also carried out in October 2013.

The invertebrate survey actually recorded very few invertebrates and the emphasis of the report produced was on habitat evaluation. It would appear that the site contains habitats capable of supporting a range of common and widespread species only. During the Phase 1 Habitat Survey in

July 2013, during an exceptional season for butterflies in particular, the site held abundant butterflies. Overall, it is considered important at the Local scale.

3.4.9 Other Species

Fish species have been discussed in Section 3.1 in relation to the Peak Forest Canal LWS. An assemblage of common coarse fish species, typical of canals in this area, was reported to be present and is not mentioned as part of the LWS citation.

Consideration was given to all other protected species during the survey. However, given the nature of the habitats on the site and the lack of existing records for these species, it is considered extremely unlikely that they will be present on the site.

3.5 Identification of Valued Ecological Habitat Resources

Table 5 identified the geographic scale at which each receptor is considered important and identifies the Valued Ecological Resources (VERs).

Only those receptors considered important at above the District level have been taken forward as VERs.

Table 5: Identification of Valued Ecological Habitat Resources

Receptor	Geographical Scale of Importance	Rationale
Rochdale Canal SAC	International	Special Areas of Conservation are important at a European level. The number of boats passing through the SAC is recognised as a potential threat to the site and the number of boats is closely monitored by the CRT. Agreements on maximum boat movements through the site have been agreed with Natural England.
Huddersfield Narrow Canal SSSI	National	Sites of Special Scientific Interest are nationally important sites. In practice this SSSI is not in Favourable Condition and so Regional is probably more appropriate. But, EcIA Guidelines suggest not to downgrade unless formally denotifed.
Peak Forest Canal LWS	County	Local Wildlife Sites are non-statutory designated sites, designated by Derbyshire Wildlife Trust. A stretch of the canal bank will be directly impacted by the proposals (approximately 380m of the offside bank). This includes a section of marginal vegetation, which includes some species listed in the LWS citation.
Amenity grassland	Within site	Amenity grassland is common within the local area (in gardens for example) and subject to intensive management and disturbance.
Semi-improved grassland	Local	The semi-improved grassland was comprised of common tall ruderal and grassland species, typical of the habitat type and the surrounding area. The specific invertebrate surveys revealed only an assemblage of common species and a valuation of local is therefore considered appropriate.
Tall ruderal	Local	The tall ruderal is part of the Peak Forest Canal LWS. However, only a small area (0.08ha) is present within the field survey area and considerable similar habitat, with a greater species diversity occurs within the vicinity.
Standing water	County	The standing water within the survey area forms part of the Peak Forest Canal LWS. Although the standing water here does not support a diverse assemblage of marginal vegetation and no aquatic vegetation was noted.
Scattered trees	Local	The trees within the site were semi-mature and mature, with a number of non-native specimens. Native specimens were considered to provide some ecological value but were, in general, common along the banks of the canal with several more established specimens present in the surrounding habitats.
Scattered scrub and shrubs	Within site	Isolated patches of unmanaged scrub were considered of low value and were common within the surrounding landscape.
Otter	County	There is no evidence to suggest that the site is used by otters for breeding or regularly for feeding i.e. it does not lie within the territory of any otters. However, otters can range widely, particularly young dog otters searching for their own territories and so it is possible that they may pass through occasionally. Given that they are a European protected species, the site has been allocated County value.
Bats	District	The site supports a wide assemblage of bat species but it is likely that numerous other sites, supporting an equally diverse assemblage, are present on waterbodies throughout the county.
Water vole	County	Water vole are a protected species and are known to be present in the wider area; there is no evidence to suggest they are present within the field survey area. They have however been included on a precautionary basis.
Terrestrial invertebrates	Local	The site comprises habitats capable of supporting a range of common and widespread species only.
Grass snake	Local	Grass snake are a protected species in the UK and may pass along the Peak Forest Canal as part of their foraging/commuting activities. No grass snake were seen during the survey and the terrestrial habitat was considered

Receptor	Geographical Scale of Importance	Rationale
		sub-optimal for reptile species. Although an established population is considered unlikely, their occasional presence cannot be ruled out. A valuation of local is therefore considered appropriate.

The VERs that have been taken forward to the impact assessment phase include receptors valued as a minimum at District level and include:

- Rochdale Canal SAC
- Huddersfield Narrow Canal SSSI
- Peak Forest Canal LWS (includes standing water)
- Otter
- Water vole
- Bats

4 IMPACTS AND MITIGATION

4.1 Introduction

4.1.1 Overview of Construction, Operation and Decommissioning

The main habitat loss as a result of the construction of the marina extension will be within the northern semi-improved grassland field, where 100% of this field will be lost. Approximately 220m of canal bank will also be affected in this location and there will be an increase in the area of standing water present. There will be no habitat loss within Phase 2 of the project, although there will be some disturbance to the banks of the canal over approximately 150m. Given the low ecological value of the habitats that will be directly affected the potential ecological effects of the construction are likely to be limited. The main impact to be considered will be on the Peak Forest Canal LWS and otters, which could pass through the construction area.

The operational phase of the marina is expected to result in an increase in boat traffic. This is potentially more ecologically significant, as there is the potential for on-going impacts to the Rochdale Canal SAC, the Huddersfield Narrow Canal SSSI, the Peak Forest Canal LWS and riparian mammals, which use this watercourse. There will also be additional lighting associated with the marina, in the form of low-level lighting along the jetties. This will be consistent with the lighting already in place but will extend the length of the marina expansion.

At this stage, there are no plans for the decommissioning of the marina and this stage cannot therefore be included within the assessment.

A tabular approach to impact assessment presentation has been taken. Efforts have been made to ensure that this does not constitute an oversimplification or over-reliance on a categorical, ‘pigeon hole’ approach and explanatory text is provided where a clear explanation has not been possible within the table, in accordance with the EcIA Guidelines.

4.2 Potential construction effects on Valued Ecological Resources

The sections below consider the construction effects on the VERs and a summary of the assessment is provided at the end of Section 4 in **Table 13**.

4.2.1 Designated Sites

Rochdale Canal SAC

The southern end of the Rochdale Canal SAC is 35.7km, along waterways, from the proposed extension to the Furness Vale Marina, this is 21.2km straight line distance. The distance is considered too great for there to be any impacts upon this SAC during the construction works. No mitigation measures will therefore be required.

Huddersfield Narrow Canal SSSI

There is 24.1km of waterway (15.5km straight line distance) between the Huddersfield Narrow Canal SSSI and the northern extent of the marina expansion application area. This distance is considered too great for there to be any impacts upon this SSSI during the construction works. No mitigation measures will therefore be required.

Peak Forest Canal LWS

The Peak Forest Canal was identified as being important at the County scale, due to its designation as a LWS. The designation refers specifically to the bank side vegetation. A stretch of approximately 220m of bankside vegetation will be lost. A further 150m of bankside will be realigned as part of Phase 2 of the works, although this area is currently revetted and no naturalised banks or vegetation were present. There was no evidence to suggest that this vegetation supported protected or notable species. This impact is certain to occur and will result in a permanent loss of this habitat, which will be irreversible.

During construction there is also the potential for silt from the construction works to be deposited within the canal. Additionally, the existing sediment within the canal could be stirred up and mixed into the water column. However, the level of silt and sediment would be minor and would quickly re-settle. This impact is unlikely and would be temporary and reversible.

The mitigation measures outlined below have been recommended in order to minimise the potential impacts to the Peak Forest Canal LWS.

Table 6: **Peak Forest Canal LWS – mitigation measures**

Mitigation measures
• A tool-box talk will be given to contactors by an ecologist prior to the onset of works to discuss the measures set out below. • The working areas will be clearly marked out on site to prevent any unnecessary damage or disturbance to land outside the development footprint. • A compensation plan should be drawn up to replace the bankside vegetation that will be lost. This should be done in discussion with Derbyshire Wildlife Trust. Options could include the installation of gabion or other wire mesh planting baskets, attached to the existing sheet piling revetments. These would then be backfilled with soil and planted with marginal species typical of this area. Alternatively, fenced areas could be created at the water's edge to allow emergent and marginal vegetation to grow naturally without disturbance from boats or foraging ducks. • Any vegetation clearance will be undertaken outside the breeding bird season (mid-February to end of August inclusive, with seasonal variation). If this is not possible, an ecologist will check the area prior to clearance for active nests. Any active nests will be left in situ with an appropriate buffer within which no works will be undertaken until the nest is no longer occupied. • The bank will be re-checked for the presence of water vole immediately prior to the works. • A working method statement will be compiled by the client and implemented to prevent silt run-off in to the canal.

With the implementation of the mitigation above, it is considered that the scheme is anticipated to have **minor** to **negligible** impacts on the Peak Forest Canal LWS, dependent upon the level of compensation that is agreed. There is also an opportunity to provide a minor positive outcome with improvements to other sections of bank within the LWS, dependent upon the outcome of discussions with Derbyshire Wildlife Trust.

4.2.2 Protected/Notable Species

Otter

Given the lack of potential holt or laying-up sites, the potential impact on otters relates mainly to disturbance from construction activities. Construction activities will generally be carried out during daylight hours, when otter are less likely to be active. It is therefore considered unlikely that there would be any impact on this species. If there were an impact, it would be temporary, during the construction phase. The mitigation measures outlined in **Table 7** below will ensure any potential impact is minimised.

Table 7: Otter – mitigation measures

Mitigation measures
• A tool-box talk will be given to contactors by an ecologist prior to the onset of works to discuss the measures set out below • Construction work will take place during daylight hours only. • Otter proof fencing will be used around all site compounds and storage areas, as a precaution to ensure otters cannot access these areas. • Lighting will be designed such that it does not shine directly onto the canal or its banks.

With the implementation of the mitigation outlined above, a **negligible** effect is anticipated on otters.

Water vole

As no evidence of water vole was found within the area that will be directly impacted during the construction phase, or to either side where indirect impacts could be anticipated, no impacts to water vole are anticipated during the construction phase.

As a precaution, a site check for evidence of water vole should be carried out immediately prior to the works to ensure they have not colonised this area. However, given the habitats present, this is considered unlikely. Impacts to water vole are therefore considered unlikely and no specific mitigation will be required.

Measures agreed in compensation for the loss of a section of the Peak Forest Canal LWS have the potential to provide habitat suitable for water vole were they to recolonize this area in the future.

Bats

No bat roosts will be directly impacted as part of the construction work and the majority of foraging habitat will remain intact. The main potential impact relates to disturbance of bats. This impact would be temporary and reversible. However, as most of the work will take place during daylight hours it is unlikely that foraging bats will be impacted.

The mitigation detailed in **Table 8** will be implemented in order to reduce construction impacts.

Table 8: Bats – mitigation measures

Mitigation measures
• A tool-box talk will be given to contactors by an ecologist prior to the onset of works to discuss the measures set out below • Work will take place during daylight hours only • If lighting is required, such as around site compounds, this will be of low intensity and angled downwards, away from any features potentially suitable for foraging bats • All mature trees will remain unaffected and will be appropriately fenced during construction works to prevent damage or disturbance.

Following the implementation of the mitigation above, the scheme is considered to have a **negligible** impact on bats.

4.3 Potential operational effects on Valued Ecological Resources

The operational effects associated with the Furness Vale Marina expansion will occur as an increase of boat movements. This is assessed in relation to Valued Ecological Resources below.

4.3.1 Designated Sites

Rochdale Canal SAC

It is acknowledged that increasing boat traffic poses a threat to the SAC. The predicted increases in boat movements on the Huddersfield Narrow Canal SSSI have been provided by the CRT and are included in **Table 9**; based on the increased distance to the SAC any impact from increased boat movements is considered negligible. Furthermore, an agreement between Natural England and the CRT has set a maximum number of 800 boat movements per year (bmyr^{-1}). Employing a three year mean value, using the most recent data, from 2008 to 2010, indicates that there are on average 451 boat movements per year through the SAC. There are measures already in place to protect the SAC from an increase in boat movements and, in any case, the impact would be considered negligible and therefore no mitigation is considered necessary.

The measures in place would also ensure no cumulative impacts on the Rochdale Canal SAC and therefore no mitigation is considered necessary.

Huddersfield Narrow Canal SSSI

The marina is set in the heart of the north-west waterways and boaters have several options with regards which way they may travel. A proportion of boat traffic will head south down the Macclesfield Canal to the Trent & Mersey Canal from where they could travel towards Chester in the north-west or down to the West Midlands. Other traffic would travel north and could opt to travel along the Ashton Canal into Manchester and potentially to the Leeds & Liverpool Canal. A proportion of the traffic will turn on to the Huddersfield Narrow Canal towards West Yorkshire. It is considered unlikely that traffic would opt to travel along the Rochdale Canal which would also take the boater to West Yorkshire; this would be a significantly longer route.

Table 9 shows the predicted additional boat movements through the Huddersfield Narrow Canal SSSI, as calculated by CRT, resulting from the proposed 38 berth extension at Furness Vale Marina.

Table 9: Predicted additional boat movements per year through the SSSI

Points along the SSSI (km)*	Additional boat movements yr^{-1}
24.1	20.0
25.0	20.0
26.0	18.4
27.0	18.2
28.0	18.2
29.0	16.7
30.0	16.7
31.0	16.6
32.0	16.3

* Huddersfield Narrow Canal SSSI runs from point at 24.1km to 31.9km

Using the data from **Table 9** and the CRT lockage count data, it was possible to estimate the percentage increase in boat movements at two locks in the SSSI, as shown in **Table 10**.

Table 10: Increase in boat movements per year

Number of Boats * (bmy^{-1})	Distance from marina (km)	Predicted increase (bmy^{-1})	Percentage increase (%)
739	25.4	19.4	2.63
643	30.7	16.6	2.58

* Based on BW lockage count data, applying the standard 1.4x conversion factor (see **Appendix 5**)

** Predicted increase based on point on the SSSI from which lockage count data was generated; using extrapolation of data from Table 9.

This shows an approximate increase in boat movements of 2.6%, through the SSSI. It is considered unlikely that an increase of 2.6% in boat traffic would have a significant effect on the Huddersfield Canal SSSI. However, in the interest of good boating practice and promoting a sustainable approach to boating the following mitigation measures, as set out in **Table 11**, are recommended.

Table 11: Huddersfield Narrow Canal SSSI – mitigation measures

Mitigation measures
Improve sanitary facilities - this will allow boaters to pump out foul waste, making it less likely to happen, unlawfully, in the canal. Produce a leaflet aimed at boaters and promoting good practice, focussing on the SSSI. This will highlight the value of the SSSI and encourage boaters not to go through it and if they do it will recommend various measures including: • No pumping out, including the discharge of grey water • To travel more slowly • To moor only at the provided mooring spots • To take extra care when turning and passing other boats • To take note of CRT guidance, such as The Boaters Handbook and the Greenblue Guide, www.thegreenblue.org.uk In cases where boaters enter into a mooring agreement at the marina, the agreements should include the following: • Only environmentally friendly cleaning products to be used • A copy of the Boaters Handbook and Greenblue Guide • A recommendation that boaters should reduce speed and boat wash in the SSSI • Information on the benefits of ecohulls, propeller shrouds and electric boats • Produce a sign, to inform boaters when they are entering the Huddersfield Narrow Canal SSSI, to be erected at a suitable location.

If the mitigation measures detailed above are implemented, a **negligible** impact on the Huddersfield Narrow Canal SSSI is anticipated.

In order to assess the cumulative impacts on the Huddersfield Narrow Canal SSSI, the location of other marinas has been taken into consideration. As the calculations in **Tables 9** and **10** are based on existing boat movements, this takes into account boat traffic associated with existing marinas. Therefore for the purposes of the cumulative impact assessment only marinas where planning applications had been submitted or approved (not yet operational) will need to be considered.

As part of the CRT report on the Expression of Interest submitted by Next Phase Development in relation to this proposed scheme, a map was produced showing marina applications within a 56 mile radius of Furness Vale (**Appendix 4**). These included a total of 77 marinas comprising one (1.30%) that has been refused consent, eight (10.39%) that have been approved, 19 (24.68%) that are operational and 45 (58.44%) of which the status is unknown.

To assess cumulative impacts we have considered marinas on the Huddersfield Narrow Canal and the five adjoining canals namely the Peak Forest Canal, the Macclesfield Canal, the Ashton Canal, the Rochdale Canal and the Huddersfield Broad Canal. The information provided by CRT shows no proposed marinas on any of these six canals. Looking further afield, planning permission has been granted for two small marina developments near Northwich and a larger marina at Stainforth. All three of these proposed marinas occur over 50km by waterway from the Huddersfield Narrow Canal SSSI. It is understood that CRT do not consider impacts to be significant over 50km from

proposed marina developments. Cumulative impacts on the Huddersfield Narrow Canal SSSI would therefore be considered negligible and no additional mitigation will be required.

Peak Forest Canal LWS

The proposed increase in the number of berths will result in an increase the number of boat movements along the Peak Forest Canal. However, the Peak Forest Canal LWS is not noted for its aquatic flora and fauna, these are in fact noted as being poor. The impact of boats on marginal vegetation is much less than submerged plant life because they are not affected by physical damage from propellers or increased turbidity. Boaters who moor up away from formal moorings can cause physical damage to marginal vegetation which is not managed to facilitate access; this damage is usually minor and temporary. Some mitigation measures outlined in **Table 11** will also benefit the Peak Forest Canal, these are included in the **Table 12** below.

Table 12: Peak Forest Canal LWS – mitigation measures

Mitigation measures
Improve sanitary facilities - this will allow boaters to pump out foul waste, making it less likely to happen, unlawfully, in the canal. Promote good boating practice, for example • No pumping out, including the discharge of grey water • To travel more slowly • To moor only at the provided mooring spots • To take extra care when turning and passing other boats • To take note of CRT guidance, such as The Boaters Handbook and the Greenblue Guide, www.thegreenblue.org.uk In cases where boaters enter into a mooring agreement at the marina, the agreements should include the following: • Only environmentally friendly cleaning products to be used • A copy of the Boaters Handbook and Greenblue Guide • A recommendation that boaters should reduce speed and boat wash in the SSSI • Information on the benefits of ecohulls, propeller shrouds and electric boats

If the mitigation measures detailed above are implemented, a **minor adverse to negligible** impact on the Peak Forest Canal LWS is anticipated.

Due to the distance from other marina proposals (i.e. over 50km) cumulative impacts on the Peak Forest Canal LWS are considered extremely unlikely and no specific mitigation is required.

4.3.2 Protected/Notable Species

Due to the distance from other marina proposals (i.e. over 50km) cumulative impacts on protected/notable species are considered extremely unlikely and no specific mitigation is required.

Otter

The majority of boat traffic is likely to be during the day, when otters are considered unlikely to be using the Peak Forest Canal. Hire boats in particular are not allowed to travel at night and other boaters are advised against it. In particular, this stretch of canal showed no evidence of being used by otter and is likely to only be used on an occasional basis, with other watercourses in the area likely to form a more important part of their habitat. The marina is already lit, although there will be some additional lighting associated with the marina expansion. Impacts to otters during the operation of the marina are therefore considered unlikely. As a precaution, the mitigation outlined in **Table 13** below should be adhered to.

Table 13: Otter – mitigation measures

Mitigation measures
• Lighting will be designed so that it does not shine directly onto the canal or its banks.

With the implementation of the mitigation outlined above, a **negligible** effect is anticipated on otters.

Water vole

No direct impacts to water vole are anticipated, given the lack of evidence of this species within the field survey area. Indirect effects, as a result of the increase in boat traffic are considered unlikely; marinas in this area already have an average boat occupancy of 90% and water voles on the Peak Forest Canal are likely to have dug burrows such that they do not flood with the wake of passing boat traffic. A negligible impact on water vole is therefore anticipated.

Bats

An insensitive lighting design represents a potential direct impact on foraging bats during the marina's operational phase. There is some low level lighting associated with the existing marina, although some additional lighting will be required. Insensitive lighting might lead to an irreversible and permanent loss of this area as good foraging habitat. The mitigation outlined in **Table 14** should be followed to ensure any potential impacts are minimised.

Table 14: Bats – mitigation measures

Mitigation measures
• Lighting should be of low intensity and at a low level • Lighting will be designed so that it does not shine directly on the canal or the surrounding trees/scrub • Large security lights on the site of the facilities building should be avoided.

With the implementation of the mitigation outlined above, a **negligible** effect is anticipated on bats.

4.4 Other Ecological Receptors requiring mitigation during construction

Breeding birds

Any vegetation removal should be undertaken outside of the bird breeding season (i.e. between September and February inclusive) to avoid impacts to nesting birds. If vegetation is required at any other time, contractors must ensure there are no active bird nests present and any active nests must remain unaffected until all chicks have fledged.

Table 15: Construction and operation impact matrix

Valued Ecological Resource	Geographical scale of importance	Impacts in the absence of mitigation					Confidence in EcIA predictions[1]	Mitigation measures	Residual impact[2]	Confidence in mitigation predictions[3]
		Impact	Impact magnitude or extent	Duration of impact	Reversibility	Timing and Frequency				
Rochdale Canal SAC	International	Increase in boat movements	Negligible	Permanent	Irreversible		Certain/near certain	None recommended. Mitigation for other VERs could be beneficial	**Negligible**	Certain/near certain
Huddersfield Narrow Canal SSSI	National	Increase in boat movements	Minor	Permanent	Irreversible		Probable	Improving sanitary facilities. Informing boaters through a leaflet and signage of the SSSI, promoting good boating practice.	**Negligible**	Probable
Peak Forest Canal LWS	County	Loss of bankside vegetation (approx. 6.5%)	Minor	Permanent	Irreversible		Certain/near certain	Working area to be marked out to prevent unnecessary disturbance to surrounding habitats. Pre-works check for water vole and nesting birds. Compensation measures to be agreed with Derbyshire Wildlife Trust.	**Minor to negligible**	Probable
		Aquatic pollution during construction	Minor	Temporary	Reversible	Work timed to avoid fish breeding season.	Probable	Method statement to be followed to minimise the risk of pollution.	**Negligible**	Certain/near certain
		Increase in boat movements	Minor	Temporary	Irreversible		Certain/near certain	Improving sanitary facilities, promoting good boating practice.	**Minor to negligible**	Probable

Valued Ecological Resource	Geographical scale of importance	Impacts in the absence of mitigation					Confidence in EclA predictions[1]	Mitigation measures	Residual impact[2]	Confidence in mitigation predictions[3]
		Impact	Impact magnitude or extent	Duration of impact	Reversibility	Timing and Frequency				
Otter	County	Disturbance during construction	Minor	Temporary	Reversible		Certain/near certain	Work only during daylight hours. Site compounds fenced off appropriately. Sensitive lighting to be considered.	Negligible	Certain/near certain
		Disturbance from increased boat movements during operation	Minor	Permanent	Irreversible		Probable	Sensitive lighting will be designed.	Negligible	Probable
Water vole	County	Disturbance from increased boat movements during operation	Negligible	Permanent	Irreversible		Certain/near certain	None required.	Negligible	Probable
Bats	District	Disturbance during construction	Minor	Temporary	Reversible		Certain/near certain	Work will take place during daylight only.	Negligible	Certain/near certain
		Disturbance from lighting during operation	Minor	Permanent	Irreversible		Probable	Sensitive lighting must be incorporated into the scheme.	Negligible	Certain/near certain

[1]Confidence that the evaluation and assessment of impact is correct given that certain parameters may be estimated (and difficult to estimate). Certain/near certain is ≥95%. Probable is 50 – 94%. Unlikely is 6 – 49%. Extremely unlikely is ≤5%.

[2']Residual impacts' are assessed on the assumption that the mitigation suggested is adopted and implemented fully. It is the residual impacts that are described in the text in Sections 5.2 and 5.3 above.

[3]Confidence that the mitigation suggested will go ahead, be successful within the predicted timeframes and that the prediction of residual impacts is accurate. Confidence 'bands' as above.

4.5 Cumulative Impact Assessment

The CRT plan showing other marinas, both operational and within the planning process, within 56 miles of Furness Vale Marina is provided in **Appendix 4**. The content of this plan was reviewed whilst considering potential impacts on the Rochdale Canal SAC and the Huddersfield Narrow Canal SSSI.

4.6 Summary statement of impacts

This EcIA examines the potential impacts on nature conservation and ecological interests associated with the construction and operation of a proposed extension to the existing Furness Vale Marina on the Peak Forest Canal.

A range of ecological impacts have been identified. Subsequently, a suite of appropriate mitigation measures have been recommended.

Residual (post-mitigation) impacts identified are all negligible, with the exception of impacts to the Peak Forest Canal LWS, which are Minor to Negligible.

Potential cumulative impacts with other proposed marinas have also been considered. Impacts are considered negligible.

Overall, the most significant post-mitigation impact is that on the Peak Forest Canal LWS considered to be **minor adverse to negligible at the County scale** and thus this is considered to represent the overall level of impact of the scheme, in line with the EcIA guidelines.

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CHAPTER F:
HYDROLOGICAL AND HYDROGEOLOGICAL ASSESSMENT

CONTENTS

1.0	INTRODUCTION	1
1.1	Background	1
1.2	Development	1
1.3	Methodology	1
1.3.1	Scope	1
1.3.2	Data sources	2
1.3.3	Assessment methods	2
2.0	BASELINE CONDITIONS	3
2.1	Location	3
2.2	Site description and topography	3
2.3	Sites of ecological interest	3
2.4	Hydrology	4
2.4.1	Watercourses	4
2.4.2	Waterbodies	4
2.4.3	Springs and wells	5
2.4.4	Flooding	5
2.4.5	Water quality	5
2.4.6	Discharge consents	5
2.4.7	Surface water abstractions	5
2.5	Geology	6
2.5.1	Regional	6
2.6	Hydrogeology	6
2.6.1	Regional context	6
2.6.2	Local hydrogeology	7
2.6.3	Groundwater abstractions	7
3.0	PROPOSED DEVELOPMENT	8
3.1	Overview	8
3.2	Water management	8
3.2.1	Silt control and water quality	9
3.3	Discharge requirements	9
4.0	ASSESSMENT OF IMPACTS AND MITIGATION MEASURES	10
4.1	Water quality	10
4.2	Groundwater levels, flow direction flow volumes	11
4.3	Groundwater quality	11
4.4	Sites of ecological and conservation interest	11
5.0	SUMMARY AND CONCLUSIONS	13

DRAWINGS

Drawing 1695/HIA/01	Site location
Drawing 1695/HIA/02	Site layout
Drawing 1695/HIA/03	Ecological sites of interest
Drawing 1694/HIA/04	Water features, abstractions and discharges
Drawing 1694/HIA/05	Environment Agency flood map

PHOTOSHEETS

Photograph 1695/HIA/P1	Issues discharging into canal

APPENDICES

Appendix 1695/HIA/A	Details of ecological sites of interest

1.0 Introduction

1.1 Background

An Environmental Impact Assessment (EIA) has been undertaken in support of a Planning Application for improvement works and extension of the marina at Furness Vale, in the High Peak area of Derbyshire.

Hafren Water has been engaged by Next Phase Developments Ltd on behalf of J Purcell, the marina owner, to undertake an assessment of the hydrological and hydrogeological elements for the Environmental Statement. The scope of the assessment has been informed by a pre-application consultation comment provided by the Senior Planning Officer for High Peak Borough Council on 30th January 2013.

To develop an understanding of the baseline conditions of the water environment, a desk study and site visit have been undertaken. Potential impacts associated with the proposed development have been identified and assessed and this assessment has included both the construction and long-term operational phases.

1.2 Development

Planning Permission is sought for proposed improvements and extension of the Furness Vale marina adjacent to the Peak Forest Canal. The proposed development includes two phases of works; Phase 1 would see an additional 35 boat berths created to the north of the existing marina with ancillary facilities building and car parking. Phase 2 will allow for widening of the existing northern part of the marina to create 'offline' mooring, where currently only adjacent moorings exist. This will create 3 additional moorings in this area.

The Canal and River Trust has commented on the proposals in relation to water resources in the canal network needed to support the marina and support the proposals on a water resources basis.

1.3 Methodology

1.3.1 Scope

The principal objectives of the study are to:

- Determine the baseline conditions in relation to the water environment at the proposed site
- Assess the impact of development on surrounding hydrology and hydrogeology during construction and upon completion

In particular the High Peak Borough Council has identified that the study should assess the potential for impact upon water quality and that the following sensitive features exist, which will need protecting:

- Peak Forest Canal Furness Vale Wildlife Site
- Goytside Local Nature Reserve
- Huddersfield Narrow Canal Site of Specific Scientific Interest

1.3.2 Data sources

- Ordnance Survey (OS) 1:25,000 scale Explorer map: OL1 The Peak District Dark Peak Area
- British Geological Society (BGS) 1:50,000 scale geological map: 99 Chapel en le Frith
- Environment Agency
- Magic.gov.uk website
- BGS website and borehole records

1.3.3 Assessment methods

Current hydrological and hydrogeological baseline conditions have been established through a desk study, site walkover (2nd August 2013) and review of published data for the area.

Potential impacts upon the baseline conditions have been assessed, including the short-term impacts associated with the construction phases and the residual impacts associated with the long-term operational phase of the site. The following factors were considered:

- Magnitude of the potential impact
- Spatial extent of the potential impact
- Timescale over which the impact may occur
- Sensitivity of the receiving environment

Mitigation measures and residual impacts have been considered as part of the assessment.

2.0 Baseline conditions

2.1 Location

The Application Area is located 700 m north of the village of Furness Vale and some 8 km northeast of Chapel-en-le-Frith, Derbyshire. The site is centred on National Grid Reference (NGR) SK 004 841 and is shown on ***Drawing 1695/HIA/01***.

2.2 Site description and topography

A marina currently exists adjacent to the Peak Forest Canal at Furness Vale, extending northeastwards from a bridge crossing the canal immediately east of the railway station. The Application Area covers approximately 1 hectare (Ha) and incorporates the northern part of the current marina and rough grazing land beyond on the western bank of the canal. A swing bridge separates the Phases 1 and 2 areas, as shown on ***Drawing 1695/HIA/02***. Elevations on-site are up to approximately 165 metres Above Ordnance Datum (mAOD).

The canal lies at approximately 158 mAOD. Land rises to the west to a local high of 298 mAOD at Kiln Knoll, 1.2 km to the southwest of the site.

Elevations decline steeply to the River Goyt, 100 m to the east, at its closest reach.

A railway borders and parallels the site to the west and agricultural land and various properties are located to the east. Beyond these, the River Goyt meanders northwestwards towards New Mills and Marple. Land use remains predominantly agricultural for several kilometres in the area surrounding the canal.

2.3 Sites of ecological interest

No statutory sites of ecological interest exist within 2 km of the proposed site. The Application Area lies within the Peak Forest Canal Furness Vale Local Wildlife Site, registered with the Derbyshire Wildlife Trust. Rich marginal vegetation communities exist along the canal banks including wetland, grassland and woodland species. The canal acts as a wildlife corridor. The aquatic fauna is considered by Derbyshire Wildlife Trust to be poor and floating with sparse submerged aquatic vegetation.

Goyt Meadows Local Nature Reserve (LNR) is located approximately 200 m northwest of the Application Area. It is locally important due to the unimproved and semi-natural acid and neutral grassland, marsh/wet grassland, semi-natural broadleaved woodland, scrub and hedgerows.

The locations of the Peak Forest Canal Local Wildlife Site and Goyt Meadows LNR are shown on ***Drawing 1695/HIA/03***. Further details are also provided in ***Appendix 1695/HIA/A***.

The Huddersfield Narrow Canal Site of Special Scientific Interest (SSSI) is linked to the Peak Forest Canal via the Ashton Canal. The SSSI is located approximately 23 km downstream from the site.

2.4 Hydrology

An assessment of the water environment has been undertaken on the basis of a desk study and site visit. The locations of the water features discussed within the report are shown on ***Drawing 1695/HIA/04***.

2.4.1 Watercourses

The site lies within the catchment of the River Goyt. The river flows predominantly northwestwards and is joined by the River Etherow, some 8 km northwest of the site. The River Goyt joins the River Tame at Stockport to form the River Mersey. The Goyt lies at approximately 138 mAOD, immediately to the northeast of the marina, and is therefore up to some 20 m lower than the canal.

Three small tributaries of the River Goyt occur within 1 km of the site. The first flows eastward through Furness Clough, a wooded valley southwest of Furness Vale, under the Peak Forest Canal and joins the River Goyt approximately 300 m northeast of the marina. The second and third tributaries enter the River Goyt from its north, hence do not pass the Peak Forest Canal. They emerge from issues on the eastern side of the Goyt Valley and discharge to the River Goyt immediately upstream and 150 m downstream of the Furness Clough tributary.

The Peak Forest Canal commences at Bugsworth Basin 2.6 km southeast of Furness Vale. The Whaley Bridge Branch, which commences at Whaley Bridge Marina, joins the main Peak Forest Canal at the Whaley Bridge Junction. The canal flows generally northeastwards through Furness Vale to Marple Junction where it joins the Macclesfield Canal and the Peak Forest Lower Canal. These, in turn, join the Ashton Canal at Dukinfield Junction, east of Manchester and some 16.5 km northwest of the site.

The Ashton Canal trends eastward into Manchester and westward to join the Huddersfield Narrow Canal at Ashton-under-Lyme, a short distance northeast of Dukinfield Junction.

The water depth is reported to be very shallow in the Peak Forest Canal at Furness Vale Marina and boat traffic was observed to stir-up sediment from its base as it traversed the marina on its way from Bugsworth Basin towards Marple.

2.4.2 Waterbodies

Two elongate waterbodies exist between the Peak Forest Canal and the River Goyt, approximately 50 m from the marina. It is possible that these are former millponds as a Mill Lade is shown on the 1:5,000 OS map for this area, as viewed on Magic.gov.uk.

2.4.3 Springs and wells

Numerous 'issues' and sinks are identified on the OS maps for the area and those in close proximity to the site are indicated on ***Drawing 1695/HIA/04***. They occur at various elevations on the sides of the Goyt Valley, hence are not thought to be associated with a specific horizon within the underlying strata.

Where issues occur adjacent to the western side of the canal they can be seen discharging into it, as shown on ***Photosheet 1695/HIA/P1***. One pair of issues and sinks are identified on the OS map immediately west of the railway where it bounds the proposed marina Phase 1 extension. These were not visible within the proposed development area during the site visit in August 2013.

2.4.4 Flooding

The site is identified on the Environment Agency's flood map (***Drawing 1695/HIA/05***) as not 'at risk' of flooding, ie it is within Flood Zone 1. Land to the east of the River Goyt is indicated to be in Flood Zone 2 together with a thin strip on the western bank. However, this does not extend to the canal. It is understood that due to the small scale of the development (1 Ha), a Flood Risk Assessment is not required and one was not requested in the High Peak Borough Council scoping opinion.

2.4.5 Water quality

Water sampling by the Environment Agency takes place on a 10.2 km stretch of the Black Brook near Whaley Bridge to the River Etherow at Marple. The overall ecological quality is currently assessed as 'poor', the biological quality is 'poor' and the physico-chemical quality is 'moderate'. The overall Chemical Quality is assessed currently as 'good'.

The chemical quality of water within the canal is not assessed. However, the current ecological quality is designated by the Environment Agency as 'good'.

2.4.6 Discharge consents

Ten discharge consents have been identified within a 2 km radius of the site and these are shown on ***Drawing 1695/HIA/04***. Only one discharge consent appears to permit discharge to the Peak Forest Canal. This is located approximately 950 m downstream of the proposed development and is consent reference 0170/1327 and permits Brunswick Ice Cream, Cocoa and Chocolate Works to discharge effluent.

2.4.7 Surface water abstractions

Five surface water abstractions have been identified by the Environment Agency within a 2 km radius of the site.

The closest surface water abstractions to the site are located at NGR SK 0009 8523 and SK 0010 8523, approximately 960 m northwest of the site. They are licensed to the Environment Agency and Torrs Hydro New Mills Ltd. The Environment Agency abstraction has no volumes set as it forms a transfer licence between waterbodies. Both abstractions are from the River Goyt downstream of the site. The locations of surface water abstractions are shown on ***Drawing 1695/HIA/04***.

Groundwater and spring abstractions are discussed in detail under the section on hydrogeology below.

2.5 Geology

2.5.1 Regional

The regional bedrock geology comprises Westphalian Coal Measures strata of the Carboniferous age, underlain by the Millstone Grit Series.

The River Goyt is located towards the centre of a syncline, underlain by the Coal Measures strata with Millstone Grit Series strata outcropping at its margins.

The Coal Measures comprise mudstone, siltstones and sandstones and some coal seams. The Millstone Grit also comprises mudstone, siltstone and sandstone; however, with greater proportions of the latter.

Superficial deposits in the region comprise Boulder Clay, minor outcrops of Glacial Sand and Gravel, and River Terrace deposits and Alluvium in the river valleys. Boulder Clay is widespread in the area as shown on the BGS map is present along the length of the Peak Forest Canal in the Furness Vale area.

2.6 Hydrogeology

2.6.1 Regional context

The Coal Measures and Millstone Grit strata are defined by the Environment Agency as Secondary 'A' aquifers. These are described as 'permeable layer capable of supporting water supplies at a local, rather than, strategic scale and in some cases forming an important soruce of baseflow to rivers'. River Terrace deposits in the Goyt Valley also form a Secondary 'A' aquifer.

Due to the dip of the bedrock strata, it is likely that locally groundwater flows towards the River Goyt, ie approximately eastwards at the site.

The depth to groundwater is not known. It is not known if the canal is lined, however it is cut into Boulder Clay, therefore interaction between water within the canal and groundwater in the Coal Measures strata is considered unlikely, other than via leakage from the canal, due to the reported very shallow nature of the canal at Furness Vale.

2.6.2 Local hydrogeology

Information on the local hydrogeology including groundwater levels and quality does not currently exist.

2.6.3 Groundwater abstractions

Only one licensed groundwater abstraction is located within 2 km of the site. This is licensed to Swizzels Matlow Ltd and permits abstraction from the Coal Measures strata under licence 25690009031. It is located approximately 1.1 km northwest of the site.

A further twelve deregulated groundwater or spring abstractions and private water supplies (as listed by the High Peak Borough Council) are located within 2 km of the site. The closest is 715 m northwest of the site at Northbancke Farm in Newtown.

3.0 Proposed development

3.1 Overview

The marina will effectively form a widening of the Peak Forest Canal and the Canal and Rivers Trust has commented that sufficient water is available for the proposed development. A description of the proposed development is provided in Section 1.2 above. The Application Area covers approximately 1 Ha of agricultural land and existing marina.

The proposed development comprises the excavation of soil, overburden and clay to create a void space of approximately 7,000 m³ for the proposed marina, only part of this is below canal water level. It is expected that the extraction will be limited to the Boulder Clay and will not extend down into the Coal Measures strata. It is understood that all material extracted will remain on-site and be used for noise attenuation, bund construction and landscaping. Processing of the material will not be carried out on the site.

Excavation will commence in the north of the site, and progress southwards using a long reach excavator operating off the western bank. The excavation will commence at the water edge and progress westwards creating the lay-by gradually. As the marina will be excavated into Boulder Clay, there is no requirement for lining, therefore dewatering to create a dry excavation area is also not required. Once the lay-by at Phase 1 is created, existing moored boats will be moved out of the Phase 2 area before work commences in this area to widen the existing lay-by. The duration of the workings is estimated to be 5 weeks.

3.2 Water management

Water management will not be required during the excavation works. It is estimated that the extension of the current marina will require the removal of approximately 7,000 m³ of clay, only part of which will be below the canal water level.

Furness Vale Marina is located within a 36 km stretch of open canal, extending to Marple Locks (10 km away) and along the Macclesfield Canal, which joins the Peak Forest Canal below the lock at Marple. If 7,000 m³ additional void is created below the water level at Furness Vale this would result in a drop in the water level within the canal and marina of approximately 35 mm (estimated by Land and Water Ltd, engineers for the development). There is considered, therefore, to be no requirement for additional pumping to elevate water levels in the canal during the construction phase of the development.

In the long-term the Canal and Rivers Trust has indicated that sufficient water resources exist within the system to maintain water levels within the canal and extended marina. It is likely that at least some of the water replenishing the canal will be derived from seepages, issues and minor watercourses that currently discharge directly to the canal from the western slopes of the Goyt Valley.

3.2.1 Silt control and water quality

It is anticipated that turbidity, although it may temporarily increase, will not be sufficient to trigger the need for control measures to be implemented. This is due to the excavation being into virgin clay as opposed to soft sediment and soils. Turbidity levels will, however, be visually inspected during the excavation works and should levels rise to what is deemed an unacceptable level, the deployment of a silt curtain will be considered.

Dissolved oxygen levels within the canal will also be monitored during the works to warn of changes in water chemistry that could affect fish and other aquatic fauna in the canal.

3.3 Discharge requirements

There will be no requirement to discharge water from the extraction area either to the canal or off-site.

4.0 Assessment of impacts and mitigation measures

The potential impacts are discussed relative to the short-term (5 week) construction phase and the long-term operational phase.

4.1 Water quality

There are considered to be three potential ways in which the proposed works may impact upon surface water and groundwater quality. These are: the mobilisation of suspended solids, spillage of chemicals or fuel and changes in water chemistry, principally drops in dissolved oxygen content. As soils derived from the excavation are from a 'greenfield' site, issues relating to mobilisation of contaminants are not considered to pertain.

During construction

The potential of the proposed works to impact upon surface water quality is considered to be small, as the excavation itself is not anticipated to generate high levels of suspended solids as it will be into competent clay rather than soft sediments or sand and gravel.

Turbidity within the canal will be visually assessed throughout the works and should levels become unacceptable consideration will be given to the deployment of a silt curtain.

Pollution of surface water could potentially arise due to the accidental loss of fluid from fixed or mobile plant. In the unlikely event of spillage, it will be retained within the construction area, which will allow its collection by the use of oil sorbent materials. The contaminated material would then be disposed of in accordance with current best practice. All chemicals and fuel tanks will be contained within bunded areas of hardstanding or be double-walled, in accordance with current best practice. There are not anticipated to be any residual effects upon surface water quality.

As accumulated sediment within the base of the canal will not be disturbed significantly as part of the proposed development, changes in dissolved oxygen (DO) content are not anticipated. However, DO will be monitored in the canal throughout the construction phase to confirm the absence of impact on water quality.

During operation of the marina

There may be accidental loss of fluid from boats; however, no hydraulic connection exists between the water within the canal/marina and the River Goyt or other nearby natural watercourses, therefore adverse impact is not foreseen.

4.2 Groundwater levels, flow direction flow volumes

During construction

As outlined in Section 3, dewatering will not be required as part of the development. It is also anticipated that the canal and marina are above the watertable within the underlying Coal Measures, hence impacts local groundwater levels and flows are not anticipated.

Impact on local groundwater abstractors is, therefore, also not anticipated.

During operation of the marina

Subsequent to construction water levels will be maintained by the Canal and Rivers Trust, hence long-term impacts on groundwater are not anticipated.

4.3 Groundwater quality

During construction

Appropriate best practice precautions will be taken to minimise the risk of contamination of groundwater by fuel leakage related to mobile plant. In the unlikely event that spillage occurred, would be contained within the Boulder Clay excavation until dealt with in an appropriate manner.

During operation of the marina

Sewage generated on site will be discharged to a main foul sewer and not to ground therefore will not impact on groundwater.

There may be accidental loss of fluid from boats; however, no hydraulic connection should exist between the water within the canal and the groundwater, therefore no adverse impact is foreseen.

All chemicals and fuel tanks will be contained within bunded areas of hardstanding or double-walled, in accordance with current best practice. There are not anticipated to be any residual effects upon groundwater quality.

4.4 Sites of ecological and conservation interest

The proposed marina extension is within the Peak Forest Canal Local Wildlife Site, which is locally important for its bank side vegetation. Impacts on aquatic fauna and flora, which are reported to be 'poor', are not expected as impact on water quality and levels within the canal are not anticipated.

Goyt Meadows LNR will also be unaffected, in terms of hydrology, by the proposals of surface water and groundwater flows will be unaffected by the proposed development.

Huddersfield Narrow Canal SSSI is designated as it is the best example of a flowing eutrophic water system in Greater Manchester. However, the SSSI is approximately 23 km down-gradient of Furness Vale Marina, hence it is considered highly unlikely that there will be any discernible impact on water levels or quality due to the proposed development.

5.0 Summary and conclusions

- The proposal will create an additional 35 moorings in the form of lay-bys adjacent to the Peak Forest Canal at Furness Vale Marina. They also include additional ancillary facilities and car parking.

- The Marina and Canal lie on the steep valley side of the River Goyt, which flows northwestwards 100 to 200 m east of the site. The River Goyt lies at an elevation approximately 20 m below that of the canal. Small issues from the hillside up-gradient of the canal discharge directly to the canal at the existing marina and one issue is shown on the OS map within the Phase 1 extension area.

- The site is underlain by superficial Boulder Clay deposits with bedrock comprising Carboniferous Coal Measures.

- It is anticipated that the marina extension will be undertaken in two phases with progressive extraction of clay from the waters edge westwards. Dewatering will not be required. Hence modification of groundwater levels and flow direction is not expected.

- Potential impacts on ecological sites, surface and groundwater quality and flows have been assessed. No significant potential impacts have been identified.

- Turbidity and dissolved oxygen will be monitored (turbidity visually) during construction works. If turbidity levels increase unacceptably, consideration will be given to deployment of a silt curtain. Mitigation measures, other than standard good practice, are not considered necessary.

CHAPTER G:
LANDSCAPE AND VISUAL IMPACT

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Landscape and Visual Impact Assessment

Project:	Furness Vale Marina
For:	Next Phase Development
Status:	
Date:	August 2013
Author:	Lucy Key
Reviewer:	Paul Beswick

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Contents

Contents 1

1.0 INTRODUCTION 3

1.1. The Brief 3

1.2. The Site 3

1.3. The Proposed Development 4

1.4. Aims and Objectives 4

1.5. Structure of the Chapter 4

2.0 METHODOLOGY 6

2.1 Introduction 6

2.2 Guidance 6

2.3 Approach to the LVIA 6

2.4 Sensitivity of Receptors, Magnitude of Change and Significance of Effects 7

2.5 Study Area 7

2.6 Visual Envelope 7

2.7 Representative Viewpoints 8

2.8 Temporal Scope 8

2.9 Approach to the Assessment 8

3.0 LANDSCAPE POLICY REVIEW 10

4.0 LANDSCAPE AND VISUAL BASELINE 14

Landscape Character 14

4.2 Visual Baseline 17

5.0 ASSESSMENT OF EFFECTS 19

5.1 Construction Impact 19

6.0 MITIGATION 22

6.1 Incorporated Enhancement and Mitigation 22

7.0 RESIDUAL AND CUMULATIVE IMPACT 23

7.2 Residual Landscape Impact 23

8.0 SUMMARY AND CONCLUSION 24

9.0 REFERENCES AND GLOSSARY 25

APPENDIX A METHODOLOGY 33

APPENDIX B – VISUAL ASSESSMENT TABLE 41

APPENDIX C – INITIAL VIEWPOINT CORRESPONDENCE 54

FIGURES 55

1.0 INTRODUCTION

1.1. The Brief

1.1.1. The aim of this chapter is to provide an assessment of the proposals by Next Phase Development for the redevelopment and expansion of canal boat moorings, ancillary buildings and associated landscape works to Furness Vale Marina, Station Road, Furness Vale on the landscape and visual amenity.

1.1.2. Enzygo Limited (Enzygo) have been commissioned by Furness Vale Marina to prepare a 'Landscape and Visual Impact Assessment' (LVIA) for the Marina expansion which will henceforth be referred to as the 'Facility' or 'Proposed Development'.

1.2. The Site

1.2.1. The development site is located on the Peak Forest Canal within Furness Vale at National Grid Reference SK 0047684011 (Full Grid Reference: 400475,384010), on Station Road. The nearest postcode is SK23 7QA. It is approximately 13km south east of Stockport. Access to the depot is via Station Road.

1.2.2. The southern end of the site is the existing marina which is on the west side of the Peak Forest Canal, it is approximately 0.5km in length and is on the opposing side of the canal to the towpath. This section of the site will be developed after the proposed expansion to the north and will henceforth be referred to as Phase 2 of the development.

1.2.3. The first phase of the proposed development which involves the expansion of the existing marina is approximately 220 metres in length and extends northwards. It currently comprises of the canal and agricultural land.

1.2.4. The site lies within the administrative area of High Peak Borough Council and is located within the village of Furness Vale, the town of Chapel-en-le-Frith is located 8 km away via the A6 Buxton Road..

1.2.5. Land uses and features on the eastern side of the site include

- A farm with associated single track road and a bridge which intersects the proposal site, connecting the farm to the A6 Buxton Road.
- Agricultural land bordering the canal
- Woodland bordering the canal
- The River Goyt, approximately 0.8 km from the site at closets point.

1.2.6. Land uses and features on the western side of the site include:

- 2 buildings associated with the existing marina

- A vehicular access road from Station Road which borders the canal. There is a car park associated with the marina buildings and a more informal car parking area approximately 90 metres north from this location.

- The railway which is parallel to the canal, it is located approximately 50 meters away.

- Landscaped areas with significant tree planting bordering the existing section of the marina.

- Agricultural land further to the north which borders the canal, part of which is proposed to be remodelled to allow for mooring involved in Phase 1 of the development.

1.3. The Proposed Development

1.3.1. Next Phase Development is seeking planning permission to expand and redevelop canal boat moorings and the construction of ancillary buildings and associated landscape and infrastructure works at Furness Vale Marina, Station Road, Furness Vale.

1.3.2. The layout and design of the proposed development is illustrated in Next Phase Development's Masterplan Option B.

1.4. Aims and Objectives

1.4.1. The aim of this study is to undertake a landscape and visual impact assessment (LVIA) of the proposed development. The objectives are to identify the existing landscape character and visual amenity resource, identify the likely effects of the proposals on this baseline situation and determine the residual impact of the proposals on landscape character and visual amenity of the proposed marina expansion.

1.5. Structure of the Chapter

1.5.1. Section 2 of the chapter describes the methodology and approach taken to the assessment, the detailed assessment criteria is contained in Appendix 9.1.

1.5.2. Section 3 considers landscape and visual planning policy and designations that are relevant to the site.

1.5.3. Section 4 describes the existing landscape features, landscape character, visual amenity and views of the study area which comprise the baseline situation.

1.5.4. Section 5 describes the potential effects of the proposals. This is supported by detailed landscape and visual impact assessment tables contained in Appendix 9.2.

1.5.5. Section 6 describes mitigation proposals for the site and Section 7 considers the residual effects following establishment of mitigation proposals.

1.5.6. The landscape and visual impacts of the proposals are summarised in Section 8.

1.5.7. Section 9 provides a list of the references cited in the chapter and provides a glossary of terms.

2.0 METHODOLOGY

2.1 Introduction

2.1.1 The Landscape and Visual Impact Assessment (LVIA) will consider the potential effects of the development upon:

- Individual landscape features and elements;
- Landscape character and quality (condition); and
- Visual amenity and the people who view the landscape.

The full landscape and visual impact assessment methodology can be found in **Appendix A**

Distinction between Landscape and Visual Effects

2.1.1 Landscape and visual effects are two distinct but related areas, which will be assessed separately in accordance with the approach outlined below. Landscape and visual impacts do not necessarily coincide and can be beneficial or adverse. A clear distinction will be drawn between landscape and visual impacts as follows:

- **Landscape impacts** relate to the effects of the proposals on the physical and other characteristics of the landscape and its resulting character and quality.
- **Visual impacts** relate to the effects on views experienced by visual receptors (e.g. residents, footpath users, tourist's etc) and on the visual amenity experienced by those people.

2.2 Guidance

2.2.1 The LVIA of the proposed scheme will be undertaken by a Landscape Architect with experience of similar types of development. The assessment will be undertaken in accordance with best practice outlined in published guidance:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013) Landscape Institute and the Institute for Environmental Management and Assessment;
- Landscape Character Assessment Guidance for England and Scotland (2002); The Countryside Agency and Scottish Natural Heritage; and
- Guidelines for Environmental Impact Assessment (2004); Institute for Environmental Management and Assessment.

2.3 Approach to the LVIA

2.3.1 The LVIA will be broadly undertaken in the following stages:

- Baseline data collection via desk-top, consultation and fieldwork;

- Description of the baseline landscape character and visual amenity of the site and surrounding area which identify the relevant landscape and visual receptors (including representative viewpoints) and determine their sensitivity to change;

- Description of the magnitude of change in the landscape and visual amenity as a consequence of the proposals;

- Description of the potential landscape and visual effects arising from the proposals; and

- Development of strategic mitigation proposals to assist in reducing adverse landscape and visual effects or provide compensation where unavoidable, and where possible enhance and safeguard beneficial effects.

2.3.2 Baseline information regarding landscape features and sensitive visual receptors, and the likely change in the landscape character and visual amenity of the site and its surroundings, will be used to identify potential effects and inform the final scheme as appropriate.

2.3.3 Strategic mitigation measures will be developed in tandem with the proposals to minimise adverse effects as part of an iterative design process. Options for screening various components of the scheme will be investigated and adopted as mitigation measures where appropriate.

2.3.4 Criteria thresholds for assessing the degree of change as a result of the scheme will be established and the final layout of the scheme will be reviewed to ascertain the magnitude of change in the landscape and in views. Visual effects on historic features of interest may also need to be assessed.

2.4 Sensitivity of Receptors, Magnitude of Change and Significance of Effects

2.4.1 The significance of effects of the proposals on both the landscape and visual receptors within the study area are ascertained by cross-referencing the sensitivity of the baseline landscape or visual receptor and the magnitude of change as a result of the development.

2.4.2 The sensitivity of landscape and visual receptors is judged as high, medium or low. The magnitude of change is also judged to be high, medium, low or negligible. Significance of effects is expressed as either slight, moderate or substantial, which may be either beneficial or adverse, or neutral.

2.5 Study Area

2.5.1 For the purposes of this LVIA, a 2.5km study area from the centre of the site has been used as a boundary to assess the effects of the proposals. 2.5km has been considered in acknowledgement of the scale of the proposals, the undulating nature of the local topography and the extent of built form and vegetation cover within the immediate environs. This is not to say that there will not be views of the site from outside this study area; however, it is considered that more distant views are likely to be limited and in any event the development would only be seen as a small element of a wider panorama

2.6 Visual Envelope

2.6.1 The visual envelope of a scheme defines the broad area from within which it may be possible to see the whole or part of the proposed development, and helps to establish the potential for sensitive visual receptors. The development is not considered to be visible outside this area or would be very difficult to perceive, except from occasional higher elevations. However, there will still be pockets within the visual envelope from which there are no views of the study area, due to the local screening effects of vegetation and topography or other features such as buildings. Landscape features, which form visual barriers and restrict views towards parts of the study area, such as landform, settlements and woodland, can then be evaluated and significant barriers identified to refine the baseline visibility of the proposals.

2.7 Representative Viewpoints

2.7.1 Within the extent of the visual envelope, it would not be practical to illustrate the visual impact on every individual visual receptor affected by a scheme. Therefore, representative viewpoints will be used to assess the impacts on the different range of views towards the site. Viewpoints will be illustrated photographically using a 56mm lens digital SLR camera and the site location and significant features will be identified together with landmarks and features in the surrounding area. All photography carried out as part of this assessment is in accordance with LI Advice Note 01/11 (March 2011).

2.7.2 A provisional list of representative viewpoints and a plan demonstrating their locations were provided to Gary Ellis, Senior Landscape Architect at Derbyshire County (e-mail dated 31.07.2013 See Appendix C). There is no Landscape Officer at High Peaks Borough Council, so we were requested to contact Mr Ellis instead. The correspondence with Mr Willis included a request for an opinion on the suitability of the viewpoints. Mr Willis replied informing us that there should be focus on the principal public rights of way which might be affected, including the Goyts Way and Midshires Way and also other public rights of way to the east and to the west of the site. He also noted that the visual envelope should inform our selection of viewpoints.

2.8 Temporal Scope

2.8.1 2013 has been taken as the baseline year for defining the existing landscape.

2.8.2 The relevant impacts of the development will be assessed at the following times:

- During construction;
- Year 1:- one year after opening (Opening Year) to assess the impacts once the major construction is complete; and
- Year 15:- fifteen years after opening (Design Year) to allow for any mitigation planting and other landscape schemes to mature to give the intended effect.

2.9 Approach to the Assessment

Study Areas

2.9.1 The Study Area for the landscape assessment comprises the regional context of the area surrounding the site (but ultimately limited by a 2.5km radius from the centre of the site as appropriate reference to consider the context in sufficient detail). The Study Area for the

visual assessment is defined by the visual envelope of the proposals – the broad area over which any part of the scheme components would be seen – and is arrived at following an analysis of landscape features such as topography, significant vegetation and built form. The Study Area was verified by a site visit undertaken on 1st August 2013.

2.9.2 As stated in paragraph 9.2.14, a draft set of viewpoints was provided to Derbyshire County Council as part of the preparation of this chapter.

Desk Studies

2.9.3 The baseline landscape and visual assessment comprised a desktop study of the following data sources:

- Ordnance Survey Explorer, OL1 The Peak District- Dark Peak Area, 1:25,000
- The Google Earth website at www.earth.google.com;
- The Multi-Agency Geographical Information for the Countryside website at www.magic.gov.uk;
- National Planning Policy Framework (NPPF); Department for Communities and Local Government (2012);
- The High Peak Adopted Local Plan 2005 (Saved Policies)
- Emerging High Peak Local Development Framework
- Emerging High Peak Local Plan
- National Character Area Profile 53 South West Peak, Natural England; 2012
- National Character Area Profile 51 Dark Peak, Natural England; 2012
- National Character Area Profile 54 Manchester Pennine Fringe, Natural England; 2012

Field Studies

2.9.4 The site was visited on 1st August 2013 to obtain the following data:

- Photographs from proposed Representative Viewpoints;
- A corroboration of the findings of the desktop review; and

2.9.5 To obtain additional information on landscape features, views and localised screening barriers.

2.9.6 Site surveys were all undertaken during periods of clement weather from public highways, Public Rights of Way (PRoW) and publically accessible areas, including areas of public open space.

3.0 LANDSCAPE POLICY REVIEW

3.1 Introduction

3.1.1 The planning policy for the study area is covered in greater detail in the Policies and Plans Chapter, however, in this section we identify policy and designations of direct relevance to the landscape. The landscape planning constraints are illustrated on Figure 9.1.

3.2 European Landscape Convention, Council of Europe, 2000

3.2.1 The context of landscape policy in the UK can be placed within the broad framework provided by the European Landscape Convention (ELC). The ELC was signed by the Government in February 2006 and signals a commitment to support the aims of the Convention which include promoting landscape protection, management and planning. It suggests that *"Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factor*" and covers rural and urban situations.

3.3 National Planning Policy

3.3.1 The most relevant source of national landscape policy guidance is as follows:

- National Planning Policy Framework (NPPF); Department of Communities and Local Government [DCLG] 2012.

3.3.1 The NPPF sets out the Governments planning objectives to contribute to and enhance the natural and local environment by "protecting and enhancing valued landscapes" (Para. 109 Page 25).

3.3.2 The NPPF also identifies Government policy objectives that any major developments should consider "any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated" (Bullet 3, Para 116, Page 27).

Protecting Green Belt

3.3.2 "Once Green Belts have been defined, local planning authorities should plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land and other urban land."

"A local planning authority should regard the construction of new buildings as inappropriate in Green Belt. Exceptions to this are:

- *Provision of appropriate facilities for outdoor sport, outdoor recreation and for cemeteries, as long as it preserves the openness of the Green Belt and does not conflict with the purposes of including land within it."*

3.4 Local Landscape Policy

High Peak Local Plan

3.4.1 The site falls within the boundary of High Peaks Borough Council (HPBC) where the most relevant source of local landscape policy guidance is as follows:

- High Peak Adopted Local Plan (2005).

3.4.2 Policies which are relevant to the development site in landscape and visual terms include:

Improvement Corridors (GD3)

3.4.3 The site is within policy GD3 Improvement corridors, which is identified as:

3.4.4 "P*riority areas for conservation and improvement. The Borough and County Councils will seek to undertake physical improvements within these corridors as resources and opportunities permit. These might include tackling areas of dereliction, removing eyesores and increasing access for recreation, whilst always respecting and wherever possible, enhancing wildlife value and opportunities for the river corridors*.(para 2.7 page 6, LDF)"

Countryside development (OC1)

3.4.5 Within the Countryside, Planning Permission will be granted for development which is an integral part of the rural economy and which can only be carried out in the Countryside provided that individually or cumulatively

- *the development will not detract from an area where the open character of the countryside is particularly vulnerable because of its prominence or the existence of a narrow gap between settlements; and*

- *the development will not generate significant numbers of people or traffic to the detriment of residential amenity, highway safety, landscape or air quality or otherwise have an unacceptable urbanising influence; and*

- *the development will not have a significant adverse impact on the character and distinctiveness of the countryside*

Green Belt Development (OC2)

3.4.6 In the area of green belt defined on the proposals map approval will not be given, except in very special circumstances, for the construction of new buildings for purposes other than:

- *agriculture and forestry;*

- *essential facilities for outdoor sport and recreation and cemeteries;*

- *limited extension, alteration or replacement of existing dwellings;*

- *limited infilling or redevelopment at existing major developed sites;*

- *Other development, including material changes in the use of land and buildings, will only be permitted where it maintains the openness of the Green Belt and does not compromise Green Belt purposes.*

Landscape Character and Design (OC4)

3.4.7 Planning Permission will be granted for development considered appropriate in the Countryside provided that its design is appropriate to the character of the landscape. Appropriate design of development shall accord with the characteristics of the type of landscape within which it is located including having regard to and conserving:

- *the landform and natural patterns of drainage;*
- *the pattern and composition of trees and woodland;*
- *the type and distribution of wildlife habitats;*
- *the pattern and composition of field boundaries;*
- *the pattern and distribution of settlements and roads;*
- *the presence and pattern of historic landscape features;*
- *the scale, layout, design and detailing of vernacular buildings and other traditional man made features.*

3.5 Landscape and Cultural Heritage Designations

Landscape Designations

3.5.1 There are a small number of historic designations within the study area to the site (refer to Figure 1) and these are as follows:

Conservation Areas:

3.5.2 There is one conservation areas within the study area;

- New Mills Conservation area, which is located 1.3km north-west of the site.

Scheduled Ancient Monuments:

3.5.3 There are no scheduled ancient monuments within the study area, however the closest to the site are:

- Bugsworth canal basin, tramway, quarry and limekilns, which is located approximately 1.6km from the southern boundary of the site.(Reference 1021384); and
- Wayside and boundary cross known as The Dipping Stone, which is located approximately 2.3km from the western boundary of the site. (Reference 1009292).

Listed Buildings

3.5.4 There are many listed buildings within the study area, the closest to the site are:

- Peak Forest canal aqueduct bridge on Peak Forest canal near Station Road which is located on the eastern tip of the proposal site.
- Yeardsley Hall, Grade II Listed, which is located approximately 0.5km south west of the site.
- Peathill farmhouse and barn, which is located approximately 0.6km east of the site.
- Waterside Cottage, which is located approximately 0.85km from the south- eastern tip of the proposal site.
- Milestone near Crescent Drive, which is located approximately 0.7km from the south eastern tip of the site.

3.5.5 There are a number of National PRoW's and Local Trails within the study area and these are as follows:

- Pennine Cycleway (Sustrans National Cycle Route 68) which is approximately 0.7 km from the proposal site at its closest point;
- Midshires Way, a 365km long distance walk connecting the Ridgeway National Trail with the Trans Pennine Trail. The Midshire's Way borders the eastern side of the canal;
- The Goyts Way is a section of the Midshire's Way which runs for 10 miles. It borders the canal for the length of the proposal site; and
- Lyme to Longdendale is a 7 mile cycle path which joins the canal tow path at the junction of Station Road to the south of the proposal site.

Landscape Policy Summary

3.5.6 It is clear from the policy review that the landscape within the study area is afforded protection through both specified designations and policies. The site itself lies within the Green Belt. The proposed marina maintains the openness of the green belt due to the low level of development, it also provides facilities for outdoor recreation. The effect on the setting of the green belt is therefore minimal and the context of the development is in keeping with national and local policies relating to this designation and for development within the countryside.

4.0 LANDSCAPE AND VISUAL BASELINE

Landscape Character

4.1.1 The following published landscape character assessment documents are considered to be relevant to this assessment:

4.1.2 National Character Area Profile 53 South West Peak, Natural England; 2012

4.1.3 National Character Area Profile 51 Dark Peak, Natural England; 2012

4.1.4 National Character Area Profile 54 Manchester Pennine Fringe, Natural England; 2012

4.1.5 National Character Areas divide England into 159 separate areas. Each character area is defined by its unique combination of landscape features, amongst other factors. The boundaries of the areas are based upon naturally occurring features rather than administrative boundaries. Therefore they provide a good framework to begin to assess the character of a particular site. However the Character Area profiles are mostly concentrated on the rural character of a landscape.

4.1.6 There is a convergence of three different National Character areas within the study area. The key characteristics are included which are specific to the site and the study area.

National Character Area Profile 51: Dark Peak

4.1.7 The site is located on the fringe of Character Area 51 Dark Peak, the key characteristics of which that are specific to the site and the study area are:

- *Sharply defined, elevated and vast plateau with gritstone ridges and edges and long, uninterrupted views.*
- *Contrasting valley heads created by a combination of sheltered, deeply incised cloughs with fast-flowing streams around the plateau margins, with their greater diversity of vegetation, including semi-natural broadleaved woodland.*
- *Pastoral character of margins created by in-bye land with dispersed farmsteads, gritstone wall boundaries (hedgerows in valley bottoms) and the small scale of enclosure.*
- *Durable and stocky architectural style to dispersed buildings and settlements constructed from local gritstone with typical blackened appearance.*
- *Extensive prehistoric field systems and settlement behind the gritstone edges, with early post-glacial occupation beneath the higher, deeper peats.*
- *Historic routes traverse the moorland as well as more modern trails such as the Pennine Bridleway and Pennine Way. More recent road and rail routes are located along valley bottom.*

National Character Area Profile 53: South West Peak

4.1.8 The site is located on the fringe of South West Peak, the key characteristics of which that are specific to the site and the study area are:

- *An upland landscape characterised by Carboniferous age Millstone Grit with isolated basins of Coal Measures, deeply dissected by streams and rivers, resulting in a ridge-and-valley landscape of distinctive pattern and character.*
- *Isolated gritstone ridges and tors provide a dramatic contrast to the upland landscape, such as at Ramshaw Rocks, The Roaches and Windgather Rocks.*
- *Moorland core with a mosaic of landform, vegetation and wooded cloughs.*
- *Enclosed farmed landscape with a pastoral character created by semi-improved grassland, hay meadows, rushy pastures which are also marshy with springs and flushes, more productive farmland and small woodlands.*
- *Rivers Bollin, Churnet, Dane, Dean, Dove, Hamps, Goyt and Manifold, all with their sources in the upland core and some feeding reservoirs as they flow downstream.*
- *Extensive livestock farming (sheep and beef) and grouse shooting on the moorlands with some dairy farming in the valleys.*
- *Intricate and distinctive field boundary patterns often with historic associations; gritstone walls at higher elevations and hedgerows at lower elevations.*
- *Heritage assets from prehistory to the present, with features particularly from the medieval period and later.*
- *Robust architectural style built predominantly of local stone with stone slate or Staffordshire blue clay tiled roofs, reflecting local geology and history.*
- *Predominantly dispersed settlement across the NCA.*
- *Tourism industry and outdoor recreation centred on honeypot sites including Tittesworth and Goyt Valley reservoirs, The Roaches, Ramshaw Rocks and the National Trust's Lyme Park.*
- *Remote moorlands criss-crossed by historic pack-horse routes.*
- *Remains of former stone quarries and coal mining activities, particularly around Flash and Goyt's Moss.*
- *Long, uninterrupted views from margins to upland areas and vice versa, with contained and intimate views around the foothills and within the valleys. Views into Manchester, Wales, Shropshire, Staffordshire and over the Cheshire Plain are possible from the upland core, tors and ridges.*

Local Landscape Character

4.1.9 The study area is within the ***Dark Peak Western Fringe*** within the Peak District Landscape Character Assessment. This character area is sub divided into a number of different landscape types. The site is within the Settled Valley Pastures landscape type.

4.1.10 The key characteristics of the Settled Valley Pastures landscape type include:

- *A low lying undulating valley topography, rising towards adjacent higher ground*
- *Network of streams and localised damp hollows*
- *Pastoral farmland enclosed by hedgerows and drystone walls*
- *Small to medium sized fields*
- *Trees are dense along watercourses and scattered along hedgerows and around settlements*
- *Dispersed settlement with isolated farmsteads and small clusters of dwellings*
- *Stone terraces associated with historic mills*
- *Narrow, winding lanes, sunken on slopes*

Settlement Pattern, Townscape and Cultural Associations

4.1.11 Apart from the small settlement of Furness Vale there is a relatively low level of residential development within the study area, with only individual properties, often farmsteads, scattered across the landscape. The study area is agricultural in nature and consists mostly of agricultural fields with an irregular field pattern defined by stone walls or remnant hedgerows.

4.1.12 The River Goyt has dictated where the transport infrastructure and settlements have been located within the valley.

4.1.13 Settlements within the study area include: Furness Vale, adjacent to the site, New town, 0.6km north west, New Mills, 0.9km north and Whaley Bridge 1.6km south,of the site.

4.1.14 The closest residential properties to the proposal site are those on Buxton Road, which at the closest point are located 0.1km west, the stone terraced dwellings located on Calicoe Lane which border the existing marina are approximately 0.25km south east and Carr Farm which is 0.7km north east of the site.

Landform and Drainage

4.1.15 The canal itself is located at approximately 158 AOD. The lowest part of the site is the canal itself. The topography of land adjoining the edge of the canal rises westwards towards the railway and the settlement of Furness Vale. The level change from the edge of the canal to the western boundary of the site is between 3- 5 metres.

4.1.16 The River Goyt runs from north west to south east through the study area. At it's closet point it is located 80 metres east of the proposal site.

Landcover, Vegetation and Land Use

4.1.17 There are two types of vegetation that exist on the site. The existing marina is landscaped, comprising of mowed grass, shrub planting, and predominantly native broadleaved trees. In contrast Phase 1, the northern section of the site, comprises of a large agricultural field which is currently underutilised. This field's western boundary is formed by railway tracks which is planted with intermittent trees.

4.1.18 The existing marina and its immediate landscape is currently occupied by activities associated with the marina. The canal itself is utilised for recreational purposes by boaters, the associated tow path which borders the eastern edge of the canal is used by walkers and cyclists.

4.1.19 There are two railway tracks one either side of the canal. These linear transport routes run parallel to each other and occupy low positions within the valley. The railway on the west of the canal, which is located approximately 35 metres at the closest point, connects Furness Vale Station to Stockport and to Whaley Bridge. The railway line on the west of the proposal site, which is located approximately 0.5km at the closest point, connects Chinley with New Mills and Stockport.

Landscape Receptors

4.1.20 To assess the potential impacts on the landscape resulting from the proposed development the main landscape features within and adjacent to the site have been identified and the most relevant landscape receptors are considered to be:

- Landform;
- Landcover; and
- The Landscape Character of the site and study area

4.2 Visual Baseline

Visual Envelope

4.2.1 The visual envelope of the site is shown on Figure 7. The site is restricted from view due to:

- Intermittent vegetation bordering either side of the canal and very dense vegetation which flanks the River Goyt;
- The railway track on the west of the proposal site has a more prominent position on the hillside above the canal. This acts as a visual barrier to properties further west within Furness Vale due to the low lying elements within the development proposals and that it occupies a lower position within the valley;
- The railway tracks to the east of the site are bordered by significant vegetation which restricts many views from the east towards the canal. In conjunction with trees bordering the river it is difficult to obtain views from the eastern side of the valley; and
- Built form, garden elements and fences within Furness Vale which often act as intervening elements for receptors within the settlement.

4.2.2 There may be views from elevated positions due to the valley topography. However, there is little on the site currently to distinguish it within the surrounding landscape. The existing use as a marina is low lying, the boats are the only visible elements and these are mostly obstructed from view by trees and landform.. Views of all operations within the site would be limited to locations immediately adjacent to the site boundary.

4.2.3 The closest range views of the site are from the canal tow path (Goyts Way and Midshire's Way) and from the canal itself. Views are also possible from the bridge on Station Road.

4.2.4 Residences located on Buxton Road for the most part would have no views towards the canal due to intervening railway infrastructure buildings and vegetation bordering the canal. Filtered views may be afforded during winter months, and from upper storeys. Otherwise the closest residential receptors are the terraced houses on Calico Lane which border the canal and the existing marina.

Visual Receptors

4.2.5 The principal groups of visual receptors identified within the study area are summarised as follows:

- Residential receptors, including towns, villages and isolated properties;
- Public rights of way, including: National Routes, footpaths; local roads; and major roads; and
- The Goytside Nature Reserve

4.2.6 Due to the predominantly rural nature of the study area, there is a low density of sensitive receptors.

Representative Viewpoints

4.2.7 A set of representative viewpoints have been selected, and approved by ……. to represent the views experienced by surrounding receptors and these are shown on Figure 4. The viewpoints are as follows:

No.	Name	Receptor Type	Distance & Direction from Site
1	Station Road Bridge	Road Users, PROW users with restricted views	0.5km SE
2	Dolly Lane/ Brownhill Farm/ PRoW/ Pennine Cycleway	Road Users, Residential properties with restricted views, PROW users	0.7km NE
3	Goyts Way/ Northern tip of proposal site	Users of active recreational and leisure facilities where the focus is on the activity and not the landscape; PROW users open views of the site	Bordering the NW tip of site
4	PROW west of Furness Vale	PROW users with restricted views	0.3km SE
5	Griffin Close/ PROW/ Marsh Lane/ Railway/ Pennine Cycleway	Residential properties with restricted views towards the scheme, User of B Road, PROW users with restricted views, Public transport users	0.5km NE

5.0 ASSESSMENT OF EFFECTS

5.1 Construction Impact

Landscape Impact during Construction

5.1.1 During construction, the significance of effects upon the landscape would be similar to those in Year 1 [opening year]. Any changes to the landscape of the site made during the construction phase would be permanent, and would therefore be in evidence in Year 1, following opening of the development.

5.1.2 Wider awareness of construction activity is likely to be limited to the visibility of the construction equipment, such as cranes, and the movement of construction vehicles. The construction works are only temporary and as such landscape impacts during construction are considered to be ***slight adverse.***

Visual Impact during Construction

5.1.3 The significance of visual effects during construction would also be limited by the factors outlined previously within 'Landscape Effects'. The predominant visual effect during construction is also likely to be associated with the visibility of construction equipment and the appearance of the partially constructed buildings and groundwork's from the same receptors which the Year 1 and Year 15 assessments have identified that the proposed development is likely to be visible and prominent. However intervening elements such as the railway lines and areas of significant vegetation would obstruct views of lower level activity of plant equipment and moving vehicles. Construction works are only temporary and as such visual impacts during construction are considered to be ***slight adverse.***

Landscape Impact

5.1.4 The identification of key effects will be considered at Year 1 (Opening Year) and at 15 Years.

Landscape Features and Land Cover

5.1.5 The proposals are to extend the existing use of the site. The marina itself maintains the openness of the landscape, although some features within the site, such as the existing canal side, may have impacts upon them. However it is not believed that the canal extension will be a detracting feature, therefore the impacts made by the development upon the landscape features and land cover are considered to be ***slight adverse.*** If planting is incorporated in to the proposals, after 15 years the proposed development will become naturalised and be mitigated by matured planting, this would change the significance of the development to **slight adverse to slight beneficial.**

Landform

5.1.6 The new moorings will be formed by excavating in to the existing bank on the western side of the canal. Land form will be modelled to allow for access roads and to create mounds to obstruct views of the canal and to create a more naturalistic landform.

5.1.7 Although the landform will be remodelled to allow for moorings, the change will not be apparent within the surrounding landscape due to intervening elements therefore the impacts made by the development upon the landform are considered to be ***slight adverse.***

Landscape Character

5.1.8 The character of the study area is heavily influenced by agriculture. The landscape is mostly arable and grazing land, scattered with isolated farms and dispersed settlements. The undulating valley landscape dissected by infrastructure on the valley floor such as the canal and railways creates physical divides within the landscape, thick band of vegetation which border the infrastructure and the River Goyt form visual barriers.

5.1.9 The site itself however; is mostly enclosed by vegetation and is characterised by its current use as a marina and by the canal itself. The proposed marina would not significantly affect the character of the landscape as it is in keeping with the existing use of the site. Phase one of the development would be the most significant change in landscape character. This stretch of the canal however is already used to moor canal boats for short periods therefore the change, although noticeable, would not be out of character with the existing land use. The proposal therefore considered to have a ***slight adverse -neutral impact*** upon landscape character.

Visual Impact

5.1.10 The proposed extension of the marina would be more significant within views than the existing canal, however the development would maintain the openness of the landscape and will not interrupt views of the surrounding landscape.

5.1.11 The low lying position of the canal within this valley landscape reduces its visual impact from receptors located higher on the valley sides. Bands of vegetation which flank the River Goyt and the two railway lines on either side of the canal restrict views toward the canal within the valley setting. Views of the canal are therefore mostly limited to receptors within close proximity to the canal.

5.1.12 There are some potential views towards the canal from Marsh Lane which runs parallel to the canal on the eastern side of the valley. Viewpoint 5 (Figure 5.3) is representative of views from this sequential receptor where views to the west aren't obstructed by trees which border the road.

5.1.13 Residential receptors with views of the proposed development are limited. The majority of residences on Buxton Road in Furness Vale have no view or a restricted views towards the canal. Views are frequently limited from main living areas which are orientated towards the site due to intervening elements within their own gardens, landform, the railway tracks and woodland which borders the canal.

2.1.1 The majority of significant views will be from receptors using the Goyts Way/Midshire's Way which runs along the canal's tow path. These receptors will have open views of the proposed development, however views will only be afforded when using this section of the public right of way, views are localised due to the winding nature of the canal. Trees which border the canal will reduce the significance of the development for these receptors due to the vegetation obstructing views further along the canal.

2.1.2 The proposal is therefore considered to have a ***slight adverse*** *visual impact.*

6.0 MITIGATION

6.1 Incorporated Enhancement and Mitigation

6.1.2 There is sufficient space within the proposed site layout (Masterplan 2b drawing no???) to allow for further planting of trees and shrubs to provide mitigation. Particularly bordering Phase one of the development. This will facilitate in the reduction of significance of the development within views from residences on the western side of the canal within Furness Vale and for receptors on the eastern side of the valley along Marsh Lane. The existing boundaries of the land which is being developed as part of Phase 1 include intermittent tree planting, if this is supplemented it will mitigate views of the proposed marina.

6.1.3 The intermittent trees which form the field boundary on the eastern edge of Phase 1 would be supplemented to reduce possible views from Marsh Lane and other receptors within the eastern valley side.

6.1.4 Internal planting will be appropriately formal and ornamental alongside new roads, beside buildings and moorings, however new native and informal planting areas will be introduced to the northern part of the site to supplement the screening effect of planting on the northern boundary and to enhance the character of the site. Planting material should be sourced locally to ensure successful implementation; and

6.1.5 The use of sympathetic materials within the ancillary buildings and hard landscaping materials such as the use of non-reflective materials with low lighting incorporated. The materials used within the design of the building should be informed by the vernacular.

7.0 RESIDUAL AND CUMULATIVE IMPACT

7.1.1 Residual landscape and visual impacts will be considered fifteen years after opening (Design Year) following the establishment of the proposed landscape mitigation.

7.2 Residual Landscape Impact

7.2.1 The establishment of proposed hedgerows and tree planting will substantially augment the site's landcover and contribute to the enhancement of the landscape character of the site and subsequently the site's contribution to the landscape character of the wider study area. The increase of tree cover within the site will have a beneficial impact on landscape character within the study area, which is considered to reduce the overall landscape impact at Year 15 to **slight adverse**.

Residual Visual Impact

7.2.2 Proposed planting on the western and north eastern boundaries of the site, be it hedgerow or new tree planting, will integrate the development into the view more appropriately, particularly relating to the proposed phase one extension. Visual impacts would be reduced on receptors within Furness Vale and from the opposite eastern side of the valley.

7.2.3 It is advised that the appropriate materials reflective of the vernacular are used for the ancillary buildings and any hard landscaping to reduce the impact of the proposed development within views.

7.2.4 It is considered that overall the visual impact of the scheme reduces after 15 years due to the maturing of screen planting. This increase in tree cover will mitigate views of the development upon receptors within the study area. However in winter months views may be possible, therefore it is considered to reduce the overall visual impact to ***slight adverse.***

8.0 SUMMARY AND CONCLUSION

8.1.1 The development will not result in any significant landscape or visual adverse effects. The low lying nature of elements within the development proposals maintains the openness of the valley and will not obstruct views of the surrounding landscape. Considering the integration of screen planting and the naturalising of groundwork's, the development will become less significant in landscape and visual terms over time.

8.1.2 The expansion of the existing marina will increase the number of leisure boats using the canal network, however this is in keeping with character of the canal and will preserve the sedentary nature of the waterway. Associated infrastructure, such as the access road and the ancillary buildings and car park should be located sensitively to avoid significant intrusion into the landscape and the buildings in particular should utilise materials which are consistent with the vernacular. New boundary and internal planting will enhance the landscape character and landcover of the site and will use native deciduous species.

8.1.3 The marina itself will potentially be viewed within the wider landscape with the backdrop of railway infrastructure. The ancillary building and access road will be seen in the context of other residences and road networks which border the canal and with Furness Vale itself, so will therefore not appear uncharacteristic.

8.1.4 Although the site is within the green belt, the proposed development is not incongruent with the existing usage. In landscape and visual impact terms the marina development will not affect the setting of the green belt as it is a continuation of the existing usage.

8.1.5 The visual impact of the scheme is limited within the study area, aside from when close to the site. The narrow extent of the proposal site's visual envelope is predominantly due to the linear nature of the site and its location within the River Goyt valley. The topographical nature of the valley dictates the location and direction of transport infrastructure within the study area, such as the railways, roads and the canal. These corridors, along with the River Goyt itself, are mostly well sheltered by vegetation which blocks views within lower parts of the valley. Receptors who are located higher up within the valley are viewing the low lying marina development in the context of an open and long distance panoramic view, the development will therefore be barely discernable.

8.1.6 Overall, the development is expected to have a ***slight adverse- neutral*** landscape and visual impact.

9.0 REFERENCES AND GLOSSARY

References

The European EIA Directive (Directive 85/337/EEC as amended by Directive 97/11/EC and Article 3 of Directive 2003/35/EC);

Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999 No 293) as amended;

Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013) Landscape Institute and the Institute for Environmental Management and Assessment;

National Character Area Profiles (2012) Natural England

Guidelines for Environmental Impact Assessment (2004) Institute for Environmental Management and Assessment;

Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity (The Countryside Agency and SNH, 2004);

Landscape Institute Advice Note Advice Note 01/11 (March 2011).

The Google Earth website at www.earth.google.com;

The Multi-Agency Geographical Information for the Countryside website at www.magic.gov.uk;

National Planning Policy Framework (2012) Department for Communities and Local Government

Glossary of Terms

Acronym/Term	**Description**
Alien species	A species that does not normally occur in an area but which has been deliberately or accidentally introduced by human activity.
Anglo-Saxon Period	Period between end of the Roman rule and the Norman Conquest characterised in the North-West by Germanic and Scandinavian colonisation. Dating between AD410 – AD1066.
AOD	Above Ordanance Datum
AONB	Area of Outstanding Natural Beauty
Assessment period	The period in a day over which assessments are made
Baseline Environment	This is defined as the study area and its environmental characteristics assuming that the scheme is not built.
Biodiversity	Biological diversity. A term for the variety of all life on earth, including all species of plants and animals, their genetic variation and complex ecosystems of which they are part. Differs from species richness (i.e. the total number of species) in that biodiversity expressly includes the variety of life at all scales, progressing down from ecosystems, communities, species and populations, to the level of genetic variation present within species and their constituent populations.
Biodiversity Action Plans (BAPs)	Prepared by English Nature to implement the UK Biodiversity Strategy, these outline the current status of, and pressures facing particular habitats or species and set targets and propose action to maintain or increase biodiversity and identify research needs.
Bronze Age	Prehistoric period, characterised by the introduction of copper and bronze working. Dating between approximately 2500-700 BC.
Bund	A walled area or embankment used either for secondary containment (for potentially polluting materials) or for screening.

Acronym/Term	Description
Conservation Areas (CAs)	Areas of special architectural or historic interest, designated under the Planning (Listed Buildings and Conservation Areas) Act 1990, whose character and appearance should be preserved or enhanced
Countryside Stewardship	An agri-environment scheme through which frames and landowners can receive payments for management agreements that result in the maintenance and enhancement of certain important landscapes and habitats including grassland, lowland heath, waterside land and hedgerows and field boundaries which need restoring.
County Wildlife Sites	These are sites which are considered to be of importance for nature conservation purposes from a regional perspective. They are considered to complement the national network of nature conservation sites.
CROW	Countryside and Rights of Way (Act)
Culvert	A covered cannel or pipeline, which is used to continue a watercourse or drainage path under an artificial obstruction.
Cumulative Impacts	Impacts that result from incremental changes caused by past, present or reasonably foreseeable actions together with the project.
Cutting	Section of earthworks where the level of the proposed road is below original ground level.
Desire line (tracks)	Tracks created by users travelling directly towards the desired destination
EA	Environment Agency
Earthworks	Excavated embankments composed of soil
Embankment	A bank or mound constructed to carry a roadway at a level higher than the original ground level.
(C)EMP	(Construction) Environmental Management Plan

Acronym/Term	Description
Environmental Effect/Impact	Any change in the physical, natural or cultural environment bought about by a development project. Effect and impact are used interchangeably
Environmental Impact Assessment (EIA)	A process by which certain planned projects must be assessed before a decision to proceed can be made. It involves the collection, publicising & consideration of environmental information, which fulfils the assessment requirements of Directive 97/11/EC
Environmental Impact Assessment Team	The team, which carries out the environmental studies and prepares the environmental information.
Environmental Statement (ES)	Information gathered and submitted to a relevant competent authority in compliance with EC Directives on the environmental effects of a project.
Environmental Studies	The surveys and investigations carried out by the EIA team in order to prepare the environmental information for inclusion in the ES.
EU Objectives	European Union policy targets to be achieved within a specific timescale.
Green Belt	Areas of open land where new development is strictly controlled. Policy on development in Green Belts is defined by Government in PPG2
Habitat	A place in which a particular plan or animal lives. Often used in a wider sense, referring to major assemblages of plants and animals found together such as woodlands or grassland.
In-situ	In its place
Indirect Impacts	Impacts on the environment, which are not a direct result of the project, often produced away from, or as a result of, a complex pathway. Sometimes referred to as secondary impacts.
Iron Age	Prehistoric period, characterised by the introduction of iron working. Dating between approximately 700BC – AD43.

Acronym/Term	Description
Landscape	The visual appearance of non-urban areas.
Listed building	Buildings of "special architectural or historic interest" which are on a list compiled by the Department of National Heritage on the advice of English Heritage. Any material alteration to or demolition/part demolition of a Listed Building, whether external or internal would require Listed Building Consent. Provisions relating to Listed Buildings are contained in the Planning (Listed Buildings and Conservation Areas) Act 1990.
Lithic	Prehistoric stone tool or manufacturing waste.
LNR	Local Nature Reserve
Local Biodiversity Action Plan	These usually cover a county or group of unitary authorities, and are produced by a partnership of local authorities, relevant agencies and voluntary organisations for the local implementation of the UK BAP and national habitat and species action plans.
Local Plan (LP)	Prepared by District Councils and sets out detailed (local level) policies and proposals for the development and use of land.
Local Planning Authority (LPA)	A LPA is the local authority statutorily obliged to carry out the implementation of the Town and Country Planning Acts and Regulations.
Made ground	Ground that has been disturbed or created by the activities of humans.
Main River	A watercourse designated under the Water Resources Act 1991. The EA has permissive powers to carry out works of maintenance and improvement on these rivers.
Medieval	Historic period dating between AD1066 and c. AD1540
Mesolithic	Prehistoric period, characterised by hunter-gatherer communities. Dating between approximately 8000-3800 BC.

Acronym/Term	Description
Mitigation	The measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
Neolithic	Prehistoric period characterised by the first farming communities. Dating between approximately 3800-2500 BC.
NHS	Natural Heritage Site
Non Technical Summary (NTS)	A brief report summarising the principle sections of Volume 1 of the Environmental Statement in non-technical language. The NTS is bound into the main volume, but may also be available as a free-standing document.
OS	Ordinance Survey
Palaeo-environmental	Relating to the past environment.
Post-Medieval	Historic period dating between c. AD1540 and the present
RC	River Corridor
Receptors	People, locations, plants or animals who may be affected by an environmental impact.
Regionally Important Geological/Geomorphological Sites (RIGS)	These are sites which are important for the geological exposures or physiographic features. The most important of these are designated as SSSI's but more locally important sites can be designated as RIGS by local conservation groups.
Remediation	Treating, containing or removing contaminated material so that it no longer presents a hazard.
Residual Impacts	Any remaining effects as a consequence of the development assuming implementation of proposed mitigation measures.

Acronym/Term	Description
Roman Period	Period of the Roman conquest. Dating between AD43-AD410.
SAC	Special Area of Conservation
SBI	Site of Biological Importance
Scheduled Ancient Monument (SAM)	The Secretary of State for National Heritage is responsible for compiling a schedule of ancient archaeological sites which be reason of period, rarity, fragility, potential, etc appear to be of national importance. The statutory provisions relating to Scheduled Ancient Monuments are contained in the Ancient Monuments and Archaeological Areas Act 1979 and the National Heritage Act 1983.
Scoping	The process of identifying the content and extent of the Environmental Information to be submitted under the EIA procedure.
SINC	Site of Interest for Nature Conservation.
Site of Special Scientific Interest (SSSI)	Sites of national importance for their plants, animals, or geological or physiographical features designated by English Nature under the Wildlife and Countryside Act 1981 (as amended).
SMR	Sites and Monument Record
Sound	A fluctuation of air pressure, which is propagated as wave through air.
SPA	Special Protection Area.

Acronym/Term	Description
Townscape	The visual appearance of towns and other urban areas.
Township	A sub-division of a parish.
Township Boundary	A boundary delineating one township from its neighbours.
Tree Preservation Order (TPO)	Section 198 of The Town and Country Planning Act 1990 enables Local Planning Authorities to make provision for the preservation of individual trees, groups of trees or woodland, in the interests of amenity. Tree Preservation Orders are made under this Section and they prohibit the felling, topping, lopping, uprooting, pruning, wilful damage or destruction of trees without prior consent of the Local Planning Authority. Carrying out unauthorised works to a tree subject to a TPO is a criminal offence.
Visual envelope	The extent of visibility to and from a point on a site.
ZVI and/or ZTV	Zone of Visual Influence and/or Zone of Theoretical Visibility, the area from in which the development can be viewed. This term is generally applied to an electronically calculated visibility model which is generated using Ordnance Survey landform data.

CHAPTER H:
NEED ASSESSMENT & SOCIO-ECONOMIC STATEMENT

CHAPTER H: NEED ASSESSMENT & SOCIO-ECONOMIC STATEMENT

Contents:

1.0 Executive Summary

2.0 Need Assessment & Introduction

3.0 Welsh Borders, Peak & Potteries Waterways Network

4.0 National and Local Boat Numbers

5.0 Marina Berths - Demand and Supply

6.0 Socio-Economic Statement Context & Methodology

7.0 Description of Baseline Conditions

8.0 Assessment of Potential Socio-Economic Impacts

9.0 Evaluation & Predicted Impacts

1.0 EXECUTIVE SUMMARY

1.1 The region is in need of a supply of further modern offline moorings to service current demand and improve navigability of the Peak Forest Canal whilst providing the opportunity for growth on this stretch of waterway with such tourism and affluence conurbation led potential.

1.2 The proposed extension to the existing marina offers the opportunity to develop further modern offline moorings to the benefit of the navigability of the entire regional network, whilst servicing growth targets and providing an opportunity to take advantage of the potential of the region. The marina sits in an area where supply is low but demand is high, and the extension will provide a proportion of offline berths to satisfy a proportion of CRT projected national targets.

1.3 The overall significance of effects of the extended marina are summarised as such:

Predicted Effect	Significance
Construction	
Local Economy and Employment	Minor Beneficial
Tourism	Negligible
Construction	Minor Beneficial
Manufacturing	Minor Beneficial
Community and Social	Negligible
Operational:	
Local Economy and Employment	Minor Beneficial
Tourism	Minor Beneficial
Construction	Negligible
Manufacturing	Minor Beneficial
Community and Social	Minor Beneficial

2.0 NEED ASSESSMENT & INTRODUCTION

2.1 The demand growth of water-borne leisure is due to accelerate over the next decade when demographic and lifestyle choices are assessed in relation to future trends. The justifiable elements to support this statement can be found in evidence showing increased leisure spending; as disposable income growths feed through to areas of expenditure, with significant and ever increasing growth of the grey £, the share of leisure spending boating receives is ever growing. 68% of waterways boaters are 55 years old or older and this number is expected to increase as the average population age gets older and lives longer (Canal & River Trust Boat Owners Survey 2012).

2.2 The growing boat movements on Britain's inland waterways are prosperous and consequently there is an identified demand for additional moorings.

2.3 The trend in growth of boat numbers in not consistent across the whole of the UK's waterways however; the waterways of certain regions show definitive signs of higher attraction to boaters than others.

2.4 The purpose of this section of the report is to understand the scale and pattern of growth in a particular area of the waterways network that relates to the proposed redevelopment and extension of Furness Vale Marina in Furness Vale.

2.5 The marina is sited adjacent to the Peak Forest Canal and the adjacent nature of the marina to the canal will continue within the extension.

2.6 The Peak Forest Canal commences at Bugsworth Basin 2.6km south east of Furness Vale. The Whaley Bridge branch, which commences at Whaley Bridge Marina, joins the main Peak Forest Canal at the Whaley Bridge Junction. The canal flows generally

north eastwards though Furness Vale to Marple Junction where it joins the Macclesfield Canal and the Peak Forest Lower Canal. These, in turn, join the Ashton Canal at Dukinfield Junction, east of Manchester and some 16.5km north west of the site. The canal combined with the River Goyt provide comprehensive access to the popular waterways of the Welsh Borders, Peak and Potteries.

3.0 WELSH BORDERS, PEAK & POTTERIES WATERWAYS NETWORK

3.1 The UK has over 7,000km of inland waterways. 5,000km of which are currently navigable. Approximately 3,500km of navigable waterways are managed by the Canal & River Trust (CRT) with the balance being managed by organisations such as the Environment Agency or Broads Authority.

3.2 The geographical locality of the UK inland waterways can be generally designated into the following interconnecting regions:

- Northern Network
  - Leeds & Liverpool Canal
  - Aire and Calder Navigation
  - Trent & Mersey Canal
  - River Trent
- Eastern Network
  - Broads & Fens
  - River Nene
  - River Ouse
- Western Network
  - Birmingham Canals
  - Grand Union (North)
  - River Avon (North)
  - River Severn
- Southern System
  - Grand Union (South)
  - River Avon (South)
  - Oxford Canal
  - Kent & Avon

River Thames

3.3 The Peak Forest Canal is an artificial waterway consisting of a 23.8km stretch of waterway running between Dukinfield Junction in Ashton-under-Lyne and ending at Bugsworth Basin, Bugsworth. The canals consists of 2 level pounds which are separated by a flight of 16 locks, they raise the canal by 64m over a course of 1.6km. The 2 pounds are generally known as the Upper Peak Forest Canal and the Lower Peak Forest Canal. The Lower Peak area heads south from Dukinfield Junction where it makes a junction with the Ashton Canal at the southern end of the Tame Aqueduct before crossing the River Goyt on Marple Aqueduct, alongside a railway ride, to the foot of Marple Locks at a distance of 11.1km. The 1.6km section of the canal that runs through Marple Locks raises the canal through 64m to connect with the Macclesfield Canal at Marple Junction. Therein the Upper Peak Forest Canal is on the same level as the upper Macclesfield Canal, whereupon boats cruise from Whaley Bridge and through the Peak District including Furness Vale, terminating at Bugsworth Basin in Derbyshire.

3.4 The network connects some of the UK's major waterway systems as well as offering a variety of cruising options all within easy reach of some of the UK's largest conurbations including Manchester, Stoke on Trent and Derby. The waterways of the area are supplemented by excellent road access via the M6, the M62 and the M56. The network, through its connection with the Cheshire Ring runs adjacent to the M6 and the M62 making it extremely popular with boaters within the north west of the UK and the popularity of the Peak District National Park with tourists makes the Peak Forest Canal a popular leg of this waterways area.

3.5 The combination of excellent access arrangements from north western and central conurbations and good quality amenity for boaters with multiple navigation options

and the ability to cruise through some of the most desirable tourist destinations in the UK makes the Peak Forest Canal and the Welsh Borders, Peak & Potteries network a highly desirable location which to moor a boat.

4.0 NATIONAL AND LOCAL BOAT NUMBERS

4.1 The UK's inland waterways are prosperous despite the CRT's annual reports and accounts showing that the number of boat licenses issued suffered a slight decrease of 0.5% from 34,874 in 2010/2011 to 34,683 in 2011/2012 (Canal & River Trust Annual Report & Accounts 2011/2012) which goes against the long-term trend of steady growth. Four elements can be seen as paramount in the growth and boat ownership and usage:

I. Growth in general spending and recreation and leisure;
II. Growth in the number of people over 55 (who account for over 68% of the boaters);
III. Growth in the affluence and health of those over 55 which has led to an increased proportion taking up recreational activities such as boating;
IV. Substantial investment previously by British Waterways and now by the CRT and its partners in maintaining and improving the attractiveness of the waterways.

4.1 The British Waterways Annual Lockage Report of 2012 indicates that there was a slight small in the lockage movements within the North Wales and Borders region (A fall of approximately 4.3%), which is lower than the national average decrease of approximately 7%. The CRT note a number of reasons for the trend of the drop in recorded lockage, including drought and rainfall conditions throughout the year, together with other one off factors such as the Olympic and Jubilee events (Canal & River Trust Annual Lockage Report 2012).

4.2 Rankings within this report indicate that the North Wales and Borders waterways network is still the second most popular UK network (out of 13).

4.1 In 2006 the British Waterways Inland Marina Investment Guide forecast national boat numbers growth in the range of 1.4 to 4% per annum for the period of 2005 to 2015. The lower figure was based on a 1.4% per annum growth in the 50+ demographic, given the general influence over the growth of boating for leisure and the upper figure took into account the 3 other factors highlighted above (most predominantly the improvement in health and affluence of the general over 50 population).

4.2 The CRT annual reports of long-term boat licence numbers (private pleasure boats) has analysed the data and concluded that the actual annual boat growth since 2005 is greater than the upper projection and has averaged 4.2% (up to 2011) despite incorporating the significant impacts of a deep recession, from 2008 which continues to have an affect in the present day. In fact long-term annual growth since 1991 of boat numbers which has incorporated 2 periods of deep recession in total, has averaged 3% according to the same reports (British Waterways and Canal & River Trust Annual Report & Accounts 2006 to 2011).

4.3 The CRT Annual Reports & Accounts 2011/2012 show that boat licences issued remain broadly static for the year (34,874 in 2010/2011 and 34,683 in 2011/2012 – down 1% nationally) despite the economic pressures whilst overall income from boat licences increased by 2.3%. Private pleasure boat licences reduced by 2% nationally between 2010/2011 (27,566 in 2010/2011 to 27,016 in 2011/2012); however this does not impact on the overall long-term growth targets in any significant fashion given the long-standing impact of the ongoing recovery from the recession.

4.4 With long and short term growth analysis to hand it is safe to conclude that there is no reason why the CRT individual year growth projection and long term projections of between 1.4% to 4% and 3% respectively per annum should not continue;

especially when considering there is continued support to new businesses and programmes of work undertaken by the CRT to improve the waterways experience.

4.5 Boat number annual growth since 2005 for the North Wales and Borders administrative region has averaged 8.85% with the national average growth at 4.2%. Given the long term UK growth rate is 3% per annum and the North Wales and Borders region continues to grow at over double the national average a long term growth figure of 6% per annum is considered a sensible estimate for the region.

4.6 The North Wales and Borders waterways region provides direct access to a variety of waterways routes and destinations into some of the largest and most affluent conurbations in the country and is the predominant reason for the disproportion of growth in comparison to the UK average. The Peak Forest Canal provides access to some of the most scenic canal routes in the UK, and is predominantly dominated by the superior landscape qualities of the Peak District.

5.0 MARINA BERTHS - DEMAND AND SUPPLY

5.1 A quantified study of the North Wales and Borders region; taking in moorings capacity from the CRT market area report for North Wales, Peak and Potteries and Borders and their own assessments indicate that the total geographic market in the regions waterways network (from the Montgomery and Llangollen Canals to the south west to the Four Counties Ring to the north west) comprises of over 4,200 berths, with 800 new offline berths (at 27% market growth) being provided in post 2009 marina developments at Tattenhall Marina on the Shropshire Union (300 berths), OverWater in Audlum on the Nantwich stretch (200 berths), Aqueduct Marina in Church Minshull on the Middlewich branch (147 berths) and Park Farm in Northwich on the Trent & Mersey (150berths).

5.2 The proposed marina offers an extension to an existing, popular and full marina in Furness Vale on the Peak Forest Canal. The most significant privately operated marinas currently available on the canal consist of Furness Vale Marina in question, Portland Basin Marina and Marple Wharf. The study indicates that the average mooring occupancy rate in the North Wales and Borders region currently stands at around 92% with a 90% average since 2005.

5.3 Given the region currently more than doubles national long term trends (of 3% in the long term national average) it can be conservatively said that boat numbers in the region can be expected to grow between 3 and 6% per annum. That is to say in the 5 years from 2012 to 2017 and with the current boat numbers at approximately just over 3,965 but numbers can be expected to grow by between 630 and 1,340 boats. For the 10 years from 2012 to 2022 boating numbers can be expected to grow by between 1,360 and 2,770.

5.4 The region is in need of a supply of further modern offline moorings to service current demand and improve navigability of the Peak Forest Canal whilst providing the opportunity for growth on this stretch of waterway with such tourism and affluence conurbation led potential.

5.5 The proposed extension to the existing marina offers the opportunity to develop further modern offline moorings to the benefit of the navigability of the entire regional network, whilst servicing growth targets and providing an opportunity to take advantage of the potential of the region. The marina sits in an area where supply is low but demand is high, and the extension will provide a proportion of offline berths to satisfy a proportion of CRT projected national targets.

6.0 SOCIO-ECONOMIC STATEMENT CONTEXT & METHODOLOGY

6.1 Introduction

The forthcoming chapters will assess the potential economic and social effects that may arise in the area surrounding and within the local proximity of the site as a result of the construction activities and operation of the proposed extension and redevelopment of Furness Vale Marina.

6.2 Proposed Context

To expand and redevelop canal boat moorings and the construction of ancillary buildings and associated landscape and infrastructure works at the existing Furness Vale Marina.

6.3 The site is located on the Peak Forest Canal within Furness Vale at National Grid Reference SK0047684011 (full grid ref: 400475,384010) on Station Road. The nearest postcode is SK23 7QA. Furness Vale is a village 13km south east of Stockport and the site lies within the administrative region of HPBC. The village of Furness Vale has a population of approximately 1,600 people whilst the town of Chapel-en-le-Frith, located 8km away via the A6 Buxton Road has a population of approximately 10,000 people. The most recent regionalised census information indicates that the HPBC administration area contains a population of approximately 89,500 people.

6.4 A development of this nature may potentially give rise to a range of effects on communities in terms of the affect on the local economy, the creation of local employment and affects on local tourism, construction and manufacturing industries. There may also be other community and social benefits such as local regeneration and access to the countryside, waterways and recreational activities to consider.

6.5 Methodology

Approach to Scoping

The initial scoping consultation identified the need to submit an Environmental Statement with any application. The EIA regulations indicate that the potential effects that will be deemed significant on the localised population should be considered and described within the Environmental Statement; The forthcoming chapters address the consideration and assessment of socio-economic effects.

6.6 Type of Potential Effects

There is a strong interconnected relationship between the different socio-economic effects, and direct effects are almost always accompanied by wider indirect effects. An example can be found in the generation of new employment in an area; this will usually also generate additional expenditure on local services.

6.7 Spacial Extent of Effects

Socio-Economic impacts may affect local residents or individuals within the local or wider regional employment sector. The predominant areas of consideration for the proposed extension to the existing marina relates to the village of Furness Vale together with the more urban and rural areas of nearby Whaley Bridge and Chapel-en-le-Frith.

6.8 Scope of Study

The assessment will examine the impacts of the proposed marina extension associated with the issues as stated below:

- Affects on the local economy, employment and training
- Affects on tourism, construction and manufacturing
- Community and social Effects

6.9 The impact of the issues will be assessed during both the construction and operational phases of the marina extension.

6.10 Data Gathering

The information used to make the assessments have been gathered from the following sources:

- Economic Benefits of Inland Marinas in the UK – British Marine Federation September 2011;
- Relevant chapters of the Environmental Statement;
- 2010 NOMIS Official Labour Market Statistics;
- Office of National Statistics – 2011;
- Emerging High Peak Borough Council Local Development Framework Planning Policies and Supplementary Planning Guidance;
- Inland Waterways Advisory Council – An Initial Review of the Economic and Other Benefits of Inland Waterways, 2007;
- British Waterways Log Book Survey 1993 and 2003;
- British Waterways Informal Visitors Survey 2002;
- British Waterways – Visitors Destination Survey 2007.

6.11 Impacts Requiring Further Consideration

The following impacts have been identified based on the methodology already noted:

Potential effects on the local economy and job creation caused by construction and operation of the extended marina:

- There is a potential for local firms, suppliers, consultants and workers to be contracted for the construction activities;
- There is the potential for direct or local employment by the marina and its facilities;

- The local economy, firms and workforce could potentially benefit from direct expenditure by the marina and its tenant businesses (should a tenant be taken on);
- The local economy, firms and workforce could potentially benefit from the expenditure of boaters and visitors to the marina in the wider economy;
- Local firms and the workforce benefiting from the activities of the marina could potentially in turn increase their expenditure to the benefit of local firms and employment.

Potential effects on the local tourism, construction and manufacturing industries caused by construction and operation of the proposed marina.

- Potential effects on tourism could vary from boaters having the opportunity to base their leisure activities and moorings in the area due to the implementation of the facilities;
- The modern nature and higher quality of the facilities may attract more affluent boaters with stronger spending power;
- The marina could also attract short stay boaters who wish to visit the marina and take the opportunity to cruise the waterway in the area;
- The site is currently restricted in its potential to allow amenity and access to the river by the current size of the marina and is restricted in its ability to offer an interconnecting relationship with the surrounding footpaths, bridleways and walkways of significant social value to the area. A growth in access to the canal and a growth in advertisement of the walks and bridleways of the area together with being in walking distance of the local conurbation creates an opportunity to improve recreation and leisure activities for the local population;
- The extended marina may have a beneficial impact on the wider economy and its employment sector with boaters moored at the marina visiting local attractions and spending at local business premises.

6.12 Assessment and Evaluation of Methodologies

There is no prescribed methodology or standard guidance for this aspect of the EIA and therefore the method adopted is one identifying the existing circumstances to provide the baseline, predominantly through desk based analysis by drawing on a range of statistical information from regional and local representative bodies.

6.13 The potential effects of the proposed extended marina on this baseline are then assessed using relevant applicable information gained from other marina projects, the data sources listed above and professional judgement.

6.14 To measure employment effects the concept of Full Time Equivalent (FTE) jobs is used as per the standards of economic employment analysis. An FTE job of 1.0 would indicate a full time. An FTE job of 0.5 would indicate a part time job which for simplicity of study will be assessed as 50% of normal hours. This enables full time, part time and proportions of jobs to be combined as pro-rata and expressed as a single employment figure.

6.15 To measure the economic effects the concept of Gross Value Added (GVA) is used. For a company Value Added is the difference between the sale price of goods and services and the cost of "outside purchases" (materials and services) required to produce or provide them. Value Added generally allows for labour cost and operating profit. GVA is a measure of the value of goods and services produced in an area, the value added of an area. It is, therefore, a measure of the economic prosperity of an area.

6.16 4 criteria have been used in the evaluation of the significance of predicted effects on the proposed extension of the marina:

- The effect type (such as beneficial, adverse or unknown);
- A scale of certain, likely, unlikely or uncertain to determine the probability of the effect occurring;

- The identification of the level of socio-economic impact relevant, the levels of which are:
    I. National (UK)
    II. Regional (South west of England)
    III. District (High Peak Borough)
    IV. Local (Within 30km of the Furness Vale Marina)
- To mirror the scale of quantifiable impact within an Environmental Statement the use of major, moderate, minor, negligible or no effect of magnitude is used in the assessment.

7.0 DESCRIPTION OF BASELINE CONDITIONS

7.1 This chapter identifies the key social and economic indicators relating to the study area.

7.2 Local Economy and Employment

The site in part is an existing and established offline marina; the proposed extension area for the marina consists of a parcel of grassland of poor agricultural value and little productive agricultural use. Its change of use will cause no loss to any interest of the area.

7.3 Economy

The Office of National Statistics Statistical Bulletin of December 2012 states that the UK's GVA for 2011 (most up to date figures) was £1,310,190m with England dominating the GVA with £1,124,881m. The north west of England produced a GVA of £123,914m (9.5% of the UK total) (1.3% growth on 2010). The East Midlands of England produced a GVA of £81,581m (6.2% of the UK's total) (1.4% growth on 2010). Extrapolating on a per head basis within the north west for 2011, the HPBC district with a population of 89,500 (Census 27th March 2011) the district produces a GVA of approximately £1,588,983,000.

7.4 Employment

HPBC district comprises of 89,500 people according to the 2011 Census data. The working age population (all those who are working age, 16 to 64 – Labour Market Statistics October 2012, Office of National Statistics) comprises 68.7% of the overall population.

7.5 The economically active portion of the working population is 75.1% which is lower than the level for Great Britain (77.7%). Unemployment in the area stands at 8.3% which is higher than the regional and national averages of 7.7%.

7.6 The total employees for the HPBC district totals 45,532 (2001 Census information – the most up to date information available). The number of people working in manufacturing (manufacturing, retail and wholesale), construction and tourism stands as 21.8%, 6.1% and 13.8% respectively.

7.7 The construction and operation of the marina extension will provide direct employment opportunities in the tourism, construction and manufacturing sections. Further employment opportunities in the local economy will arise from the businesses supported by the expenditure of the marina, its berths, holders, visitors and employees.

7.8 Tourism, Construction and Manufacturing

The wider area is known for its rural beauty with the Peak District being one of the most visited tourist attractions in the UK. Furness Vale offers a limited but serviced village with scenic rural spots in the surrounding locality and whilst connected to the recreational opportunity of the canal it is clear that this recreational opportunity can be enhanced. This has been identified within local Emerging Core Strategy Policy.

7.9 The biggest employers in the area are within the manufacturing and civil service with a significant proportion of job losses in the recent past due to public sector budget restraints and market conditions following the implementation of the recession in 2008.

7.10 Community & Social Effects

The Peak District is located immediately east and throughout the borough. With reference to the marina itself, a number of PRoW, bridle paths and access to the River Goyt is located to the north of the marina area and the facilities of Furness Vale village are located immediately south of the marina via Station Road. Furness Vale itself is very much a service village but does however contain two public houses ("Soldier Dick" and "The Crossings"), one fast food takeaway in the form of a fish and chip shop, one post office and village store, and one Cantonese restaurant. Facilities in nearby Whaley Bridge are found approximately 1km east of the site via the A6 Buxton Road. There are two large industrial estates within Furness Vale accessed via Calico Lane and the A6 itself however it it is clear that whilst approximately 1,600 people live in Furness Vale the vast proportion of the workforce that live in the village commute elsewhere to work.

8.0 ASSESSMENT OF POTENTIAL SOCIO-ECONOMIC IMPACTS

8.1 Assessment of Potential Effects on Local Economy and Employment

Construction Phase

The construction of the extension and redevelopment of the marina will be a reasonably sized construction project within the district, especially within the Furness Vale area.

8.2 The construction investment will take around 8 months from the start of construction to the operational stage. The construction of the marina's extension will involve investment in the local area and will, therefore, create an opportunity for direct and indirect economic benefits. Opportunities will be taken to maximise the use of local labour sources which will provide a positive effect on the local economy and employment.

8.3 There will be opportunities for local businesses to benefit either by directly supplying plant and materials to the project or indirectly from the spending of its workforce on the local economy.

8.4 The construction of the marina's extension will create employment opportunities. Based on professional knowledge and experience of marina construction the build will employ between 15 and 20 FTE.

8.5 Given the scale of the proposed marina extension, associated construction activities, employment and training opportunities this effect is assessed as beneficial and material.

8.6 Operational Phase – Extension and Redevelopment of the Marina

The total turnover of the sites core marina facilities following on from the extension and redevelopment will be significant in the local economy and could be expected to turnover in excess of £250,000 when fully occupied. The British Marine Federation in its 2007 report "Economic Benefits of Inland Marinas" calculated that each £1 of turnover generated £0.50 of GVA. Using the ratio of £0.50 of GVA per £1 turnover, the extended marina site will then generate £125,000 GVA to the general economy 50% of this, that is to say £62,500 GVA is then anticipated to be the marina's contribution to the local economy following the extension.

8.7 5 FTE jobs are anticipated to be directly supported by the extended and redeveloped marina, namely:

- Marina Manager – 1 x FTE
- Office Administration Staff – 1 x FTE
- Facilities Building Staff – 1 x FTE
- Chandlery – 1 x FTE, 1 x PT (1.5 FTE)
- Cleaning – 1 x PT (0.5 FTE)

8.8 The marina sites effects can be summarised as such:

- GVA – £62,500
- FTE Jobs – 5

8.9 <u>Operational Phase – Local Suppliers</u>

By definition, the marina site's GVA represents turnover less "outside" purchases of goods and services. The extended marina site can, therefore, be expected to purchase £125,000 of goods and services from the wider economy. A substantial proportion of these will be purchased from local firms. Such expenditure with local firms will in turn enable them to generate additional GVA and employment.

8.10 The British Marine Federation's report and case studies of 2007 estimate that an average of 55% of such purchased goods and services are bought locally. In this instance therefore, it can be estimated that £68,750 of goods and services will be purchased by the extended marina site within HPBC. The the turnover of local firms within HPBC will therefore be increased by £68,750. Using the GVA ratios of the British Marine Federation report this will increase the GVA of these firms by £34,375 and support 2.5 FTE jobs.

8.11 The local supplier effects can be summarised as such:

- GVA – £34,375
- FTE jobs – 2.5

8.12 Operational Phase – Wider Economy

Berth holders, visitor boaters and non-boating visitors to the extended marina will also spend money away from the marina site in local shops, pubs and restaurants close to the marina and along the canals.

8.13 The largest group is berth holders. It is estimated that the average boat is used by 3.6 people for 46 cruising days per year (data taken and derived from the British Waterways Log Book Surveys 1993 and 2003); this equates to approximately 12,000 berth holder boating days per year.

8.14 Furthermore it is estimated that the average boat is used by 2 people for 9 non-cruising days per year (data taken and derived from the British Waterways Log Book Surveys 1993 and 2003); this equates to 1,260 berth holder boating days per year.

8.15 In addition a substantial number of visitor boats can be expected to stay overnight making use of the marina's facilities and visiting the wider area. The expenditure of

these visitors will clearly benefit the local economy, although this is difficult to quantify and separate from day spending and so is not calculated.

8.16 The marina is expected to attract some non-boating visitors who will provide additional expenditure in the local area. Using previous assessments of non-boating visitors who visit marinas an estimate of 2 non-boating visitors per day is considered sensible equating to approximately 730 per annum.

8.17 Using information sourced from the Inland Waterways Advisory Council (2007 – An Initial Review... and British Waterways – Visitors Destination Survey of 2007) expenditure within the wider economy can be summarised as follows (rounded to the nearest 100):

Berth Holders	No. of User Visitors Days per Year	Average Expenditure Per Person Per Day	Total Expenditure
Cruising	12,000	£9.44	£113,280
Non-Cruising	1,200	£11.01	£13,212
Non-Boating Visitors	700	£3.58	£2,506
Total	**13,900**	**** Expression is faulty ****	**** Expression is faulty ****

8.18 The British Marine Federation report advises that for every £1 of such expenditure local businesses £0.30 of GVA. The report further advises that such expenditure supports jobs to the scale of 1 FTE job for £40,000 of expenditure (including direct and indirect effects).

8.19 The wider economy effects can be summarised as such:

- GVA – £42,999
- FTE Jobs – 1

8.20 Operational Phase – Indirect Effects

Additional local jobs and income are supported by the further purchase of goods and services by supplier businesses (indirect effects) and employees of the marina, tenant, contractor and supplier businesses (induced effect). The Marina Federation report advises that the affects of these can be estimated by applying the typical multipliers of £0.30 of local GVA for every £1 of GVA generated by the marina site and local suppliers and 0.3 FTE local jobs for every marina site and local supplier job. It is considered prudent to only consider the local GVA of the extended marina site and not the wider economy.

8.21 The indirect effects can be summarised as such:

- GVA – £ 29,063
- FTE – *7*

8.22 Summary of Affects of the Proposed Marina on the Local Economy

Marina Site	**GVA**	**FTE Jobs**
Local Suppliers	£34,375	2.5
Wider Economy	£42,999	1
Indirect Effects	£29,063	7
Total	**** Expression is faulty ****	**10.5**

8.23 The scale of the impact of the local GVA generated and local jobs supported by the operational marina is assessed as both beneficial and material.

8.24 Assessment of the Potential Impacts on Tourism, Construction and Manufacturing

Construction Phase – Tourism

Due to the existing marina, the scale of the construction of the extension and the site's locality with a relatively low key potential impact on immediate receptors, the impact on tourism during the construction phase is considered to be negligible.

8.25 Construction Phase – Construction

The construction will be a reasonable construction project for the local area and will employ between 15 and 20 construction workers as well as professional consultants.

8.26 Construction Phase – Manufacturing

A number of elements of the construction, such as jetties, will be prefabricated off site. Elements such as service bollards and lighting will be sourced from specialist suppliers and manufacturers. While local and regional manufacturers are expected to benefit from the need for other materials needed for construction.

8.27 Operational Phase – Tourism

The Adopted and Emerging Planning Policy together with the National Planning Policy Framework provides emphasis on sustainable development and looks to ensure that areas for potential tourism growth identify priorities as maximising economic benefit and minimising adverse impacts on the environment and local receptors. It is considered that waterways tourism represents a significant opportunity to capitalise on the existing tourism spending of overnight boaters in the existing marina and that the extended proportion of the marina will add to the significant proportion of day time and overnight tourism income the marina offers to Furness Vale.

8.28 The marina would offer public access and improved recreational activities to the waterways that offer a sustainable link between Furness Vale, its surrounding bridleways and tourism trails, and the waterways themselves.

8.29 Operational Phase – Manufacturing

The British Marine Federation Report identifies that inland marinas are strongly linked with the other marine sectors such as manufacturing. Manufacturing benefits for the presence of marinas and equally suffers if marina berth provision is restricted.

Boats are regularly repaired, maintained and serviced. Components used are typically manufactured in the UK. There are a number of local, district and county firms involved in the repair and maintenance of canal boats who will benefit from the extension of the marina.

8.30 Assessment of Potential Community and Social Effects

Construction Phase

During the construction phase there is a potential for local receptors to be affected by construction activities; predominantly relating to transport, noise and air quality. These assessments will be fully considered within the relevant chapters of the Environmental Statement.

8.31 Operational Phase

The proposed extension of the marina will provide the local community with increased access to the countryside and riverside as well as sources of recreation and leisure activities. The local community will be able to make use of the proposed facilities building within the development.

8.32 Mitigation and Enhancement Incorporated into the Marina

Construction – Local Economy

The sourcing, where possible, of local contractors, suppliers, materials and labour will contribute to the local economy and generate local jobs.

8.33 Construction – Local Receptors

See mitigation measures that will be implemented in relation to specific environmental issues as detailed within the relevant chapters of the Environmental Statement.

8.34 Operational – Local Economy

Use, where possible, of local labour and suppliers in the day to day running of the proposed extension of the marina and its facilities.

8.35 Operational – Tourism, Construction and Manufacturing

Tourism: Highest quality of facilities and environment for berth holders and boating and non-boating visitors.

8.36 Operational – Community and Social

The proposed extension to the marina will provide the local community with increased access to the countryside and riverside as well as sources of recreational and leisure activities. The local community will be able to make use of the facilities building within the development.

8.37 The proposed marina will create a positive boost for the economy from land which for the most part currently offers no use to its local area. The proposal will create a positive GVA and employment opportunities and support 3 key industries (tourism, construction and manufacturing) as well as providing a social benefit.

9.0 EVALUATION & PREDICTED IMPACT

9.1 Construction Phase

The construction of the marina will be a positive construction project for the local area and create between 15 and 20 FTE construction jobs over a period of 8 months as well as employing professional consultants. Local and regional suppliers and support firms will also benefit from the build. Local businesses will benefit from the expenditure in the local economy from people employed on the project. These effects are likely to occur within regional and district economies. Approximately 5000 people are employed in the construction industry within HPBC regional area and the significance of the construction employment opportunities as assessed therefore as minor beneficial.

9.2 Significant elements of the build are anticipated to be prefabricated off site and many finished components purchased. These effects are likely to occur at national, regional, district and local level. The affect on the manufacturing industry is therefore considered to be minor beneficial.

9.3 Due to the scale of the proposed extension of the marina, its location on private land but use of bridle paths, tourism trails, and the existing marina during the period, the significance of the affect on tourism during the construction phase is assessed to be minor detrimental to negligible.

9.4 Environmental impacts that could impact upon local receptors during the construction phase have been assessed at the relevant points within the Environmental Statement and are considered to have a minor detrimental to negligible influence of no residual significance.

9.5 Operational Phase

The operation of the proposed marina and its affects on local suppliers and the wider economy is anticipated to contribute £106,437 GVA to the local economy which will support 9.5 to 11 jobs. The effects are likely to occur at regional, district and local levels, with the majority at local level. The economic significance therefore is assessed as minor beneficial.

9.6 Berth holders can be expected to spend 13,900 visitor days on board their boats. The vast majority of these boats will stay overnight. The marina will also provide a high quality facility for boating and non-boating visitors. The expenditure of berth holders and visitors outside of the marina is expected to exceed £128,998 per annum. These effects are likely to occur at district and local level with the majority at local level. The significance in terms of the tourism industry is therefore assessed as minor beneficial.

9.7 The extended marina will provide much improved access and amenity for recreational and leisure enjoyment of the waterways and the surrounding bridleways and trail paths and provide these recreational facilities for public enjoyment. The social effects of the extended marina are therefore assessed as minor beneficial.

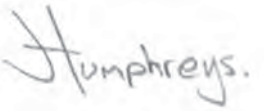
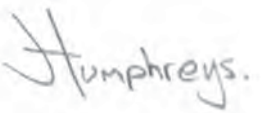
9.8 The overall significance of effects of the extended marina are therefore summarised as such:

Predicted Effect	Significance
Construction	
Local Economy and Employment	Minor Beneficial
Tourism	Negligible
Construction	Minor Beneficial
Manufacturing	Minor Beneficial
Community and Social	Negligible

Operational:	
Local Economy and Employment	Minor Beneficial
Tourism	Minor Beneficial
Construction	Negligible
Manufacturing	Minor Beneficial
Community and Social	Minor Beneficial

CHAPTER I:
ARBORICULTURE

QUALITY ASSURANCE	
Client:	NextPhase Development on behalf of J Purcell
Project:	Furness Vale Marina, High Peak
Project Ref:	JH07_2013_FVM
Report Title:	BS 5837:2012 Tree Survey, Arboricultural Implication Assessment, Arboricultural Method Statement and Tree Protection Plan

REPORT ISSUE REGISTER			
	Name	**Signature**	**Date**
Author	Jason Humphreys		15 August 2013
Review	Jason Humphreys		16 August 2013
Approved for issue	Jason Humphreys		16 August 2013

LIABILITY:

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1 Executive Summary

1.1 The Project and Commissioned Work

1.1.1 Outline Trees were instructed by Chris Whitehouse of NextPhase Development, on behalf of J Purcell, to carry out a British Standards 5837:2012 Tree Survey in order to provide guidance on the constraints posed by the trees on the site.

1.1.2 A proposed layout drawing in AutoCAD format was provided with the positions of the trees marked on in order to provide guidance on the juxtaposition of the proposed layout.

1.1.3 The scope of this report is listed below:

- BS 5837:2012 Tree Survey and Categorisation
- Arboricultural Impact Assessment (Phase 1 & Phase 2)
- Arboricultural Method Statement (Phase 1 & Phase 2)
- Tree Protection Plan (Phase 1 & Phase 2)

1.2 Findings and Recommendations

1.2.1 The proposed layout necessitates the removal of 27 trees and 2 small groups of trees, all of which are Category 'C' trees and none of which are protected by a Tree Preservation Order (TPO).

1.2.2 The most significant trees on site are protected by a TPO and are to be retained with the result that the loss of amenity value is considered to be acceptable and not detrimental to the wider area.

1.2.3 Any tree loss can be mitigated for by adopting a thoughtful and considered landscaping scheme, using a mixture of tree species and shrubs that are in keeping with the immediate environment and suitable for the final land use.

1.2.4 It is considered, that provided the recommended protective measures and construction methodology around the retained trees and those protected by a TPO, are adopted prior to and during the duration of Phase 1 & Phase 2 of the development there is no arboricultural reason as to why this proposal cannot be implemented.

Table 1.1: Summary of Recommendations

Item	Findings	Recommendations
BS 5837:2012 Tree Survey	Survey of 120 trees and 4 groups with 33 of the trees attaining a Category 'A' or 'B' assessment value.	In the context of the sites current use the tree schedule at appendix A details appropriate arboricultural works. 9 Trees were identified as being unsuitable for retention (Category 'U') and should be considered for removal in the interests of good arboricultural management.
Arboricultural Implication Assessment (Phase 1 & 2)	Proposals necessitate the removal of 27 No. Trees and 2 groups of trees, all of which are Category 'C' trees. No Category 'A' or 'B' trees are proposed for removal. Trees currently protected by a TPO are to be retained. Current proposals necessitate incursions into the RPAs of some of the retained trees during both Phase 1 & Phase 2 of the development. The existing culvert is to be piped (Phase 2) in the RPA of T40 & T48.	Mitigate for tree loss with a considered planting scheme. Adopt the use of protective fencing and ground protection measures where conflict occurs within the RPA of retained trees. Consider altering the proposed line for the 2.5m wide maintenance access (Phase 1) to reduce the areas where a no-dig type surfacing is required and to further minimise the potential for any detrimental impact on the retained trees. Care is to be taken and the advice given adopted during any excavations necessary.
Arboricultural Method Statement (Phase 1&2)	No-dig type surfacing is required for individual aspects of Phase 2 of the development. Ground protection measures are required for individual aspects of Phase 2 of the development. Tree removals and facilitation pruning have been detailed in Tables 7.1 & 7.2 of the Method Statement (Phase 1 & 2).	Protective fencing and/or ground protection measures to be in place prior to commencement of Phase 1. Appoint a project Arboriculturalist to liaise with contractors engaged in construction associated activities that might prove harmful to the retained trees. The project Arboriculturalist will coordinate with contractors to identify and source suitable products based on constraints posed by site topography, vehicular and plant movement and construction techniques. Any tree works should be carried out using the principles and practices described in British Standards 3998:2010.

CONTENTS

1 EXECUTIVE SUMMARY II

1.1 The Project and Commissioned Work ii
1.2 Findings and Recommendations ii

2 INTRODUCTION AND BACKGROUND 1

2.1 Purpose and Scope of this Report 1
2.2 Regulatory and Policy Framework 1
2.3 Site Location 1

3 SURVEY METHODOLOGY 2

3.1 Survey Methods 2
3.1 Survey Personnel 2

4 LIMITATIONS 3

4.1 Survey 3

5 RESULTS 4

5.1 Statutory Tree Protection 4
5.2 Tree Survey 4

6 ARBORICULTURAL IMPACT ASSESSMENT 6

6.1 The Tree Survey 6
6.2 Trees Suitable for Retention 6
6.3 Shading 6
6.4 Direct Damage 7
6.5 Root Protection Areas (RPAs) 7
6.6 Excavation/Ground Works 8
6.7 Hard Surfacing Within the Root Protection Area 8
6.8 Construction Activity 10
6.9 Future Pressure for Tree Removals 10
6.10 Seasonal Nuisance 10
6.11 Infrastructure 10
6.12 Trees to be Removed 11
6.13 Trees to be Pruned 11
6.14 Landscaping 11
6.15 Tree Loss Evaluation 12
6.16 Issues to be Addressed by an Arboricultural Method Statement 12
6.17 Tree Protection Plan 12

7 ARBORICULTURAL METHOD STATEMENT 13

7.1 Tree Works/Removals 13
7.2 Erection of Protective Fencing 14
7.3 Site Monitoring 15
7.4 Ground Works 15
7.5 Construction Works 16
7.6 No-Dig Surfacing 16
7.7 Completion 16
7.8 List of Contacts 16

TABLES

Table 1.1:	Summary of Recommendations	iii
Table 6.1:	Recommended Planting Distances	7
Table 6.2:	Trenchless Solutions for Utility Apparatus Iinstallation	11
Table 7.1:	Summary of Facilitation Tree Removals	13
Table 7.2:	Summary of Facilitation Tree Works	14

FIGURES

Figure 2.1:	Site Location Plan	1
Figure 5.1:	Summary Chart of Tree Assessment Categories	5
Figure 6.1:	Cell Web ™ Composition	9
Figure 6.2:	Cross Sectional Drawing of the Cell Web ™ product	9
Figure 6.3:	Two-Dimensional Geo-Grid System	9
Figure 7.2:	Default specification for protective barrier	14
Figure 7.3:	Stabilizer strut mounted on block tray	15

APPENDICES

Appendix A	Tree Survey Schedule
Appendix B	Existing Layout and Tree Survey Plan
Appendix C	Tree Protection Plan (Phase 1)
Appendix D	Tree Protection Plan (Phase 2)
Appendix E	Tree Protection Plan (Entire Site)
Appendix F	Tree Protection Plan (TPO Section)
Appendix G	TPO 112/A1 Plan
Appendix H	Protective Fencing Signage
Appendix I	References

2 Introduction and Background

2.1 Purpose and Scope of this Report

2.1.1 The purpose of the report is to support a planning application for a two phased extension of the marina that will result in the total creation of at least 35 new berths.

2.1.2 Recommendations included within this report are the professional opinion of an experienced Arboriculturist and are the view of Outline Trees. This is based on a review of the information provided by The Client, the development proposals and a survey of the Site. This report pertains to these results only.

2.1.3 This report and the survey(s) on which it depends have been carried out by a competent Arboriculturist[1].

2.2 Regulatory and Policy Framework

2.2.1 Tree Preservation Orders (TPOs) and Conservation Areas place various statutory restrictions on the felling, pruning or damaging of trees, subject to various exemptions (DCLG 2000).

2.2.2 Tree felling on non-residential land is also controlled by the need to obtain a Felling Licence from the Forestry Commission before felling more than $5m^2$ of timber in any calendar quarter subject to various exemptions and variations (FC 2007).

2.2.3 There is an overriding exemption for the above statutory controls for tree felling and pruning for works where it has been deemed necessary to implement development that has already received full planning permission.

2.3 Site Location

2.3.1 The application site is the Furness Vale Marina, The Moorings, Station Road SK23 7QA (approximate OS Grid reference SK 005 389), vehicular access to the site is directly from Station Road.

2.3.2 The location of the site is shown in Figure 2.1 below, with the extent of the application site boundary indicated by a red line.



Figure 2.1: Map view of the site

[1] As per the Terms and Definitions detailed in British Standards 5837:2012-*Trees in relation to design, demolition and construction – Recommendations.*

3 Survey Methodology

3.1 Survey Methods

The site was visited on 23 July 2013 to carry out an assessment in accordance with BS 5837:2012 – *Trees in relation to Design, Demolition and Construction - Recommendations*. The following information was collected for each tree:

- Sequential reference number;
- Species;
- Height;
- Stem diameter;
- Branch spread;
- Existing height above ground level of:
    1. First significant branch and direction of growth (e.g. 3 NW);
    2. Canopy;
- Life stage;

  Y – Young,

  SM – Semi Mature,

  EM – Early Mature,

  M – Mature,

  OM – Over Mature;
- General observations, particularly of structural and/or physiological condition;
- Estimated remaining contribution;
- Category 'U' or 'A' to 'C' grading.

3.2 Survey Personnel

3.2.1 Jason Humphreys (The Author) is an experienced Arboriculturalist with approximately 12 years of experience in the Arboricultural Industry.

3.2.2 He is a Technician grade Member of the Arboricultural Association (Tech Arbor. A) and also a Professional member of the Consulting Arborist Society.

3.2.3 He holds the Technician's Certificate in Arboriculture and the LANTRA Professional Tree Inspection certificate.

4 Limitations

4.1 Survey

4.1.1 The information contained within this report is based on the author's knowledge and experience of dealing with tree related issues. Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information.

4.1.2 Any monitoring or survey work undertaken will have been subject to limitations, including timescale, seasonal and weather related conditions. Trees were assessed from ground level using the Visual Tree Assessment (VTA) method (Mattheck 2007). No climbed inspection, removal of ivy or detailed investigation of decay was made.

4.1.3 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under his supervision and within his timescale. Acceptance of this report represents an agreement with the guiding principles and the terms listed.

4.1.4 The findings and recommendations contained within this report are, assuming its recommendations are observed, valid for a period of twelve months from the date of survey. Trees are living organisms and their condition can change significantly over a relatively short period of time – good practice dictates they are inspected on a regular basis for reasons of safety.

4.1.5 Tree rooting characteristics and soils are both enormously variable as are their interactions. This makes attempts to quantify subsidence risk assessment impossible. No effort has been made to assess subsidence risk potential nor should any be construed.

4.1.6 The report relates only to the trees shown on the attached tree survey schedule.

4.1.7 Where trees were extensively ivy clad this was recorded in the survey schedule. It is not possible to ascertain the presence of cavities or other defects beneath the ivy and, therefore, ivy should be removed and a re-inspection carried out.

5 Results

5.1 Statutory Tree Protection

5.1.1 It is considered (after taking into account the date the TPO was made and the approximate age of the trees) that the following trees **T40 – T62, T92, T94 & T96** are protected by TPO Number **112/A1 – Trees and Woodland at Furness Vale**, which is administered by Derbyshire County Council. The type of TPO protecting the surveyed trees is an area type order, which effectively protects all trees at the time the order was made (1970).

5.1.2 Enquiries were made with Monica Gillespie (High Peak Borough Council Tree Officer) on 29th July 2013 which confirmed that there was no statutory protection, administered by High Peak Borough Council, afforded to any of the trees on the site.

5.1.3 Further enquiries were made with Ruth Baker (Derbyshire County Council Tree Officer) on 29th July 2013 who kindly made a plan available indicating the extent of the area A1 (Appendix G). This plan was used in identifying the trees detailed in section 5.1.1.

5.1.4 It should be understood that no pruning works are to be carried out to the aforementioned trees unless the works are considered exempt and/or prior consent for tree works has first been granted by the LPA (Derbyshire County Council) following a formal tree works application or the submission of a 5-day notice under section 198(6)(a) of the Town and Country Planning Act 1990.

5.1.5 Pruning works can also be carried out if the works are considered necessary to implement full planning consent.

5.2 Tree Survey

5.2.1 The survey assessed 120 individual trees and 4 groups of trees. The quality and value of the surveyed trees is summarised below.

5.2.2 3 individually assessed trees of high quality and value (Category 'A') were recorded during the survey. Trees assigned to this category include Tree Ref. No's T41, T48 & T49.

5.2.3 Trees assigned to this category include attractive trees with high visibility and no significant defects, which are able to make a substantial contribution for a minimum of 40 years.

5.2.4 No Category 'A' trees are proposed for removal.

5.2.5 30 individually assessed trees of moderate quality and value category (Category 'B') were identified during the survey. Trees assigned to this category include Tree Ref. No's T5, T16 - T18, T25 - T29, T31 - T35, T40, T51, T52, T56 - T59, T62, T88, T90, T91, T92, T94, T96 & T107.

5.2.6 Trees assigned to this category include healthy attractive trees with remediable defects that are in a condition as to be able to make a significant contribution for a minimum of 20 years.

5.2.7 No Category 'B' trees are proposed for removal.

5.2.8 76 individually assessed trees and 4 groups of low quality and value category (Category 'C') were identified during the survey.

5.2.9 Trees in this category include unremarkable trees of limited merit that are easily replaced, small-growing, young species which have a relatively low potential amenity value, and low landscape benefits.

5.2.10 Trees assigned to this category typically include self-seeded trees of limited life span, small and young trees and trees of poor form and limited amenity value.

5.2.11 9 individually assessed trees were identified as being unsuitable for retention (Category 'U'). Trees assigned to this category include Tree Ref. No's T1, T2, T11, T23, T39, T65, T69, T83 & T89.

5.2.12 Trees assigned to this category are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Of the 9 trees listed above 6 were dead at the time of the inspection.

5.2.13 Irrespective of any development proposals it is considered that the trees detailed in section 5.2.11 should be removed, due to their relatively poor condition.

5.2.14 Full results of the tree survey are provided in the Tree Survey Schedule whilst a chart summarising the Tree Assessment Categories can be viewed below (Figure 5.1)

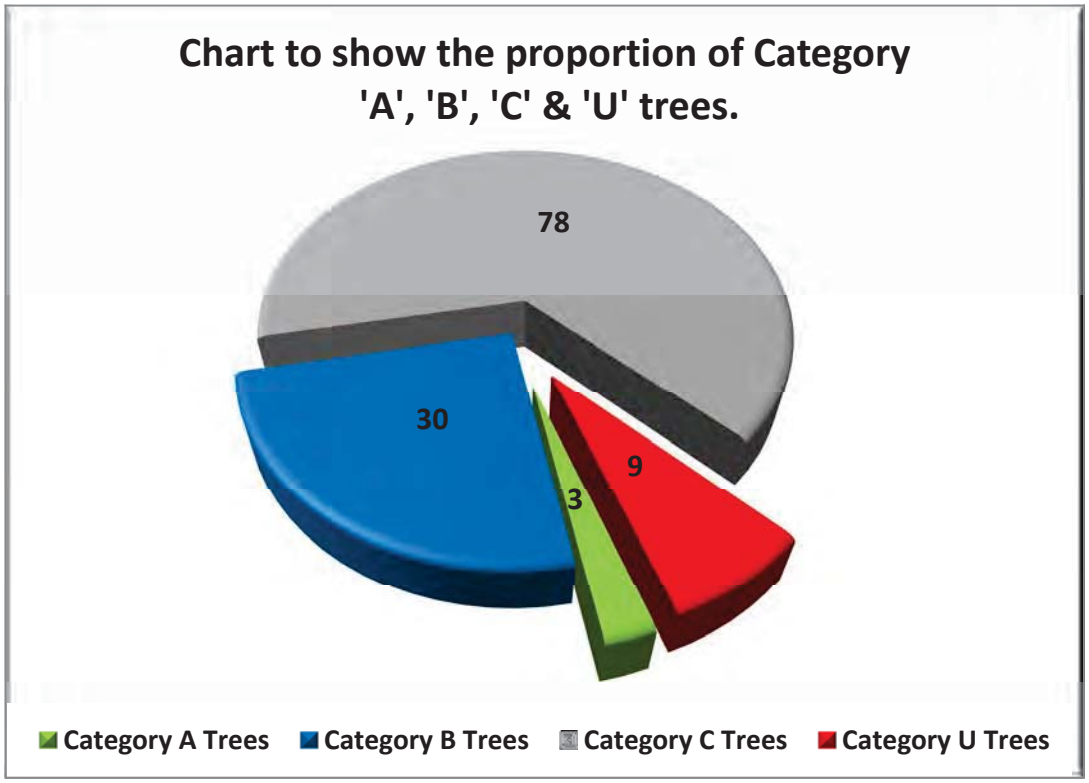


Figure 5.1: Summary of Tree Retention Categories

6 Arboricultural Impact Assessment – Phase 1 & 2

6.1 Tree Survey

6.1.1 General tree works detailed in the Tree Schedule (Appendix A) have been identified in the context of the current layout and site use.

6.1.2 Tree ref No's **T101, T102 & G2** require removal in order to carry out the proposals shown in **Phase 1** of the development.

6.1.3 Tree ref No's **T63 – T66, T68 – T87 & G1** require removal in order to carry out the proposals shown in **Phase 2** of the development.

6.1.4 Tree ref No's **T40, T49, T56, T57, T58, T88, T90, T91, T92, T94 & T96** will require some degree of crown lifting in order to accommodate the **2.5m maintenance access** shown in **Phase 2** of the development.

6.1.5 It is a point of note that irrespective of any development and in the context of the sites current use, Crown Lifting has been recommended for some of these trees in order to facilitate grounds maintenance and future inspections.

6.1.6 The final use of the **2.5m wide access in Phase 2** will have some bearing as to how high from ground level any crown lift might need to be although a **height of 4m** with pruning limited to only the **lower secondary branches** is likely to be appropriate.

6.1.7 The majority of the trees detailed in section 6.1.4 above are understood to be protected by Tree Preservation Order 112/A1.

6.2 Trees Suitable for Retention

6.2.1 Where possible, it is generally considered desirable for Category 'A' and Category 'B' trees to be retained and incorporated into new developments and layouts.

6.2.2 All Category 'A' and 'B' trees surveyed are to be retained.

6.2.3 Category 'U' trees are not considered to be appropriate for retention.

6.2.4 In assessing what trees might be suitable for retention in the context of a proposed layout the following factors have all been considered.

- Shading
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Direct Damage
- Root Protection Areas
- Future Management
- Demolition/Ground Works
- Construction Activity

6.3 Shading

6.3.1 Consideration has been given to the basic shade pattern through the main part of the day, based on advisory comments detailed in section 5.22, Note 1 of BS 5837:2012 and no further investigation or

mitigation is considered necessary due to the juxtaposition of the proposed layout, which meets the normal requirement for direct sunlight for at least a part of the day (BS 5837:2012).

6.3.2 Shading of by trees can be a problem, particularly where there are areas which require natural light. Proposed layouts should be designed to take account of existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light (BS 5837:2012).

6.4 Direct Damage

6.4.1 Any proposed layout should consider the likelihood of direct damage occurring from incremental root and stem growth and the possibility of the fabric of any new structure being damaged by the whipping of branches against it.

6.4.2 The proposed layout and the distances between the moorings and/or buildings and the trees are considered to be adequate and indicate a very low likelihood of direct damage occurring.

6.4.3 The implementation of any recommended tree pruning works and the facilitation pruning works will further reduce the likelihood of direct damage occurring from incremental root and stem growth and the possibility of the fabric of any moorings, boats or structures being damaged by the whipping of branches against them.

6.4.4 Table 6.1, taken from Annex A of BS 5837:2012 provides distances that are advised as minimum distances of trees from new structures for new plantings.

Table 6.1, Minimum distance between young trees or new planting and structure to avoid direct damage to a structure from future tree growth

Type of structure	Minimum distance between young trees or new planting and structure, in metres (m)		
	Stem dia. <300 mm [A)]	Stem dia. 300 mm to 600 mm [A)]	Stem dia. >600 mm [A)]
Buildings and heavily loaded structures	—	0.5	1.2
Lightly loaded structures such as garages, porches etc.	—	0.7	1.5
Services			
<1 m deep	0.5	1.5	3.0
>1 m deep	—	1.0	2.0
Masonry boundary walls	—	1.0	2.0
In-situ concrete paths and drives	0.5	1.0	2.5
Paths and drives with flexible surfaces or paving slabs	0.7	1.5	3.0

[A)] Diameter of stem at 1.5 m above ground level at maturity

6.5 Root Protection Areas (RPAs)

6.5.1 The erection of protective fencing as per the Tree Protection Plans **(Appendices C, D, E & F)** prior to the commencement of any works on site will protect the RPA of retained trees.

6.5.2 Existing ground levels should be retained within the RPA. Intrusion into soil within the RPA is generally not acceptable and topsoil within it should remain in situ.

6.5.3 The erection of protective fencing, in this instance, is considered to place constraints on the construction space available and other vehicular access for regular users of the site, as such it is recommended that ground protection measures will be necessary in the proximity of trees **T40, T48, T49, T51, T56 – T59, T88, T90 – T92, T94 & T96** to minimise the potential for any detrimental effect that the ground works and construction associated with the following aspects might have:

- **The installation of the 2.5m maintenance access (Phase 1 & Phase 2)**
- **5 No additional parking spaces (Phase 2)**

6.5.4 In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during the construction and, development **(Phase 1 & Phase 2)** rather than being removed. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate (BS 5837:2012).

6.5.5 British Standards 5837:2012 advises that new temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction to underlying soil and further provides the following note:

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

6.6 Excavation/Ground Works

6.6.1 The erection of protective fencing and ground protection as per the Tree Protection Plans **(Appendices C, D, E & F)** prior to the commencement of any works on site, will allow the ground works to take place without any adverse effect and/or impact on the retained trees.

6.6.2 All plant and vehicles engaged in ground works should either operate outside the RPAs, or run on ground protection (see 6.5.5).

6.6.3 Where trees stand adjacent to hard surfaces and/or buildings to be removed, excavation should be undertaken inwards, from within the footprint of the existing hard surfacing or outside of the RPAs.

6.7 Hard Surfacing Within the Root Protection Area

6.7.1 As part of the formation and installation of the **2.5m Maintenance Access (Phase 2)** it is considered that the installation of a 'no-dig' type surface will be necessary for the areas within the RPAs of trees **T40, T49, T56, T58, T59, T88, T90, T91, T92, T94 & T96**. Guidance is given below in this aspect.

6.7.2 As part of the formation and creation of **5 No. Additional Parking Spaces (Phase 2)** it is considered that the installation of a 'no-dig' type surface will be necessary for the areas within the RPAs of **T59 & T51**. Guidance is given below in this aspect.

6.7.3 Arboricultural Practice Note (APN) No. 12 describes in detail the requirements of no-dig type installation whilst BS 5837:2012 suggests 'Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems'.

6.7.4 Cross sectional drawings of a suitable product can be seen below (figures 6.1 & 6.2)

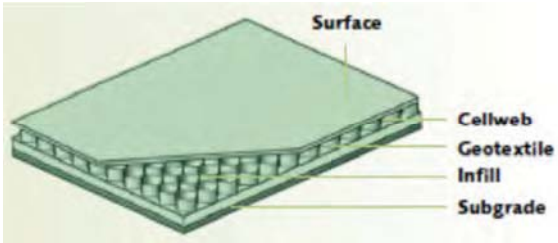


Figure 6.1, Composition of the CellWeb ™ system

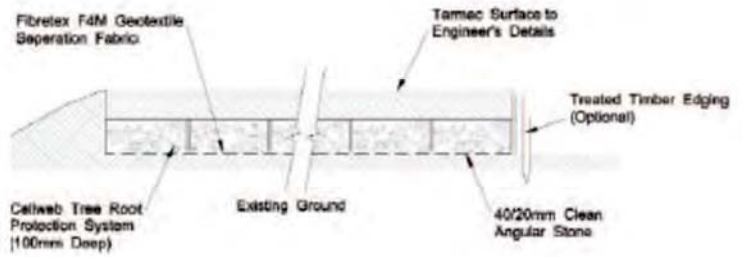


Figure 6.2, Cross section illustrating a permeable tarmac surface

6.7.5 APN No. 12 also describes a two-dimensional geo-grid system (see fig. 6.3 below). Consideration however, should be given to the nature of its final use and the type of vehicular traffic that might practically and realistically to be expected as it is not considered to be capable of supporting the loads that a three-dimensional installation can without detriment to the RPAs of the retained trees.

6.7.6 Its use therefore should be limited to pedestrian and light maintenance traffic e.g. ride on mowers.

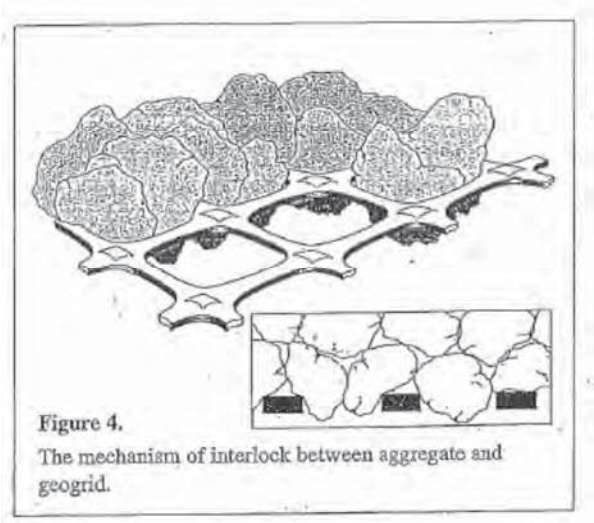

Figure 4.
The mechanism of interlock between aggregate and geogrid.

Figure 6.3, illustrating a two-dimensional geo-grid system

6.7.7 Care should be taken during the installation of the no-dig surfacing to avoid causing detrimental harm to the roots of adjacent trees.

6.7.8 In some instances the route of the 2.5m wide access runs particularly close to the main stems of retained trees, some of which have low canopies. It is recommended that the proposed route is realigned where possible in order to reduce the total m^2 of RPAs affected, reduce the likelihood for future pruning pressure and minimise the potential for any detrimental impact on the retained trees.

6.8 Construction Activity

6.8.1 The erection of protective fencing and use of ground protection as per the Tree Protection Plans **(Appendices C, D, E & F)** and section 6.5.5, prior to the commencement of any works on site will allow the development to take place without any adverse effect and/or impact on the retained trees.

6.8.2 All plant and vehicles engaged in construction works should either operate outside the RPA, or run on ground protection (see section 6.5.5).

6.9 Future Pressure for Tree Pruning/Removal

6.9.1 Whilst the presence of retained trees can often enhance the immediate environment upon completion, any proposed layout should provide sufficient space that will allow for future tree growth and a subsequently reduced need for future, frequent remedial pruning.

6.9.2 Following removal of the trees detailed in 6.12 no future pressure for tree removal or pruning from occupiers of the barges or users of the car parking spaces is anticipated. Indeed, the presence of the trees in this situation will only serve to enhance the immediate environment upon completion.

6.9.3 In the event that the proposed route of the **2.5m wide access in Phase 2** is to be retained then future periodic tree pruning works (specifically Crown Lifting) are to be anticipated. It is not considered however that future periodic pruning of that nature would be detrimental to the health of the trees or lessen their level of amenity value.

6.10 Seasonal Nuisance

6.10.1 Foliage, fruit and cone fall can be considered by some to be a nuisance and requests to Local Planning Authorities to carry out pruning works to negate these issues are often refused due in part to their brief, seasonal nature of the problem.

6.10.2 Providing a suitable juxtaposition when considering new layouts will help in minimising issues experienced by people living in close proximity to trees.

6.10.3 Autumnal leaf fall will be evident due to the deciduous nature of the vast majority of the trees. The level of leaf fall is however, considered acceptable to a reasonable level and to be expected if these trees, protected or otherwise, are to be retained.

6.11 Infrastructure

6.11.1 Infrastructure requirements have been considered and there is/no evidence to suggest that retained trees will have an impact on lighting, signage, CCTV sightlines or visibility splays.

6.11.2 Where the installation of any underground apparatus and drainage is considered necessary then particular care should be taken in its routeing and methods of installation and wherever possible be routed outside RPAs.

6.11.3 Where routeing services outside RPAs is not possible then detailed plans showing the proposed routeing should be drawn up in conjunction with the project Arboriculturist. Trenchless insertion methods are considered to be appropriate for this purpose and British Standards 5837:2012 details solutions for differing utility apparatus requirements (see table 6.1 below).

6.11.4 Particular care should be taken during the **piping of the existing culvert shown in Phase 2**. Advice is given below in section 6.11.5 for this purpose.

6.11.5 British Standards 5837:2012, Section 7.7.2 suggests that in the event roots can be retained and appropriately protected during exposure, then excavation using hand-held tools might be acceptable for shallow service runs.

Table 6.2 Trenchless solutions for differing utility apparatus installation requirements

Method	Accuracy	Bore dia. [A]	Max. sub. [B] length	Applications	Not suitable for
	mm	mm	m		
Microtunnelling	<20	100 to 300	40	Gravity-fall pipes, deep apparatus, watercourse/ roadway undercrossings	Low-cost projects due to relative expense
Surface-launched directional drilling	≈100	25 to 1 200	150	Pressure pipes, cables including fibre optic	Gravity-fall pipes, e.g. drains and sewers [C]
Pipe ramming	≈150	150 to 2 000	70	Any large-bore pipes and ducts	Rocky and other heavily obstructed soils
Impact moling [D]	≈50 [E]	30 to 180 [F]	40	Gas, water and cable connections, e.g. from street to property	Any application that requires accuracy over distances in excess of 5 m

[A] Dependent on strata encountered.

[B] Maximum subterranean length.

[C] Pit-launched directional drilling can be used for gravity fall pipes up to 20 m subterranean length.

[D] Impact moling (also known as thrust-bore) generally requires soft, cohesive soils.

[E] Substantial inverse relationship between accuracy and distance.

[F] Figures given relate to single pass: up to 300 mm bore achievable with multiple passes.

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6.12 Trees to be removed

6.12.1 The current layout requires the removal of 27 surveyed trees and 2 groups of trees and these are listed as follows:

- Tree ref No's **T63 – T66, T68 – T87 & G1** require removal in order to carry out the proposals shown in Phase 2 of the development.
- Tree ref No's **T101, T102 & G2** require removal in order to carry out the proposals shown in Phase 1 of the development.

6.12.2 No additional trees, either to provide a more suitable juxtaposition or to reduce any risks associated with their condition and/or position, are considered necessary for removal.

6.13 Trees to be pruned

6.13.1 Tree ref No's **T40, T49, T56, T57, T58, T88, T90, T91, T92, T94 & T96** will require some degree of crown lifting in order to accommodate the **2.5m maintenance access** shown in **Phase 2** of the development.

6.13.2 All necessary and additional tree works in the context of the proposals are detailed in tables 7.1 & 7.2.

6.13.3 In addition to the tree works detailed in tables 7.1 & 7.2 the complete Tree Survey Schedule (Appendix A) details additional pruning works in the context of the site's current use that should be considered to facilitate future inspection regimes and to promote the development of retained trees.

6.14 Landscaping

6.14.1 BS 5837:2012 advises that any new tree planting and associated landscaping proposals should consider the ultimate height and spread, form, habit and colour, density of foliage and maintenance implications, in relation to both the built form of the new development, and the retained landscape features.

6.14.2 No details of any proposed landscaping have been provided.

6.14.3 The area approximately **55m North West of the new facilities building in Phase 1** would allow for the planting of a linear group of small to medium sized tree species if considered necessary. Native trees including Holly (*Ilex aquifolium*) and Field Maple (*Acer campestre*) might be considered suitable for this purpose.

6.14.4 The area approximately **35m South East of the existing access steps in Phase 2** would allow for the planting of a small group of small to medium sized tree species if considered necessary. Native trees including Snowy Mespilus (*Amelanchier lamarkii*) and Field Maple (*Acer campestre*) might be considered suitable for this purpose.

6.14.5 The Western edge of the area above will also provide for the planting of a linear row of trees in a similar proximity to those proposed for removal. A fastigiate species would be suitable for this aspect e.g. Fastigiate Hornbeam (*Carpinus Betula* 'Fastigiata')

6.15 Tree loss evaluation

6.15.1 No trees proposed for removal are protected by a TPO.

6.15.2 12 of the trees proposed for removal line an internal access road, which has negligible value to the public and the wider area.

6.15.3 Of these 12 trees, 7 are of a dwarf rooting stock variety and their loss is easily mitigated for and described above in section 6.14.5.

6.15.4 All trees proposed for removal in order to facilitate the proposals or otherwise are either Category 'C' or Category 'U' trees.

6.16 Issues to be addressed by an Arboricultural Method Statement

6.16.1 The Arboricultural Method Statement (Section 7) details the general methodology for the implementation of those aspects that have the potential to result in loss or damage to retained trees.

6.17 Tree Protection Plan

6.17.1 A Tree Protection Plan has been produced for the entire site **(Appendix E)**.

6.17.2 A separate Tree Protection Plan has been produced for each Phase of development **(Phase 1 - Appendix C & Phase 2 - Appendix D).**

6.17.3 A separate Tree Protection Plan has been produced for the area currently protected by **TPO 112/A1** in order to provide more detail in recognition of the significance of the trees **(Appendix F)**

6.17.4 The Tree Protection Plans **(Appendices C, D, E & F)** will provide advice on and describe the necessary tree protection measures for the retained trees in the context of the proposed layout.

6.17.5 The Tree Protection Plans also identifies those trees necessary for removal in order to facilitate the proposals.

7 Arboricultural Method Statement – Phase 1 & 2

7.1 Tree Works/Removals

7.1.1 Tree removals tabled below (Table 7.1) have been identified as a direct result of implementing the proposal.

7.1.2 Additional pruning works considered necessary and appropriate to facilitate the implementation of the proposals have been listed below (Table 7.2).

7.1.3 Pruning works detailed in table 7.2 are not considered to have a significant reduction on the level of amenity value that these trees currently provide.

7.1.4 Any tree works should be carried out using the principles and practices described in British Standards 3998:2010 – *Tree Work - Recommendations*

Table 7.1: Summary of Necessary Tree Works/Removals

Tree Ref. No.	Species	Tree Works/Removals	Development Phase
T101	Willow	Fell tree and remove stump.	Phase 1
T102	Ash	Fell tree and remove stump.	Phase 1
G2	Hawthorn, Willow, Rowan	Fell tree and remove stump.	Phase 1
T63	Horse Chestnut	Fell tree and remove stump.	Phase 2
T64	Horse Chestnut	Fell tree and remove stump.	Phase 2
T65	Horse Chestnut	Fell tree and remove stump.	Phase 2
T66	Horse Chestnut	Fell tree and remove stump.	Phase 2
T68	Willow	Fell tree and remove stump.	Phase 2
T69	Willow	Fell tree and remove stump.	Phase 2
T70	Willow	Fell tree and remove stump.	Phase 2
T71	Willow	Fell tree and remove stump.	Phase 2
T72	Willow	Fell tree and remove stump.	Phase 2
T73	Willow	Fell tree and remove stump.	Phase 2
T74	Willow	Fell tree and remove stump.	Phase 2
T75	Willow	Fell tree and remove stump.	Phase 2
T76	Willow	Fell tree and remove stump.	Phase 2
T77	Willow	Fell tree and remove stump.	Phase 2
T78	Birch	Fell tree and remove stump.	Phase 2
T79	Birch	Fell tree and remove stump.	Phase 2
T80	Willow	Fell tree and remove stump.	Phase 2
T81	Willow	Fell tree and remove stump.	Phase 2
T82	Willow	Fell tree and remove stump.	Phase 2
T83	Ash	Fell tree and remove stump.	Phase 2
T84	Willow	Fell tree and remove stump.	Phase 2
T85	Ash	Fell tree and remove stump.	Phase 2
T86	Ash	Fell tree and remove stump.	Phase 2
T87	Ash	Fell tree and remove stump.	Phase 2
G1	Hawthorn	Fell tree and remove stump.	Phase 2

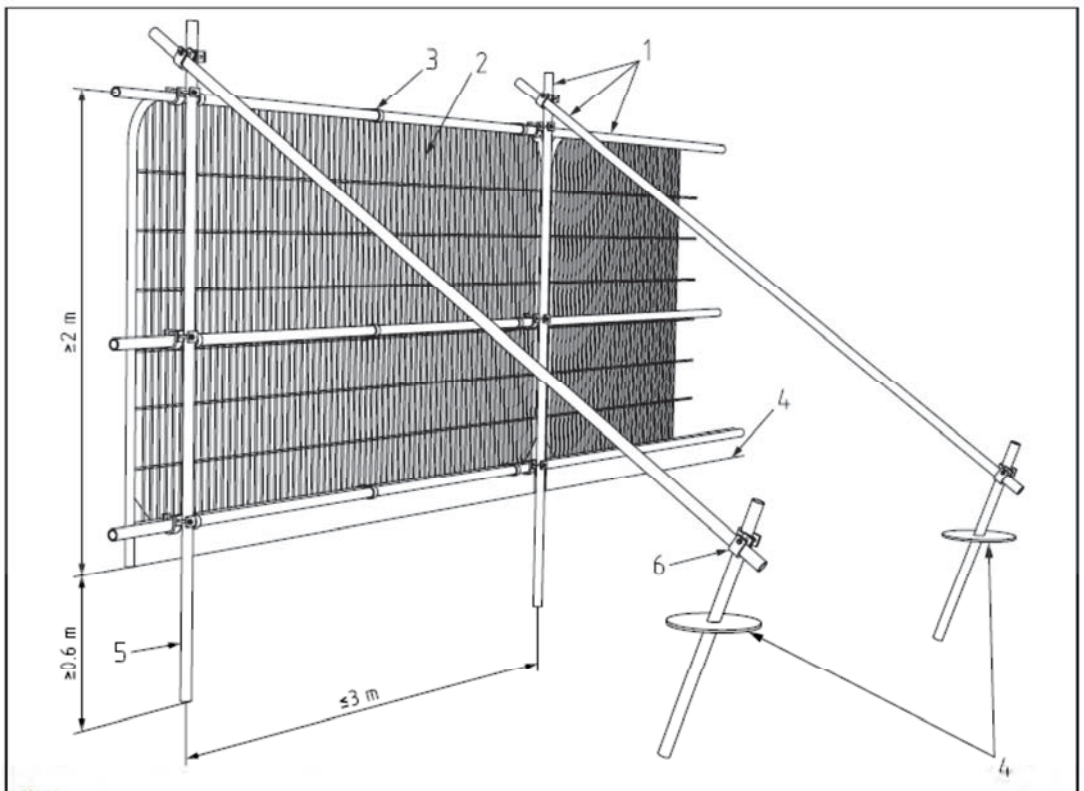
Table 7.2: Summary of Facilitative Tree Works

Tree Ref. No.	Species	Facilitative Tree Works	Development Phase
T40	Oak	Crown lift to provide access (approx. 3-4m)	Phase 2
T49	Oak	Crown lift to provide access (approx. 3-4m)	Phase 2
T56	Oak	Crown lift to provide access (approx. 3-4m)	Phase 2
T57	Oak	Crown lift to provide access (approx. 3-4m)	Phase 2
T58	Oak	Crown lift to provide access (approx. 3-4m)	Phase 2
T59	Ash	Crown lift to provide access (approx. 3-4m)	Phase 2
T88	Lime	Crown lift to provide access (approx. 3-4m)	Phase 2
T90	Lime	Crown lift to provide access (approx. 3-4m)	Phase 2
T91	Field Maple	Crown lift to provide access (approx. 3-4m)	Phase 2
T92	Lime	Crown lift to provide access (approx. 3-4m)	Phase 2
T94	Lime	Crown lift to provide access (approx. 3-4m)	Phase 2
T95	Birch	Crown lift to provide access (approx. 3-4m)	Phase 2
T96	Lime	Crown lift to provide access (approx. 3-4m)	Phase 2

7.2 Erection of Protective Fencing

7.2.1 Protective fencing should be erected as per the Tree Protection Plans **(Appendices C, D, E & F)** prior to the commencement of any works on site.

7.2.2 The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in Figure 7.2 (see below).



Key
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure 7.2 Default specification for protective barrier © British Standards Institute

7.2.3 All-weather notices should be attached to the fencing; a suitable example for use has been attached at **Appendix H.**

7.2.4 Once erected, the protected area should be regarded as sacrosanct and should not be removed or altered without prior recommendation by the project Arboriculturist (7.3.1) and, where necessary, approval from the local planning authority.

7.2.5 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project Arboriculturist. For example, 2m tall welded mesh panels on rubber or concrete feet as illustrated in Figure 7.3 (see below).

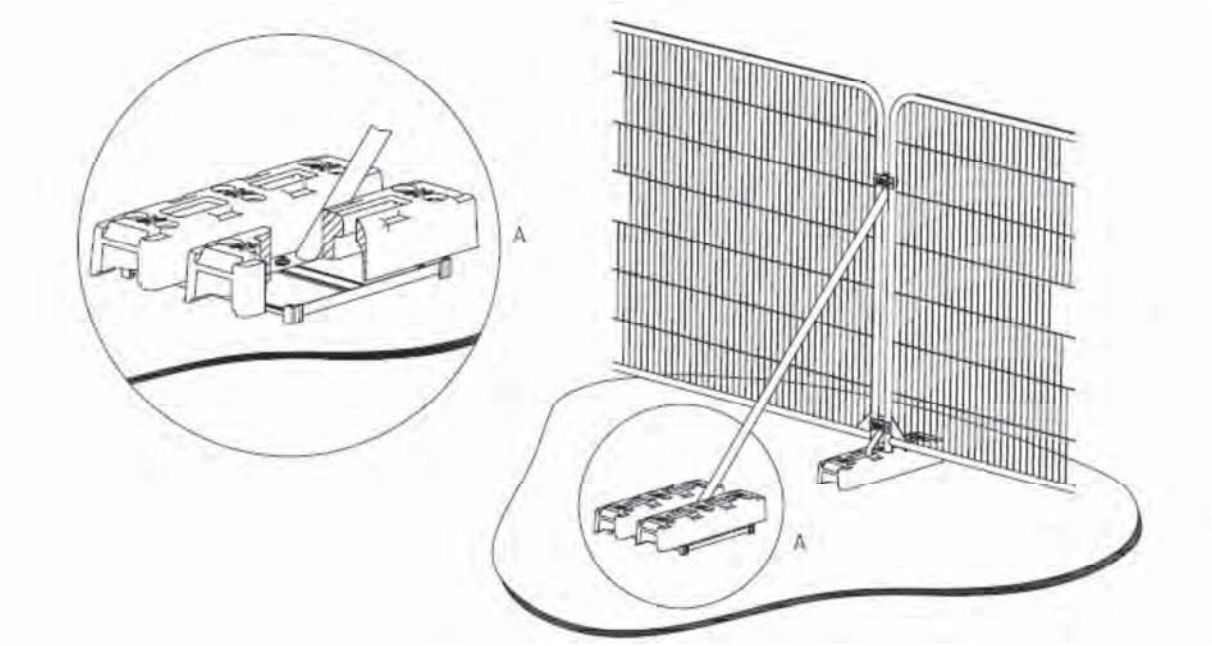


Figure 7.3 Stabilizer strut mounted on block tray © British Standards Institute

7.3 Site Monitoring

7.3.1 It is recommended that a Project Arboriculturist is appointed prior to the commencement of any works and retained for the duration of the project.

7.3.2 The appointed person can assist in monitoring Arboricultural site activity using an auditable system.

7.3.3 The appointed person should be consulted in the event that additional ground protection measures are considered necessary, root pruning is required or incursions into the RPAs are considered necessary.

7.4 Ground Works

7.4.1 The erection of protective fencing as per the Tree Protection Plans **(Appendices C, D, E & F)** prior to the commencement of any works on site will allow the ground works to take place without any adverse effect and/or impact on the retained trees.

7.4.2 All plant and vehicles engaged in ground works should either operate outside the RPA, or run on ground protection (see 6.5.5).

7.5 Construction

7.5.1 Protective fencing as per the Tree Protection Plans **(Appendices C, D, E & F)** should be erected prior to the commencement of any works on site.

7.5.2 All plant and vehicles engaged in construction activity should either operate outside the RPAS, or run on ground protection (see 6.5.5).

7.6 No-Dig Surfacing

7.6.1 The use of no-dig surfacing is considered necessary for use in this development. Generic guidance is given below in respect of its installation methodology.

7.6.2 Existing hard surfacing should be retained as temporary ground protection within the RPA for the duration of the construction and then only removed when ready, by hand tools, immediately prior to the installation of the No-Dig surfacing.

7.6.3 Once the RPA beneath the existing hard surfacing has been exposed it should be treated as sacrosanct and excavation, skimming or scraping should not take place within it.

7.6.4 Manufacturer's installation guidelines specific to the product used should be adhered to.

7.7 Completion

7.7.1 Upon completion of the project, advice of the project Arboriculturist should be sought in coordination of the removal of the protective fencing and ground protection if necessary, to survey the retained trees for signs or symptoms of damage and/or stress that the construction might have had.

7.7.2 The protective fencing should remain in situ until its use is considered unnecessary and any risk of damage to the retained trees and/or their respective RPAs e.g. soil compaction from vehicular plant or machinery, has passed.

7.8 Contacts

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CHAPTER J:
HERITAGE

CONTENTS

Item	Description
1.0	Introduction
2.0	Methodology
3.0	Designated Heritage Assets and Planning Policy
4.0	Heritage Assets and their Significance
5.0	Predicted Impacts and Conclusion

1.0 INTRODUCTION

1.1 NextPhase Development Ltd have carried out a Cultural Heritage Assessment of land to be used for the proposed extension and redevelopment of Furness Vale Marina, adjacent to the Peak Forest Canal at Furness Vale Marina, Station Road, Furness Vale. The report addresses extant built heritage remains and historic landscape referred to collectively as Heritage Assets.

1.2 The application site is approximately 1 hectare in area and is located within the High Peak Borough Council (HPBC) designated boundary and the parish of Whaley Bridge. The site and the extension of the marina proposals are described in detail in Chapter 1 of the Environmental Statement.

1.3 This chapter focuses on the heritage resource of the site itself, and its relationship with the heritage resource (which given the physical and actual boundaries of the site are assessed as a 1km "buffer" around the site) has also been addressed in detail.

1.4 The chapter addresses any standing buildings in the historic landscape collectively termed as Heritage Assets. A Heritage Asset may be defined as a building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. Heritage Assets are a valued component of the historic environment. They include designated Heritage Assets and assets identified by the Local Planning Authority during the process of decision making or through the plan making process (including local listing). The significance of a Heritage Asset is defined as the value of a Heritage Asset to this and future generations because of its heritage interest. The assets covered in this statement relate to interests that may be archaeological, architectural, artistic or historic.

1.5 The main objectives of this assessment are:

- To identify designated heritage constraints within the site and study area.
- To gather information on non designated recorded Heritage Assets.
- To assess the above baseline information and offer an analysis of the potential for currently unrecorded Heritage Assets within the site.
- To assess the baseline information and offer an analysis of the preservation and value of the recorded Cultural Heritage resource within the site.
- To assess the significance of the Heritage Assets and the impact of the proposed extension to the marina upon the significance of these assets if unmitigated.
- To identify appropriate mitigation measures for significance adverse impacts.
- To identify the residual impact of the proposed extension to the marina, taking into account proposed mitigation and assess the significance of the effects.

2.0 METHODOLOGY

2.1 The contents of this chapter has been guided by the National Planning Policy Framework (2012) Chapter 12: Conserving and Enhancing the Historic Environment, and Environmental Impact Assessment: A Guide to Procedures Issued by the Former DETR and the National Assembly for Wales (2000).

2.2 Desk Based Assessment

The baseline survey involved consultation of readily available historical information from documentary sources. The major repositories of the information consulted comprised of:

- UNESCO – List of World Heritage Sites
- English Heritage:
  - Listed buildings
  - List of scheduled monuments
  - Register of parks and gardens of historic interest
  - Register of battlefields
- HPBC
  - Peak Forest Canal Area Appraisal
  - Local Planning Policy
- Online sources
  - Including the DEFRA MAGIC website
  - Local / Regional Plan information
  - British Geological Survey information

2.3 All points of Cultural Heritage interest found in the baseline survey that are relevant to the application are noted in Appendix G IV: D/Figures (Drawing SHF.219.001.D.001) in the Environmental Statement.

2.4 Assessment of Potential Impacts upon the Setting of Designated Heritage Assets

A setting may be defined as the surroundings in which a Heritage Asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or a negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. National Planning Policy Framework Chapter 12 acknowledges the contribution that the setting of a Heritage Asset makes to its significance, and that the affects upon this from development should be considered by Local Planning Authorities.

2.5 Guidance on assessing the setting of Heritage Assets and potential impacts upon this by developments, is provided in the adopted English Heritage guidance "The setting of Heritage Assets: English Heritage Guidance" (English Heritage 2011). The guidance is designed to compliment and expand the planning policy guidelines laid out in the National Planning Policy Framework.

2.6 The English Setting guidance recommends a staged approach in the assessment of potential effects upon the setting of a Heritage Asset arising from development. The guidance does not offer a detailed framework for this assessment, and is not specifically tailored to the EIA process, methodology and terminology.

2.7 The essence of the staged assessment process should be summarised as:

- The significance of a Heritage Asset should initially be assessed.
- The contribution of the setting of the asset to its overall significance should then be identified.
- Potential alterations to the assets setting then need to be identified. The purpose of this is ultimately to inform judgement by stakeholders on questions including:

- Is development of a particular type, scale, massing or prominence within the setting of an asset likely to be acceptable or unacceptable in terms of degree of harm to its significance?

2.8 Methodology for the Assessment of Significance of Effects of the Proposed Extension to the Marina

In assessing the effects of the proposed marina upon Cultural Heritage a staged approach has been utilised, in line with the other chapters of the Environmental Statement to allow balanced consideration of various environmental effects. This has comprised the following stages of consideration:

- Identification of the potential impacts of the proposed extension of the marina.
- Identification of existing baseline conditions.
- Predicted impacts upon identified Heritage Assets including its nature, extent and magnitude from the marina are identified.

2.9 The significance of effects of the proposed extension to the marina have been assessed with reference to the value of the Heritage Asset being impacted upon and the magnitude of the impact.

Criteria for Assessing Cultural Heritage Value

Value of Resource	Description
Very High	• World Heritage Sites • Historic landscapes of international value
High	• Monuments and undesignated assets of schedule-able quality and importance • Grade I and II* listed buildings • Conservation Areas • Designated and undesignated historic landscapes of outstanding historic interest
Medium	• Designated or undesignated assets that contribute to regional research objectives • Grade II listed buildings

	• Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric • Conservation Areas containing important buildings and contribute significantly to their historic character • Historic townscapes or built up areas with important historic integrity • Designated landscapes of special historic interest
Low	• Assets of limited value but with potential to contribute to local research objectives • Locally listed buildings • Historic townscape or built up areas of limited historic integrity • Robust undesignated historic landscapes
Negligible	• Assets with very little or no surviving architectural interest • Buildings of no architectural or historical note • Landscapes with little or no historic interest

2.10 The magnitude that predicts the impact is assessed using the criteria in the table below. The magnitude of the predicted impact is likely to be a combination of extent of the area affected and the scale of the effect. This includes both physical effects of development and non physical effects, such as the visual alteration of a resource's setting:

Magnitude of Impact	**Description if Impact**
Major	• Change to most or all historic building elements such that the resource is totally altered • Comprehensive changes to the setting of the historic building assets • Change to most or all key historic landscape elements
Moderate	• Changes to many key historic building elements such that the resource is significantly modified • Changes to the setting of historic buildings such that it is significantly modified • Changes to key historic landscape elements such that they are significantly modified
Minor	• Changes to key historic building elements such that the asset is slightly different • Change to the setting of an historic buildings such that it is noticeably changed

	• Changed a few key historic landscape elements or slight visual changes resulting in the limited changes to historic landscape character
Negligible	• Very minor changes to historic building elements or setting that hardly affects it • Very minor changes to historic landscapes elements with virtually unchanged visual affects resulting in a very small change to historic landscape character
No Change	• No change to historic building fabric and setting and no change to elements, no visual changes arising from amenity or community factors

2.11 Following the evaluation of the value of the Cultural Heritage resource and the magnitude of the predicted to impact, the scope from mitigation of adverse affects and enhancement of the beneficial aspects is identified.

2.12 Following the identification of mitigation / enhancement, the significance of residual impacts is evaluated. The significance of the affects of the development may be categorised as:

- Major beneficial
- Minor beneficial
- Not significant
- Minor adverse
- Major adverse

3.0 DESIGNATED HERITAGE ASSETS AND PLANNING POLICY

3.1 Planning Policy - National Planning Policy Framework

Paragraph 128 of the National Planning Policy Framework states that "in determining applications, Local Planning Authorities should require a new applicant to describe the significance of any Heritage Assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environmental record should have be consulted and the Heritage Assets assessed using appropriate expertise where necessary".

3.2 Chapter 129 of the National Planning Policy Framework states that "Local Planning Authorities should identify and assess the particular significance of any Heritage Asset that may be affected by a proposal (including by developments affecting the setting of a Heritage Asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a Heritage Asset, to avoid or minimise conflict between the Heritage Assets conservation and any aspect of the proposal".

3.3 Paragraph 131 of the National Planning Policy Framework states that "in determining planning applications Local Planning Authorities should take account of:

- The desirability of sustaining and enhancing the significance of Heritage Assets and putting them to viable uses consistent with their conservation;
- The positive contribution that the conservation of Heritage Assets can make to sustainable communities including their economic vitality; and
- The desirability of new developments making a positive contribution to the local character and distinctiveness."

3.4 International Designation

No world heritage sites are situated within the site or its vicinity.

3.5 Statutory Designations

No scheduled monuments are located within a 3km radius of the site. The nearest scheduled monument to the application site is located to the south east of the site 4kms away in Bugsworth (Scheduled Monument 1021384 Bugsworth Canal Basin, Tramway, Quarry and Lime kilns).

3.6 Two Grade II listed buildings are located within 1km of the application site. These consist of the Peak Forest Canal Aqueduct Bridge on the Peak Forest Canal adjacent to Station Road, Grade II listed (Ref: 1088086) and the Peak Forest Canal Over Bridge on the Peak Forest Canal adjacent to Buxton Road which is Grade II listed (Ref: 1088122). As these Grade II listed buildings lie 0.5km south east and north west respectively of the application site, it is considered that they are significantly outside of the study area. A further 3 listed buildings are located within a 1km radius of the application site although they lie approximately 1km north east and west of the site and given the topographical differences over this distance from the application site their impact from the site is negligible. A further 51 listed buildings are located within a 2.5km radius of the application site with the vast majority located within the Torr Conservation Area. This is located north of the application site, approximately 1.5km away and therefore the site has a minimal impact upon this area.

4.0 HERITAGE ASSETS AND THEIR SIGNIFICANCE

4.1 Peak Forest Canal

The canal is recorded on Derbyshire's Historic Environmental Record as the Peak Forest Canal - Upper Level. The canal and its tow path is a spur off the Cheshire Ring which played an important role in the Derbyshire industrial development during the 1800s.

4.2 The application area lies within the Peak Forest Canal Furness Vale Local Wildlife Site which is registered with Derbyshire Wildlife Trust and as already stated the Peak Forest Canal in this area houses two Grade II listed bridges. The Huddersfield Narrow Canal Site of Special Scientific Interest is linked to the Peak Forest Canal via the Ashton Canal which is approximately located 23km downstream from the site.

4.3 Although the canal is not designated as a Conservation Asset located within it are a number of important Heritage Assets both from a national and local designation perspective and therefore by definition the canal should be designated as a low value of resource or Cultural Heritage value.

5.0 PREDICTED IMPACTS AND CONCLUSION

5.1 Summary of Proposed Marina Impacts

The extension to the existing marina design proposals are provided in detail in the Design & Access Statement. The project will comprise of excavation of a small area of ground to the north of the existing marina along with the reconfiguration of the northern element of the existing marina.

5.2 Magnitude of Predicted Impacts and Evaluation of Significance of Impacts

The only features of moderate value to the area consist of the 2 Grade II listed bridges located 0.5km away from the application site towards each route of the Peak Forest Canal. These features have been identified as potentially medium value. However the proposed construction and incorporation of the extended marina area will have no impact upon these existing features and therefore the significance of the impacts will be considered as not significant.

5.3 The Peak Forest Canal has been identified as an asset of low to medium Cultural Heritage value to the area. It is considered that the proposals offer no significant impact on the Peak Forest Canal that is not already in existence through the extant Furness Vale Marina and therefore the proposal is considered to offer a negligible (not significant) impact upon the Peak Forest Canal.

5.4 Mitigation

Care has been taken throughout the evolution of the design to ensure a minimal visual impact of the proposed extension to the marina upon Heritage Assets, with an emphasis on complimentary green space and tree planting around the proposed new bay to enhance and relate to the Peak Forest Canal and surrounding landscape. With this in mind all the construction within the site is essentially restricted in terms of

built height and massing so that it is proportionate and in scale with the existing features and its surrounding.

5.5 Further Identified Mitigation Measures

Finally in this assessment no heritage values have a significance as to preclude the proposed extension to the marina have been identified. An appropriate programme of mitigation could be agreed with the Local Planning Authority should this be necessary and implemented as a condition of planning decision.

5.6 Conclusion

The baseline assessment has been informed by a large number of sources, including historical research and consultation using local, regional and national heritage stakeholders and evidence. As a result of these works it has been identified that the proposed extension to the marina offers a negligible impact upon the few physical Heritage Assets located within proximity to the site. No residual effects of the marina upon Heritage Assets are greater than negligible (not significant) significance have been identified and no heritage issues of a significance as to preclude the construction of the marina have been identified.

CHAPTER K:
TRANSPORT

CONTENTS

Item	Description
1.0	Introduction
2.0	Existing Situation
3.0	Sites Accessibility
4.0	Development & Access Proposals
5.0	Development Traffic
6.0	Impact & Conclusions

Item	Description
Appendix K i	Bus Timetables
Appendix K ii	Accident Data
Appendix K iii	Existing Accessibility Plan

1.0 INTRODUCTION

1.1 NextPhase Development Ltd has provided traffic and transport advice in support of the planning application for the extension and redevelopment of Furness Vale Marina, Station Road, Furness Vale. The location of the site is shown in the existing Accessibility Plan that forms Appendix K iii.

1.2 The scope of the Transport Statement (TS) is in line with the advice contained in the Scoping Study Application Response from HPBC in January 2013 together with guidelines provided by the Canal & River Trust in their Expression of Interest feedback of July 2013. The TS has taken into consideration the advice contained in the Department for Transport (DfT) "Guidance on Transport Assessment".

1.3 The scope for the TS includes an evaluation of the trip generation characteristics of the proposed extension and redevelopment of the marina. The data relating to this is included and detailed in section 5 of this report.

1.4 The proposed development consists of a two phase extension and redevelopment of the existing marina including the realignment of an existing bay which will incorporate a further 3 moorings (Phase Two), and the construction of a new off-line moorings bay to the north of the existing marina comprising of 35 moorings (Phase One). The development includes an associated facilities building, extension of a perimeter track and parking. Vehicle access to the marina will be as existing from Station Road.

2.0 EXISTING SITUATION

2.1 Site Locations & Context

The development site is located adjacent to the Peak Forest Canal and is bounded to the east by the canal and the south by Station Road. The site is within the Local Authority boundary of HPBC and sits within the village of Furness Vale, which is 8km east and west of Stockport and Chapel-en-le-Frith respectively. The site location and adjacent highways network is shown on the plan in Appendix K iii.

2.2 The Phase Two area currently consists of an existing marina which is to be reconfigured and the Phase One area currently consists of unused field land. The Phase One area is currently accessed from a secondary track that runs from the A6 to the west of the site underneath the adjacent westerly railway line and between the Phase Two and Phase One area of the site before continuing over the existing swing bridge and through to a farmstead. The proposed development of the Phase One area includes the incorporation of a secure gated system where by a car or pedestrian entering the Phase One area from the Phase Two area will only gain access via a key fob system which will open the gates of Phase Two and Phase One and form an interconnecting track between the two phases for a short period of time before closing to allow the normal use of this secondary track. It should be noted that the use of this track for vehicles is in an extremely low quantity on a daily basis.

2.3 The predominant access for the site is therefore from the existing marina access off Station Road. Station Road is a single carriageway road connecting the A6 Buxton Road in the south west to a number of roads including Marsh Lane and Ladypit Road to the north east. Station Road itself has a railway line crossing approximately 40m from its connection with the A6 and heading north east the marina entrance is located approximately 20m on from the railway crossing. This railway crossing also serves as the predominant access to Furness Vale Railway Station and with the

incorporation of a canal bridge on Station Road in short vicinity and parallel parked traffic adjacent to the railway station there are significant physical restrictions on traffic speeds of this section of Station Road. The topography of the road running north east from the A6 together with the railway crossings and the parallel parking create natural traffic calming features and it is necessary therefore to travel at very low speeds (under 30mph) to negotiate the area that runs passed the marina entrance comfortably.

2.4 Existing Traffic Volumes & Speeds

At the time of the site visit on Friday October 4th 2013, Station Road was very lightly trafficked. A speed survey was undertaken at the time of the visit and the results are summarised in table 2.1.

2.1: Station Road Traffic Speeds

	South Bound	North Bound
Average Speed (mph)	23.00	24.00
Average Speed (km/h)	37.01	38.62
85%ile Speed (km/h)	41.84	48.28
Wet Weather 85%ile Speed (km/h)	37.84	44.28

The marina access provides vast and sufficient visibility splays in both directions which to the south span to the connection with the A6 Buxton Road and to the north provide views beyond the canal bridge and down the slope towards Marsh Lane.

2.5 Highways Safety

The accident records for the High Peak area have been obtained from Derbyshire County Council. The records do not highlight any significant personal injury

accidents recorded on this section of the road within the most recent available data. An overview of the current accident statistics for the area are found in Appendix K ii.

3.0 SITE ACCESSIBILITY

3.1 Public Transport

The nearest bus services route is along the A6 Buxton Road approximately 60m south west of the site. The Furness Vale Railway Station is located opposite the entrance to the marina. The services available from these stops and stations provide connections to Stockport, Manchester, Buxton, Bakewell and Chapel-en-le-Frith as well as others (together with a number of smaller settlements along these routes). The bus service availability is summarised is table 3.1.

3.1: Bus Services

Service	Route	Frequency (Mon-Sat)	Frequency (Sunday)
61	Glossop – New Mills – Buxton	Hourly	Hourly
199	Buxton – Stockport – Manchester Airport	Half Hourly	Hourly
TP	Derby – Matlock – Manchester	Hourly	2 Hourly

3.2 Furness Vale Railway Station provides Northern Rail train services to Buxton and Stockport amongst other routes on a half hourly basis.

3.3 It is considered that the walking distances to existing bus and train services are desirable and sustainable. It is therefore considered that public transport does offer a direct service to existing and proposed boat users within the existing and extended marina.

3.4 Walking & Cycling

The site is well connected with the surrounding network Public Rights of Way (PRoW), bridle paths and trails and these are shown in Appendix K iii - Existing Accessibility Plan. The canal tow path route is also available.

The type of use proposed at the site is not a major trip generator. However, for those users of the site that do not wish to travel by car the areas that will be accessible on foot or by cycle are also indicated in Appendix K iii. The typical maximum distances for which journeys on foot and by cycle which are considered to be a viable option are indicated on the plan, at 2km and 5km respectively.

3.5 Access to Local Amenities

The main concentration of shops and amenities are located on the A6 Buxton Road immediately adjacent to the marina, and supplemented by those facilities found within the neighbouring Whaley Bridge and New Mills. These facilities include a post office, shops, restaurants, takeaways, public houses and professional services. It is therefore considered that the services available within the desirable walking and cycling catchment are extensive for the existing and new boaters located within the marina.

4.0 DEVELOPMENT & ACCESS PROPOSALS

4.1 Proposed Development

The development will comprise a new section of the existing Furness Vale Marina which will include 35 moorings, 32 car parking spaces, a facilities building and new security access fencing. The proposal also includes the reconfiguration and redevelopment of an existing bay in the marina which will realign the moorings and incorporate a further 3 moorings within it.

4.2 The extended marina will be accessed from the Peak Forest Canal using the existing suitable facilities. The marina is currently serviced by an internal road that runs to the northern boundary of the existing Phase Two area. This will be extended via a secure gated system to the Phase One area which sits to the north of the marina at present.

4.3 Access

Access to the site will be via the existing access point on Station Road. The layout of the access road and associated visibility to the standard required for the observed traffic speeds are identified as being suitable. Pedestrian access to the site is provided via a footpath off Station Road together with the canal tow path.

4.4 Parking

The extension to the marina proposes to incorporate a further 32 car parking spaces. It is considered at present that the marina is understocked with car parking spaces, especially in the area known within the application as Phase Two. Once the Phase Two area has been reconfigured the number of moorings in this location will be 24 and in combination with the 35 moorings proposed in the Phase One area it equates to a ratio of 0.54 spaces per berth.

5.0 DEVELOPMENT TRAFFIC

5.1 Development Traffic Forecast

The methodology for the assessment of traffic generation from the proposed development has been agreed with HPBC and has been prepared in association with the guidelines from the DfT. The trip generation of the existing marina facilities are identified in table 5.1 below.

5.1: Trip Generation – Existing Marina

	Trip Rate per Berth		Development Traffic	
	In	Out	In	Out
AM 08:00 – 09:00	0.094	0.047	8	4
PM 17:00 – 18:00	0.070	0.092	6	8
Daily			64	59

5.2 It can be seen from this that the trip generation characteristics of the site are low within the existing marina and do not have an impact upon the wider highway network. It should also be added that there is an existing business (H&S Tool Ltd) located within the marina that also use the access, which has a number of staff including daily deliveries. Therefore it is concluded that the business provides a proportion of the trip generation into the access as well, reducing the marinas impact even further on the wider highway network.

5.3 It is considered that the extension of the marina will have a limited impact on the trip generation from the marina access which at present already shows low impact characteristics on the wider highway network.

6.0 IMPACT & CONCLUSIONS

6.1 The Transport Statement demonstrates that the site is located within excellent walking and cycling distances of local retail and leisure destinations in Furness Vale and the wider High Peak region. Existing PRoW corridors link the site to these destinations together with public transport infrastructure that is within immediate proximity of the site.

6.2 The forecast traffic associated with the development proposals is low and will not have a material impact upon the surrounding highway network. The site traffic flows are of a level that will be easily accommodated by the access junction of the existing marina which itself meets design speed visibility requirements.

6.3 The accident data provided by Derbyshire County Council has identified that there are minimal accidents in the vicinity of the access over the course of the previous 5 years and therefore it is concluded that the forecast traffic volumes provided by the extensions to the marina will not materially change historic road safety levels.

6.4 The Transport Statement therefore demonstrates that there are no traffic, transport or highways reasons upon which to refuse this application.

CHAPTER L:
ENVIRONMENTAL HEALTH

CONTENTS

Item	Description
1.0	Noise
2.0	Vibration
3.0	Air Quality
4.0	Construction Management

1.0 NOISE

1.1 Introduction

An attended noise survey was undertaken over the course of two separate days (Wednesday 4th September and Friday 4th October 2013) to assess the existing noise environment around the site. This analysis therefore allows an assessment of the likely construction noise impacts and operations noise relating to the extended facilities of Furness Vale Marina.

1.2 Noise Units

Noise can be defined as an unwanted sound. Sound in air can be considered as the propagation of energy through the air in the form of hostilatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because a range of audible sound pressures are very great and secondly because the loudness function of the human auditory system is approximately logarithmic. The dynamic range of the auditory system is generally taken to be 0dB to 140dB.

1.3 Standards and Guidelines

Chapter 11 of the National Planning Policy Framework (NPPF) (March 2012) "Conserving and enhancing the natural environment", states at paragraph 123 that planning policies and decisions should aim to:

- "Avoid noise from giving rise from significant adverse impacts on health and quality of life as a result of new development;
- Mitigate and reduce to a minimum other adverse impacts on the health and quality of life arising from noise from new development, including through the use of conditions;
- Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable

restrictions put on them because of changes in nearby land uses since they were established; and

- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for there recreational and amenity value for this reason."

1.4 British Standard 4142(2) is the British standard method used for rating industrial noise affecting mixed residents and industrial areas. BS4142 is a comparative standard in which the estimated noise levels for the proposed development are compared to the background noise level from existing uses.

1.5 BS4142 relates to the likelihood of complaints to the difference between the rating level of the noise being assessed and the background noise level. The background noise level is the LA90 noise level, usually measured in the absence of noise from the source being assessed.

1.6 The rating level of the noise being assessed is defined as its LAeq noise level (the specific noise level) with the addition of a single 5dB acoustic feature correction should the noise exhibit a marked of impulsive and / or tonal component or should the noise be irregular enough in character to attract attention. During the day time, the specified noise levels are determined over a reference interval time of 1 hour. At night time the reference interval is 5 minutes.

1.7 If the rating level of the noise being assessed exceeds the background level by 10dB or more BS4142 advises that there is a likelihood of complaint. A difference between background level and rating level of around 5dB is described as being of marginal significance. A rating level of10dB below the background level is described as being a positive indication that there will be no complaints. This is because a sound of 10dB

below background level, unless it has particularly noticeable characteristics, is likely to be inaudible.

1.8 British Standard 5228

BS5228(3) is the principle standard within the UK providing guidance on noise from construction activities. The aim of the guidance is to provide a methodology to assess noise levels from construction operations and seeks to ensure that the contractors adopt the principle of best practicable means to reduce noise from the site operations and hence seeks to reduce potential impacts and disturbance associated with the works.

1.9 Whilst the standards does not define specific limits for construction activities, it does provide examples of limits applied to major construction projects. For rural areas where the existing ambient noise levels are low a limit of 65dB LAeqT is suggested for weekly day time (07:00 to19:00) and Saturday morning (07:00 to 13:00) periods, a constituting the threshold of a significant effect.

1.10 Furthermore when the works involved long term substantial earth moving (that in excess of 6 months duration) the standard advises that guidance contained in MPS2 (4) needs to be taken into account when setting criteria for acceptability. It should be stated in this instance that the marina excavation is relatively minor and it is expected that excavation construction operations will take a maximum of 3 months within the construction programme.

1.11 Baseline Noise Monitoring

An attended noise survey has been carried out at 3 positions along the existing Furness Vale Marina area. The first position taken is adjacent to the swing bridge which is located adjacent to both the Phase One and northern Phase Two area of the

planning application. The second position was taken in the centre of the existing Furness Vale Marina and the third was taken adjacent to the chandlery and manager's office by the site entrance of the existing marina. The noise survey has been carried out in these positions as they offer potentially the most impact on receptors by the proposed development and therefore require the day and night time noise environment to be determined.

1.12 It should be noted that although there are a small cluster of houses on the opposite side of the canal adjacent to the central area of the existing marina, the impact of the construction activities on these receptors, bearing in mind that the construction activities will occur to the far north of the existing marina are relatively minor and apart from these cluster of dwellings the closest dwellings to the construction activity area are located on Station Road and separated from the site by the railway line and unmade ground as demonstrated in the photo plates of the accompanying Design & Access Statement. The topographic level of these dwellings is such that the impact in the Phase One construction area and reciprocal noise impact on these dwellings from the site is considered to be negligible.

1.13 The surveys were carried out on Wednesday 4th September and Friday 4th October 2013 and included both an am and pm reading. Weather conditions were wet and windy on Wednesday 4th September with good and fine weather conditions on Friday 4th October.

1.14 The measurements were made using a Wensn WS1361 digital sound level meter, which was calibrated before and after the survey using an acoustic calibrator. The microphone was positioned at a height of 1.8m above ground level and measurements were made over consecutive 10 minute periods for the total of 1 hour on each survey principally to ensure that the background noise levels were obtained over a sufficient

duration to provide results representative of the noise environment. The data was then subsequently analysed and aggregated to provide an average decibel level in each location on each day. The results are presented in the table below:

Day	Period	Period Noise Level (dB)		
		Swing Bridge	Central Marina Area	Office Area
Wednesday 4th September	Am (10:00 to 1100)	53.1	57.6	61.1
	Pm (15:00 to 16:00)	55.2	56.1	59.2
Friday 4th October	Am (10:00 to 1100)	50.8	55.4	58.3
	Pm (15:00 to 16:00)	53.2	56.1	59.2

1.15 A number of anomalies to the noise attenuation were identified but excluded from the aggregation of the noise levels. These included the passing of canal boats which occurred on average 2.5 times per hour and incorporated an average increase of 12dB in each location. The passing of a train half hourly and immediately adjacent to the western boundary of Furness Vale Marina increases the average decibel level to 79.5 in the centre of the marina, therefore creating an average increase of 24dB. The A6 Buxton Road has a significant influence on the ambient noise level of the marina and whilst that level was included within the noise survey calculations occasional sound anomalies (such as a loud exhaust on a vehicle or an overly loud HGV vehicle) incorporated a further 4dB increase on and over the average noise period levels taken on site.

1.16 Construction Noise

It is anticipated that the main civil's work associated with the construction of the marina would take about approximately 10 weeks. The main excavation of the marina basin will be carried out of the marina basin and reconfiguration of the existing marina would be carried out using tracked excavators, dozers and articulated dump trucks. All soils excavated will be retained on site for landscaping and restoration.

1.17 The jetties will be constructed using tubular mild steel piles, typically 152mm diameter. Piles will be driven using either hydraulic or vibratory techniques to minimise potential impacts to occupants of surrounding properties. There will be no percussive piling carried out on site.

1.18 Dewatering would be required during the period of construction, which is anticipated will be carried out using flush packed diesel pumps. These will be located adjacent to the canal bank at positions away from any residential properties. The permeable paved surfaces and access roads will be constructed using standard plant, typically comprising excavators, dump trucks and a vibratory roller.

1.19 Site hours are anticipated to be standard for construction sites, normally between 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturday. There will be no working on Sundays or bank holidays.

1.20 Assessment of Construction Noise Levels

Noise levels associated with the main elements of construction, extraction, and piling have been calculated with the points identified and measured within the ambient noise survey. Noise levels have been calculated using the methodology contained in BS5228:1. As no detailed construction information is available at this stage the calculations have been based upon the construction activities occurred at the swing bridge area which sits in between the proposed new Phase One area and the redeveloped Phase Two area. Whilst other plant would be operating in different areas of this Phase One and Phase Two area, their influence on the overall noise levels are likely to be minimal compared to the plant working closest to the swing bridge area. The calculated noise levels are summarised in the table below:

Receptor	Calculated Free Field Noise Level (dB)			
	Excavation	Piling	Road / Pavement Construction	Dewatering
Swing Bridge	61.1	65.9	63.9	37.2

1.21 The calculations indicate that the noise levels associated with the construction of the marina will remain below a 65dB limit at the swing bridge area, the area closest to the Phase One and Phase Two areas. It should be remembered that residential dwellings are minimal receptors in this location.

1.22 To ensure potential impacts are minimised the contractors would need to implement appropriate mitigation and control of noise levels on site. Whilst noise and vibration levels associated with the majority of construction are unlikely to generate impacts at surrounding properties, appropriate control and mitigation measures would be adopted, which seek to ensure any potential impacts to occupants of surrounding properties are minimised:

- Restrictions of hours of working to between 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours Saturdays. There will be no working on Sundays or bank holidays.
- The contractors will be required to adopt best practicable means to control noise and vibration levels from site operations.
- There will be no percussive piling carried out on site.
- All plant and machinery will be well maintained at all times.
- The use of localised hoarding to be considered where noise and vibration levels are anticipated to be high
- Super silenced dewatering pumps will be utilised on site, with their location chosen to minimise potential impacts.
- Noise and vibration levels to be monitored at surrounding areas periodically where work is being carried out in close proximity.

- Details of a site supervisor to be provided to the Local Authority and posted at the site perimeter, who is on site at all times and can deal with any complaints which may arise from the works.

1.23 Assessment of Operational Noise

Boats would enter the extended marina directly from the canal. The marina runs parallel to the canal and therefore the boat would enter a specific mooring directly from it. Each berth is provided with an electricity supply and the users of the marina would be required to "hook-up" when they are moored. This would ensure that boaters are not moored in the marina with engines running, thus seeking to minimise any potential impacts to receptors.

1.24 The principle noise source would therefore be associated with the manoeuvrings of boats into and out of moorings. It is not anticipated that there will be large numbers of movements in any one day, as the moorings will be most likely to be where boats are stored and it is less likely that a large number of moorings will be used for overnight stays.

1.25 As the proposal is an extension to an existing and popular marina. The noise levels associated with the increase of moorings at the marina would not be expected to increase ambient noise levels above those already assessed on site and therefore potential impacts with the increase of associated boat movements within the marina is anticipated to be negligible.

1.26 Summary

A noise assessment has been carried out to support the planning application for the proposed extension and redevelopment of Furness Vale Marina. The operation of the extended site is unlikely to generate high levels of noise, with noise levels associated

with future operations principally attributable to the movement of barges, within which a noise level is already attributed at this stage.

1.27 A noise monitoring exercise has been carried out to determine the existing noise environment around the site at positions representative and covering the existing marina. The results of this exercise have been used as the basis of the assessment to identify potential impacts and to propose noise limits associated with fixed plant and services.

1.28 With appropriate design and control measures implemented in the final scheme design for the extension of the marina, no operational noise impacts have been identified. Potential impacts are anticipated during the construction of the marina during periods of piling. Appropriate control and mitigation measures will be adopted throughout the works, which seek to ensure any potential impacts are minimised.

2.0 VIBRATION

2.1 Assessment of Vibration Impacts

The majority of activities carried out on site will generate low levels of vibration, which would not impact upon surrounding receptors.

2.2 As discussed within the chapter on noise, there will be no percussive piling carried out on site, with the piles installed using either hydraulic or vibratory techniques, which seek to minimise vibrations.

2.3 The use of vibrators to install the sheet piling and piles for the jetties would, however, have the potential to impact upon surrounding receptors, when the activity is within 50m of the properties, although any potential impact would be very low and of short duration. There is however a minimal amount of residential properties within a 50m radius of the construction area that will be impacted upon by the proposal.

2.4 It is considered that the properties most adjacent to the Phase One area, to the west of the site and to the east of the A6 Buxton Road would not be significantly impacted on in terms of vibration impact by the proposal due to the distance away from the site, the differing topographic level of the site and the existing vibration impact created by the the railway line which is located in between the site and the residential properties.

2.5 To ensure any potential disturbance is minimised, the contractor would be required to inform local residents of works carried out in close proximity and select the most appropriate method for the installation of piles.

2.6 Where it is anticipated that vibration impacts may occur the contractors will also be required to carry out vibration monitoring for the duration of the works in the area adjacent to the potentially affected property.

3.0 AIR QUALITY

3.1 Introduction

This chapter considers the potential air quality impacts associated with the proposed development.

3.2 The Scoping Report and further study identified the following potential air quality issues, which are addressed within this chapter:

- Road emissions during construction
- Dust emissions during construction
- Road and water borne traffic emissions during operation

3.3 The scoping response from HPBC in January 2013 identified the need to assess these issues within the Environmental Statement.

3.4 Assessment Criteria

The government has established a set of air quality standards and objectives to protect human health. The standards are set out as concentrations below which effects are unlikely even in sensitive population groups, or below which risks to public health would be exceedingly small. They are based purely upon the scientific and medical evidence of the effects of an individual pollutant. The objectives set out are the extent to which the government expects the standards to be achieved by a certain date. They take account of economic efficiency, practicability, technical feasibility and time scale. The objectives for use by Local Authorities are prescribed within the Air Quality Regulations (2000), Statutory Instrument 928 (2000), and the Air Quality (England) (Amendment) Regulations 2002, Statutory Instrument 3043 (2012).

3.5 The objectives for nitrogen dioxide were to have been achieved by 2005 and continues to apply in all future years thereafter. Measurements across the UK have

shown that the one hour nitrogen dioxide objective is unlikely to be exceeded where the annual mean concentration is below 60μg/m^3 (DEFRA, 2009). Therefore, one hour nitrogen dioxide concentrations will only be considered if the annual mean concentration is above this level.

3.6 The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. DEFRA explains where these objectives will apply in its Local Air Quality Management Technical Guidance (DEFRA, 2009). The annual mean objectives for nitrogen dioxide are considered to apply in the façades of residential properties, schools, hospitals, etc.; they do not apply at hotels. The one hour mean objective for nitrogen dioxide applies wherever members of the public might regularly spend one hour or more, including outdoor eating locations and pavements of busy shopping streets.

3.7 The relevant air quality criteria for this assessment are provided in table 1.

Table 1: Air Quality Criteria for Nitrogen Dioxide

Pollutant	Time Period		Objective	
Nitrogen Dioxide	One hour mean	Annual Mean	One hour mean 200μg/m^3 not to be exceeded more than 18 times a year	Annual Mean 40μg/m^3

3.8 There are no formal assessment criteria for dust. In the absence of formal criteria, a set of distance based criteria has been developed. These criteria, which apply to the construction site and to track the movement of dust and dirt onto the public highway, are set out in tables 2 and 3. They are based on the professional experience of the consultants, drawn from many years of involvement with assessment of different types of projects together with construction specialists who regularly undertake this sort of marina construction.

3.9 Methodology

Location sensitive to dust emitted during construction will be places where members of the public are regularly present. Residential properties and commercial operations within relevant proximity to the site will be most sensitive to construction dust however it should be stated at this point that residential properties are physically separated from the construction area to the east by the railway line and therefore lie at a different topographic level to the construction site. Any areas of sensitive vegetation or ecology that are very close to dust sources may also be susceptible to some negative effects.

3.10 It is very difficult to quantify emissions of dust from construction activities. It is thus common practise to provide a qualitative assessment of potential impacts, making reference to the assessment criteria set out in tables 2 and 3. These distance based criteria have been developed by air quality consultants who have worked with experience on marina projects in previous locations.

3.11 For construction activities the distance are from the source of the dust, but in practise it is often known that the position sets out the assessment criteria in terms of the distance from the site boundary to which significant dust may be tracked out and the potential distance from the roadside for significant events.

Table 2: Assessment Criteria for Dust from Construction Activities

Source		Potential Distance for Significant Effects (Distance from source)		
Scale	**Description**	**Soiling**	**$PM^{10}A$**	**Vegetation Effects**
Major	Large construction sites with high use of hall routes	100m	25m	25m
Moderate	Moderate sized construction sites	50m	15m	15m

	with moderate use of hall routes			
Minor	Minor construction sites with limited use of hall routes	25m	10m	10m

3.12 There is also the possibility of dust being tracked out of the site along roads. Table 3 sets out the assessment criteria in terms of the distance from the sites which significant dust may be tracked out and the potential distance from the roadside for significant effects.

Table 3: Assessment Criteria for Construction Dust Track Out (With standard mitigation in place)

Source		**Potential Distance for Significant Effects (Distance from the edge of the road)**		
Scale	**Distance along roadways that dust might be tracked**	**Soiling**	**PM^{10}**	**Vegetation Effects**
Major	250m	50m	30m	15m
Moderate	100m	25m	20m	10m
Minor	25m	15m	10m	5m

3.13 The potential for significant road traffic impacts during both the operational and construction phases have been assessed in relation to the criteria set out in the design manual for roads and bridges. Current and future air quality in the area has also been taken into account.

3.14 The potential for impacts of emissions from waterborne traffic has been considered in relation to the distances between sources and receptors, taking into account baseline air quality conditions.

3.15 Baseline Conditions

HPBC has been consulted with regards to this application and it has not been identified that there is a risk of air quality objectives being exceeded in the vicinity of

the development site. No air quality monitoring is understood to be carried out in the immediate vicinity of the proposed development.

3.16 The A6 Buxton Road is within 1km of the development site and the Northern Rail railway line from Furness Vale Railway Station runs immediately south west of the site and therefore these are considered to be sources likely to effect air quality to a certain extent. Given the proximity of the road and the railway line to the site it is reasonable to assume that the pollutant concentrations at the development site are the same as estimated background concentrations for the area.

3.17 Predicted Impacts

A description of the proposed construction method and phasing is provided in the Construction Management Plan. The site in part currently provides an existing element of Furness Vale Marina and in part unused field lane. Demolition and the impact of it on site will be minimal and the greatest potential for construction impacts are likely to be from earth movements to create the off-line mooring areas and associated landscaping and from the passage of vehicles travelling across the ground during periods of dry weather. However excavated material will be predominantly firm clay which has a relatively low potential to generate dust. Dust may also be tracked out of the site onto the adjoining road network. Any impacts will be of a localised and temporary nature.

3.18 Based upon the criteria defined in table 2 the construction activities are judged to be minor in scale and assuming that standard mitigation measures are applied significant dust soiling impacts may therefore occur within the distance of up to 25m from the site, whilst PM^{10} impacts may extend out to 10m.

3.19 Dust can be tracked out of the construction site onto neighbouring roads. This can then be raised as airborne dust by passing vehicles. With mitigation, it is considered that there is potential for minor dust levels to be found along roadways off site up to 25m from the site entrance, with dust soiling impacts potentially extending up to 15m and elevated PM^{10} impacts potentially extending up to 10m either side of the road.

3.20 The areas potentially at risk from dust are the existing marina and the houses adjacent to the A6 Buxton Road east of the Phase One area on the other side of the railway line. However as stated already these houses are on a different topographic level to the site. With this in mind specific attention would therefore need to be paid to construction activities carried out in the Phase One area of the site particularly on occasions of westerly winds.

3.21 There are no areas of sensitive vegetation within 15m of the site boundary and therefore any significant impacts can be discounted.

3.22 Any effects will be temporary and relatively short lived, and will only arise during dry weather with the wind blowing towards the receptor, at a time when dust is being generated and mitigation measures are not being fully effective. Such conditions would only arise occasionally during the construction period, further limiting the potential for any impacts. The impacts of dust and PM^{10} from construction activities without mitigation measures in place are judged to be minor adverse.

3.23 The development has been designed to minimise the requirement to import or export fill material with cut and fill of the marina extension expected to be in balance. It is anticipated that during the construction phase there will be an average of 4 deliveries per day from the road and there will be an average of 10 employee vehicles travelling

to and from site. The air quality impact of this small amount of traffic during the construction phase will not be significant.

3.24 There will be a small increase in vehicles travelling to and from the site as a result of the extended development once it is open. However it is considered that the traffic impact as found in the Traffic Statement that accompanies the Environmental Statement is negligible and therefore the air quality impact of this small amount of increase in traffic is considered to be not significant.

3.25 Significance of Impact

The impacts of road traffic during construction and operation have been found to be of no significance. With the proposed mitigation in place, the impact of dust during the construction phase will be minor adverse, however these impacts will be intermittent and temporary.

3.26 Mitigation

Mitigation measures to be implemented during the construction phase will be identified in the Construction Environmental Management Plan which will be produced during detailed design. Measures to mitigate dust emissions will be required during the construction phase of the development in order to reduce impacts on residential receptors at a reasonable proximity of the development area. Guidance is available from the Building Research Establishment on Controlling Dust from Construction Sites (BRE, 2003). This reflects best practise experience of dust controls and has been used, together with a professional experience of the consultation team, to draw up the following sets of measures that should, where practicable, be incorporated into the specification for the works. Mitigation should be straight forward, as most of the necessary measures are routinely employed as "good practise" on construction sites. The measures are likely to include:

- Phasing the development as proposed, so that at any one time, construction activities largely confined to relatively small portions of the site.
- Water suppression to minimise dust during demolition activity.
- Use of water sprays to ensure that any unpaved routes across the site are maintained in a damp condition when in use.
- In position and enforcement of a 5mph speed limit on unpaved ground.
- Minimising any dust generating activities on very dry and windy days.
- Sheeting of all lorries carrying materials on and off site.
- Locating and / or covering of stockpiles as far from sensitive locations as possible and provision of appropriate hoardings.
- Regular cleaning of all paved areas on site.
- Use of a jet spray facility for all vehicles leaving the site.
- Regular use of a water assisted dust sweeper on the access and local roads as necessary to remove any material tracked out of the site.

3.27 Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local water courses. With the proposed mitigation measures listed in the above paragraph in place, the impacts of dust and PM^{10} from construction activities are judged to be negligible.

4.0 CONSTRUCTION MANAGEMENT

4.1 Highways

All loading and deliveries will use the existing marina access off Station Road, Furness Vale to the site. All loads delivered to the site will be within the loading capacity of the roads.

4.2 In the unlikely case that damage occurs to the roadway, reinstatement works will take place in accordance with the approval of the Highways Agency and HPBC.

4.3 All deliveries, loading and unloading of vehicles, and all other servicing carried out in connection within the permitted development shall only be carried out between the hours of 7am and 7pm Monday to Friday and 8am to 1pm on Saturdays with no deliveries on Sundays or public holidays.

4.4 Suppliers and subcontractors will be notified in advance of the desired location for the delivery. Direction and access point maps with site delivery rules and times will be sent out with each order.

4.5 All deliveries to site will be scheduled by the appointed Site Manager. All unscheduled or non agreed deliveries will be turned away.

4.6 All gates on site that are currently established and those implemented within the construction activities and will open inwards and will not impede the public highway or footpaths at any time.

4.7 Buried Services

It is understood that no site services currently run through the proposed construction area, however a full buried services check will be undertaken with any site services found terminated by the appropriate utilities services provider.

4.8 Waste Recycling and Contaminated Materials

The development will implement a recycling regime for materials and packaging. The site contractor will compile a report quantifying the materials recovered. It is planned that site waste will be reduced through segregation and recycling.

4.9 It is intended to segregate the following materials in the material recovery programme:

- Timber
- Plastics
- Metal
- Plasterboard
- Pallets
- Cable drums

4.10 All materials will be placed in skips and sorted on site. All contractors working on site will be supplied with refuse bins by the Site Manager. Once the bins are filled the management team will consolidate the waste and remove from site.

4.11 Any hazardous waste that is removed from site will be monitored and tracked to record compliance with the Site Waste Management Plan. Records will be gathered about the waste generated on site.

4.12 Public Footpaths

All construction will be carried out on site and whilst no works will be required outside of the site boundary construction traffic passing between Phases 2 and 1 will go over the rights of way vehicular track which separates the two parcels of land and goes over the swing bridge and with that in mind a full traffic signage programme will be implemented onto this right of way to inform vehicles in both directions at an early juncture that there may be some construction traffic across the rights of way and a 'stop and go' system will be introduced on site when construction traffic passes between the two parcels of land. Given the relatively minor use of the road it is considered that this is more than sufficient to reduce unnecessary closures of rights of way.

4.13 Logistics

An agreement is in place for a registered waste contractor to take and recycle excavated materials that cannot be used on site.

4.14 Emergency Services Routes and Access by Third Parties

Access for emergency services on site will be via the existing and established site access located on Station Road.

4.15 Police Requirements

No specific police requirements are envisaged. However regular contact will be maintained with the police on such matters as abnormal load licences and be fully co-operative with any unforeseeable matters.

4.16 Liaison with Neighbours

A single point of contact, the Project Manger, will liaise with the local neighbours throughout the construction process. They will have the ultimate responsibility on site and the necessary authority to direct operations. Information will be distributed

to the neighbours on a regular basis to advise them of the planned operations and any impact they will have upon them.

4.17 Health & Safety

Health and safety will be diligently monitored throughout the project. Operatives will be actively encouraged to think in a manner that assesses personal safety and the safety of others.

4.18 Construction Activities

The earthworks will comprise of bulk excavation to form the extended and redeveloped moorings areas, ensuring that the site and the floor of the marina bays are watertight up to the designed water level.

4.19 Acceptable materials for the earthworks will consist of site one cohesive soils and clay and artificial liners where necessary such as bentomat.

4.20 Trial compaction should be performed before placement of permanent works earth fill commences. The trial shall take the form of placing and spreading the material in layers of 200mm thickness and compacting to various, measurable efforts. The trials should be repeated at a range of moisture contents and moisture content determinations shall be made on the resulting compacting layers in order to determine the minimum amount of compactive effort and field moisture content required to achieve acceptable density.

4.21 The clay materials or artificial liner used for lining shall be sampled at the point of placement, to check for uniformity of classification parameters. The testing, which shall be performed in accordance with BS1377: 1990, shall comprise of liquid limit,

plastic limit, and plasticity index; natural moisture content; BS Compaction Test, particle size distribution, comprising wet sieve and sedimentation test.

4.22 The finished surface of completed earthworks, which are not submerged, or covered by roads and paths or hard standing shall be top soiled up to a depth of at least 150mm and grass seed applied.

4.23 Conclusion

It is considered that the Construction Management Plan proposed for the site together with the other identified mitigation measures in place on environmental health issues are more than sufficient in providing an efficient construction programme which will offer a negligible impact on receptors.

CHAPTER M:
LIGHTING

CONTENTS

Item	Description
1.0	Summary
2.0	Context of External Lighting
3.0	Lighting Specification
4.0	Conclusion

Item	Description
Appendix M i	Lighting Plan

1.0 INTRODUCTION

1.1 This Lighting Statement and accompanying plan (Appendix M i) is submitted as part of the Environmental Statement for the planning application for the extension and redevelopment of Furness Vale Marina, Station Road, Furness Vale.

1.2 The statement provides details of the external lighting proposed within the extended and redeveloped part of the existing marina in accordance with the requirements of both the Environmental Statement and Local and National Planning Polices relating to environmental health and lighting.

2.0 CONTEXT OF EXTERNAL LIGHTING

2.1 The external lighting proposed for the development is the minimum considered necessary for the safety and security of the extended marina in providing the modern facilities expected of such a development.

2.2 Differing specifications of lighting are necessary to perform functions on the site. Roadway bollards are needed to provide both a safe navigational route from the site entrance through to the parking areas, whilst also highlighting bay delineation of the car parking spaces in the new Phase One area. Simple low level lighting is proposed to illuminate the ablutions block facilities building to the benefit of boaters who intend to locate and use the ablutions facilities during dark periods as part of the 24 hour facility. LED lit service bollards and remote bollards will be provided for the marina berths to provide chargeable electricity to the boats as is the standard requirement of the modern marina and as is found within the existing marina facilities.

2.3 The lights on the facilities buildings are to operate on a light and motion sensor in order that they are not left on when they are not in use in order to reduce CO_2 emissions and electric consumption.

3.0 LIGHTING SPECIFICATION

3.1 All service bollards on site will be similar to that in the table below and will generally have 4 x No. 16 amp electric sockets and contain reconditioned charge card meters to control the amount of electricity used by consumers. The bollards will also have one water connection per bollard, which will be lagged to prevent frost action in the cold winter months. Bollards will have an LED light at the top to illuminate the immediate surrounding area.

3.2 The overall lighting specification is as follows:

Lighting	Specification	Quantity
	TAMLITE "HURRICANE" (HUR 131)EXTERNAL WALL LIGHT 270 mm Diameter ¦ 1 x 13W PL-C LAMP ¦ Output = 560 Lumens Material = Black Polycarbonate Main Body	1
	"MARICER" BOLLARD JETTY LIGHTING 1147mm H by 300mm W ¦ 1x16W 2PIN "A" Rated Low Wattage Fluorescent Lamp ¦ Output = 2050 Lumens Material = Blue Polycarbonate Main Body	30
	"MARICER" LOW LEVEL REMOTE JETTY LIGHTING 300mm H x 100mm x 150mm ¦ Output = 50 Lumens Material = Polycarbonate Main Body	30
	TAMLITE "TSB" BOLLARD (TSBM50S) - TO ROADWAYS 200mm Diamter 700mm High ¦ 1 x 50w SON/E(I) Lamp Output = 3500 Lumens Material - Black Polycarbonate Main Body	15

3.3 The positioning of the external lighting can be found on the accompanying external lighting plan in Appendix M i.

4.0 CONCLUSION

4.1 The proposed external lighting on site is considered the minimal expected level of lighting facility from a modern extension to a marina of this size and specification. The lighting adheres to safety and security standards and whilst providing a service due to the light and motion sensors they are considered to adhere to sustainability criteria.

4.2 The lights are low level and do not provide a detrimental environmental impact on any potential receptors in proximity to the site and relate entirely to the specification of lighting found within the existing marina.

4.3 It is considered therefore that the lighting proposal of the application offers a negligible impact on receptors in proximity to the site.

CHAPTER N:

IMPACT ASSESSMENT & CONCLUSIONS

1.0 SUMMARY OF IMPACTS

1.1 Table N.1 provides a summary of the impacts that have been predicted throughout the Environmental Impact Assessment (EIA) process as a result of the construction, extension, and redevelopment of Furness Vale Marina, Station Road, Furness Vale. The table shows the source, pathway and receptor risk assessment approach. This approach is used to determine where actual risk from impacts might be expected. If any one of the three elements (source, pathway or receptor) is missing from the chain of events, then there is no actual risk from the impact.

1.2 The environmental disciplines in the main are related to the chapter headings in the Environmental Statement; the impacts are then listed, followed by a column to the right indicating the receptor. Table N.1 meets the Environmental Impact Assessment regulation requirements of a "description" of the interrelationships between environmental factors likely to be affected by development. From any of the disciplines (sources) the resulting impact is a physical change in the environmental system of the site area; causing a second change in the system and eventually impacting upon a specific receptor. It should be noted that the receptor "local community" is taken here to mean businesses, individuals and families.

1.3 A score of high, medium or low significance is given to the impacts without mitigations; the significance of an impact is a function of the magnitude of the impact and the importance of the receptor. The columns at the far right hand side of the Table N.1 show how the significance of the impact upon the receptor will be expected to change the implementation of the mitigation measures (the mitigation is included in the central column of the table). The significance of some negative impacts is not reduced by mitigation measures. This is due to the fact that the significance of the impacts is split into 3 categories of high, medium and low; and whilst the mitigating

measure may reduce an impact, it may not reduce it enough to warrant classification in a lower category with the significance.

Table N.1: Summary of EIA Impacts

Environmental Discipline	Potential Impact	Without Mitigation	Mitigation	With Mitigation
Ecology	Impact on protected species	Adverse Impact	Tool Box Talks Otter Proof Fencing Undisturbed Trees	Neutral Impact
	Impact on Rochdale Canal SAC	Neutral Impact		
	Impact on Huddersfield Narrow Canal SSSI	Neutral Impact		
	Impact on Peak Forest Canal LWS	Adverse Impact	Tool Box Talk Compensation Plan Method Statement	Neutral Impact
Hydrology and Hydro-geology	Water Quality	Neutral Impact		
	Groundwater Levels	Neutral Impact		
	Groundwater Quality	Neutral Impact		
Highways and Traffic	Traffic	Neutral Impact		Neutral Impact
Arboriculture	Tree Loss	Neutral Impact	Planting Scheme Ground Protection Measures Facilitate Pruning	
	Impact on TPO's	Adverse Impact		Neutral Impact
Landscape and Visual Impacts	Local Landscape Impact	Adverse Impact	Tree Planting Hedge Planting	Neutral Impact
Environmental Health (Noise, Dust, Vibration)	Noise Increase Construction Dust & Vibration	Neutral Impact Adverse Impact	Wheel Washes Mound Spraying Monitoring	Neutral Impact
Lighting	Light Pollution	Adverse Impact	Low Level Lights	Neutral Impact

Neutral Significance	Medium Significance
Low Significance	High Significance

2.0 CUMULATIVE ASSESSMENT AND EFFECTS OF DEVELOPMENT IN THE SHORT, MEDIUM AND LONG TERM

2.1 The EIA Regulations require an Environmental Statement to identify the potential for cumulative effects, and where present, assess these. Cumulative effects are those that result from incremental changes caused by other developments proposed or development within the recent past or future. Two types of cumulative impact have been considered within the Environmental Statement:

- Combined effects of individual effects from one development on a particular receptor
- Effects from several developments that together could have a significant cumulative effect

2.2 Cumulative effects have been assessed using professional judgement and it is recognised that there are uncertainties over the range of cumulative effects; especially over a prolonged period of several years. To establish scope of the schemes to be included in the cumulative assessment consideration has been given to:

- Distance from site
- Use of the identified scheme
- Size of the site of the identified scheme

2.1 Whilst some sites are being promoted within the HPBC Draft Core Strategy. The sites have yet to be identified and allocated under Adopted Policy and it therefore would not be legally compliant to recognise their simultaneous cumulative impact alongside the proposed extension to the marina. Therefore it is considered that currently no other development under way or planned within the area of impact that would have a simultaneous cumulative impact.

Table N.2: Cumulative Impact and Assessment of the Term of the Impact

Environmental Impact	Extent and Margin of Impact Effect		Without Mitigation		Isolative or Cumulative Occurrence ?	Receptors	Sensitivity of Receptors	Term of Impact
	Without Mitigation	With Mitigation	Direct or Indirect?	Reversible or Irreversible?				
Ecology	Adverse	Neutral	Direct	Irreversible	Isolative	Species	Low	Long
Hydrology and Hydro-geology	Neutral	Neutral	Direct	Irreversible	Isolative	Local Community	Low	Long
Highways and Traffic	Neutral	Neutral	Direct	Irreversible	Isolative	Local Community	Low	Long
Arboriculture	Adverse	Neutral	Direct	Irreversible	Isolative	Species Local Community	Low	Long
Landscape and Visual Impact	Adverse	Neutral	Direct	Irreversible	Isolative	Local Community	Low	Long
Environmental Health (Noise, Dust, Vibration)	Adverse	Neutral	Direct	Reversible	Isolative	Local Community	Low	Short
Lighting	Adverse	Neutral	Direct	Reversible	Isolative	Local Community	Low	Long

Neutral Significance	Medium Significance
Low Significance	High Significance

3.0 CONCLUSION OF IMPACT ASSESSMENT

3.1 Although cumulative assessment of development is not a legal requirement it was considered prudent to consider the cumulative effects of development within the site and on the adjacent village on a number of receptors as far as practicable and appropriate.

3.2 Overall the cumulative impact on the surrounding area is low due to the small number of possible developments of any significant cumulative influence. The mitigation measures proposed within the extended Furness Vale Marina should therefore make any measurable cumulative impacts a negligible consideration.

4.0 SUMMARY & CONCLUSIONS OF THE ENVIRONMENTAL STATEMENT

4.1 This chapter contains the overall conclusions of the Environmental Statement that have been finalised following evaluation of the technical studies produced earlier in the report.

4.2 Table N.1 details the impact expected as a result of the construction and operation of the extension to Furness Vale Marina. The table indicates that there are positive and negative impacts anticipated from the scheme and to construct and operate the extended marina which includes the proposed realignment of the existing moorings bay to the north of the existing marina (Phase Two) and the construction and incorporation of another off-line moorings bay on land to the north of the marina (Phase One). The scheme also includes a new ablutions block building, landscaping and an extended access road.

4.3 Receptors that are the most significantly negatively impacted on, albeit of low significance, as a result of the extended marina would be residential dwellings located on Station Road and physically separated from the site by the railway track and land levels during the construction period. Of the physical environmental impacts that are anticipated (related principally to construction and operation of the marina bay) the ultimate receptor in most cases is the local community in the long term.

4.4 However it is clear that the physical, established barriers and shielding of the marina and its proposed extension area to surrounding receptors due to physical constraints such as the railway line, the canal, surrounding land uses and the topographic levels of the land up to the A6 demonstrate that the physical impact created by the site to surrounding receptors would be predominantly negligible even before mitigation measures are implemented.

4.5 In all cases, where mitigation measures are implemented, the significance of any potential impact is reduced to a neutral or beneficial impact (in the case of ecology and hydrology).

4.6 The reduction in significance of minor adverse impacts will be determined by the current implementation of mitigation measures. These will be controlled by a Construction Environmental Management Plan which will detail all mitigation measures, how and when they should be implemented and whose responsibility it is to implement them.

4.7 Technical studies have shown that the majority of environmental impacts are of neutral impact following the implementation of mitigation measures. From an environmental impact perspective, a long term neutral to beneficial impact upon ecological habitats and hydrology; a neutral impact to landscaping and visual effects, noise and vibration, lighting and traffic and highways works is a positive outcome, as the environmental fabric of the site will be of the same as prior to the development.

4.8 The main positive impacts anticipated as a result of the proposed marina are generally related to social issues in the long term operational phase, such as anticipated socio-economic improvements for the village as a whole together with further promotion of the marina's interrelationship with surrounding rights of way, bridle paths and tracks whilst also providing increased access to leisure and recreational facilities in accordance with the nature of land in the Green Belt.

5.0 OVERALL CONCLUSION

5.1 The EIA has been undertaken in line with the methodology required by legislation. Extensive consultation has been carried out throughout the process with statutory and non-statutory stakeholders. A wide range of detailed, scientific studies have been carried out to enable the potential environmental impacts of the scheme during the construction and operational phases to be assessed.

5.2 The impacts identified in the EIA as being of adverse impact, however low, can be reduced or removed all together by effective mitigation.

5.3 The construction and operation of the extended marina will not have an overall detrimental impact upon any protected species noted within the ecological reports. The scheme provides scope of significant improvement of biodiversity and habitat of the current area.

5.4 The identified protected species have been thoroughly mitigated for their own protection where necessary as detailed within Chapter E and its accompanying appendices.

5.5 The scheme is assessed to have a negligible impact upon traffic flow and the highways within the surrounding area. The marina has an established highways access point of low impact on Station Road and the incorporation of the extended area into this existing access use is considered of low impact to the marina and negligible impact to Furness Vale.

5.6 Noise impact arising from the construction of the extended marina and boat movements during entry and departure from the marina are predicted to remain below the average daytime background noise of the existing marina site at present.

The restriction on operating hours of the construction of the extension will mitigate against any short term adverse noise impacts, however it is identified that the levels of background noise created from passing boats, the railway line and the A6 maintain a background noise level that will not be exceeded.

5.7 Whilst the fabric of a small portion of the landscape will change in regards to the Phase One area in the long term as the landscaping matures with the implementation of the proposed further tree and hedgerow planting it is identified that the mitigation measures will neutralise any visual detrimental impact on the area.

5.8 The overall visual impact upon dwellings and the local community will be of neutral impact following the implementation of landscaping mitigation measures due to the natural screening already created for the site from its topographic land level in relation to Station Road itself. The site of the proposed extension lies adjacent to the Peak Forest Canal and by extension a number of adjacent watercourses including the Huddersfield Narrow Canal Site of Special Scientific Interest (SSSI) which is located 23km away.

5.9 The Hydrological and hydro-geological Assessment and Ecological Impact Assessments found in Chapters F and E respectively of the Environmental Statement demonstrate that the proposal would not have a detrimental impact upon watercourses within the area including the Peak Forest Canal and has ascertained that the proposal would not have any further impacts on the Huddersfield Narrow Canal SSSI.

5.10 Minor adverse impacts in peak levels could be potentially envisaged during the construction phases. These will be mitigated by processing materials off site, limiting the size, number and duration of temporary storage areas. These mitigation measures

are considered to relieve the impacts to "no impact" and "minor adverse impact". Potential minor adverse impacts were identified in relation to the construction of the Phase One moorings area to the north of the site. This will be mitigated by careful phasing of excavation and construction works with physical access to the Peak Forest Canal from the Phase One construction area not created until the end of the construction phase.

5.11 **Overall the EIA process has not highlighted the presence of any permanent adverse impacts that are of significance.**