

**FURTHER INFORMATION TO
THE OUTLINE PLANNING
APPLICATION & ENVIRONMENTAL STATEMENT
VOLUME 2**

College Fields, Banbury

Hallam Land Management Ltd
J.J. Gallagher Ltd

January 2006

Contents	Page
Question	
1.0 Construction Impacts	3
1.7 Baseline Conditions and Development Programme	5
1.12 Construction Methodology	8
1.41 Health & Safety – Mitigation of Impacts	13
1.53 Environmental Provisions – Mitigation of Impacts	16
1.81 Statement of Effects	22
1.82 Construction Traffic	22
1.111 Landscape & Visual Resources	27
1.39 Ecological Resources	32
1.161 Geology, Hydrogeology, Hydrology – Service Infrastructure and Waste	36
1.184 Air Quality	40
1.191 Noise	43
 Question 2) Hedgerow Removal	 50
Question 3) Bat Surveys	50
Question 4) Employment Deliveries	51
Question 5) Sustainable Construction	51
 Additional Supporting Information	
Retail Floorspace	51
Access Across The Canal	52
 APPENDIX 1- Cherwell District Council letter –20th December 2005. (ref 05/01337/OUT)	
APPENDIX 2 - Concept Masterplan	
Assessment Plan (Annotated with Receptors)	
Phase 1 Habitat Plan (Annotated with Hedgerws to be Removed)	

FURTHER INFORMATION - VOLUME 2

INTRODUCTION

- i) This document supplements the “College Fields, Banbury, Outline Planning Application”; which comprises the Planning Statement and Environmental Statement Volumes 1 and 2, together with the “Further Information Document” (November 2005).
- ii) The document follows guidance outlined in Part V, 19, (1) of the ‘Town & Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 1999’, and in accordance with those regulations is referred to as “Further information” forming part of the College Fields Environmental Statement. The document should therefore be read in conjunction with the submitted application documents.
- iii) Following the submission of the “Further Information Document” (November 2005), CDC wrote to the applicants on 20th December 2005 seeking additional clarification on a number of issues. A copy of the letter is attached in Appendix 1.
- iv) For clarity, each of the issues raised within CDCs letter of the 20th December is quoted, followed by the applicants response, as follows :-

“I am writing to request that further information is provided with regard to the following matters :-

QUESTION 1) CONSTRUCTION IMPACTS AS REQUESTED IN MY LETTER OF THE 19TH SEPTEMBER 05 AND REFERRED TO IN THE FURTHER INFORMATION DOCUMENT AT 3.1 AND 5.8”.

- 1.1 An Assessment of Construction Impact has been prepared, to form part of the Environmental Statement. This identifies the scope of construction activities for the proposed development, outlines the identified likely construction impacts with details of mitigation and a statement of effects.
- 1.2 The proposals set out on the Concept Masterplan and the Assessment Plan (Appendix 2) comprise a sustainable community of approximately 1,070 dwellings, together with a neighbourhood centre, primary school and B1 employment provision. The opportunity to create a new canal mooring basin is proposed, served by the Oxford Canal, together with an extensive Community Park. Three points of access will be provided, two off Bankside and one off Oxford Road. The development will adhere to construction industry best practice to

encourage high standards of sustainable construction, taking full account of relevant health and safety legislation and environmental guidance.

1.3 The objectives are as follows :-

- To ensure that the construction impact arising from the development of College Fields is kept to a minimum both in terms of physical impact and duration, and that adverse impacts are avoided or mitigated through the sustainable management of the construction process.
- To ensure that College Fields is developed using sustainable construction methods and principles.
- To ensure that College Fields is developed safely and in accordance with relevant health and safety legislation to minimise risks to both the workforce and members of the public during the lifetime of the development.

1.4 The assessment is structured in the following way: -

- **SECTION A - BASELINE CONDITIONS AND DEVELOPMENT PROGRAMME**

This section sets out the existing conditions and identifies those regarded as significant sensitive receptors, which may be subject to potential effects arising from the development process. It then goes on to address the likely construction programme and describe the possible impacts that could arise in relation to specific receptors.

- **SECTION B - CONSTRUCTION METHODOLOGY – MITIGATION OF IMPACT**

This section outlines the principal scope of construction works to be undertaken.

- **SECTION C - HEALTH & SAFETY - MITIGATION OF IMPACT**

This describes the principles for health and safety management, establishes working hours, and describes the control of hazardous material

- **SECTION D - ENVIRONMENTAL PROVISIONS – MITIGATION OF IMPACT**

This identifies general environmental provision, including sustainable construction, waste minimisation, noise, vibration and air quality.

- **SECTION E – STATEMENT OF EFFECTS**

This section addresses specific topics identified within the ES. It reviews the predicted impact and mitigation proposals for construction activities, and then assesses the significance of effects.

1.5 Following grant of approval a “Construction Environment Management Plan” (CEMP) will be prepared, and it is anticipated that this will be subject to a planning condition. This will identify a construction code of practice for College Fields. All Contractors will be responsible for

ensuring that the relevant obligations of the CEMP are observed. The CEMP will encapsulate all the construction impact mitigation measures outlined below.

- 1.6 There are currently numerous Acts of Parliament and Statutory Regulations covering environmental and safety matters. The Contractors will be required to comply with all relevant legislation applicable at the time of construction. Liaison with Cherwell District Council's Environmental Health Department will be maintained throughout the construction process.

SECTION A - BASELINE CONDITIONS AND DEVELOPMENT PROGRAMME

Baseline Conditions

- 1.7 The allocated development site lies to the east of Oxford Road, Banbury, and to the east and south of Bankside. It comprises predominantly greenfield land in large-scale arable usage. It is typical of many sites likely to be considered in search for sustainable urban extensions.

- 1.8 The main characteristics of the existing site and its context can be summarised as follows :

- **The land directly to the east of Oxford Road consists of a level featureless plateau extending northwards to Bankside and The Cherwell Heights housing area. The fields are bounded by low cropped hedgerows with a few scattered mature hedgerow trees. There is ribbon residential development fronting onto Oxford Road to the north of Canal Lane, with a garage/petrol filling station at the northern end.**
- **Canal Lane (a Public Bridleway) extends eastwards from Oxford Road into the site. It provides access to a small number of residential properties close to Oxford Road on its north side. Canal Lane forms a part of the Banbury Fringe Circular Walk and connects down the valley slopes to the Oxford Canal, which defines much of the site's eastern boundary with the Cherwell Valley.**
- **The southerly extent of the application site is demarked by the buildings of College Farm and the Banbury Rugby Club complex with its two storey club-house and floodlit pitches.**
- **The northern extremity of the application site is defined by Bankside Park, an area of public open space situated between the Oxford Canal, Bankside and the Cherwell Heights residential neighbourhood.**

Development Programme

- 1.9 The anticipated programme for construction is dependant on the timing of the grant of planning permission and the satisfactory completion of any Section 106 Agreement together with the discharge of relevant planning conditions. It is possible that preparatory site works

could commence in the first quarter of 2007, with development then being completed during 2011. The Northern Development Area (AREA A adjacent to the Oxford Canal) will provide up to 237 dwellings, whilst the Southern Development Area (AREA B) will deliver up to 833 dwellings, together with the Neighbourhood Centre, Primary School and B1 employment. The Community Park lies between the two development areas and occupies the sloping valley sides to the east of the main Oxford Road plateau.

1.10 The timing for provision of various community facilities is to be controlled through the S106, triggered to occur at appropriate stages within the development programme. For example, the Community Hall (within the Neighbourhood Centre) is to be provided before the 400th dwelling in Area B is occupied.

1.11 An assessment of the baseline conditions was undertaken within the Environmental Statement for individual environmental topics. It is considered that the following potentially sensitive environmental receptors require careful consideration during the construction process. These are identified as being the most sensitive, generally located close to the development, and demonstrating a “worst case” scenario.

A. Users of the Oxford Canal

Various elements of the development may have a transitory effect upon people using the Oxford Canal, either by boat or along the Canal using the towpath which currently only lies on the eastern bank. Potential sources of impact will arise from the excavation and construction of the new canal mooring basin, the adjacent canalside public house, and the construction of three phases of residential development, which could extend over a five year period in total. There may be some relatively minor construction effects arising from the completion of the Community Park, service and drainage works, and the creation of a new west side footpath.

B. Residential properties in Cherwell Heights at the northern end of Bankside

In the order of twenty existing residential properties on the west side of Bankside face onto the northern most phases of new development, with the new development anticipated to last approximately three years in total. Subsequent phases would be set back beyond the northern elements of the Community Park. Construction of the access point and construction traffic using Bankside itself for the Northern Development Area (AREA A) would be a potential source of impact.

C. Bankside Park

People enjoying the southern section of Bankside Park will experience potential impact arising from the construction of the northern most façade of residential development. However, this is only likely to last for approximately twelve months.

D. Properties on central Bankside

Approximately 35 dwellings on central Bankside would experience minor levels of impact arising from the construction of the Community Park. This would comprise primarily tree planting and soft landscaping together with the provision of a cycleway/footpath link. There would be distant views of the built development areas beyond the Community Park.

E. Properties on southern Bankside

Approximately twenty properties would overlook the formal sports fields and the access roundabout for the Southern Development Area (AREA B). Construction impacts would be short lived, about four months, and localised in relation to the roundabout. Those arising from the sports facilities would be principally horticultural in nature, as for the Community Park. There would be little difference between these and the existing intensive agricultural operations. The provision of a sports pavilion and MUGA would result in only localised and minor construction impacts.

F. Properties east of Oxford Road

Approximately 20 properties on the east side of Oxford Road have rear gardens and facades, which overlook the north western extent of the Southern Development Area (AREA B). Construction of residential properties here would last for approximately one year.

G. Properties west of Oxford Road

In the order of 26 properties west of Oxford Road would overlook the south westerly façade of the development. However, this would be beyond Oxford Road itself and would be offset by a broad swathe of structural landscape treatment along Oxford Road. Additional short lived impacts will arise from the construction of the principal point of access for the southern development area (AREA B).

H. Properties on, and users of, Canal Lane

Seven properties are situated on the north side of Canal Lane (one of these being the landowners farmhouse). Whilst these are protected to the rear by open land, they face onto two phases of development which would last approximately two years. Users of Canal Lane itself will pass through the Southern Development area, (AREA B), with the primary school and residential development to the north

and south. This could last for up to four years. Elements of the Community Park lie to the north of the development area, and there will be short term impacts arising from soft landscaping and tree planting operations and the construction of two detention basins. A play area will be built adjacent to Canal Lane.

Canal Lane will be kept open at all times, and will not be used for any construction operations, other than a single controlled crossing point.

I. College Farm House

This single property stands in substantial well screened grounds adjacent to the southern most extent of development, where B1 employment and potential community uses are proposed. Construction work close to the property boundary would last approximately two years.

J. Users of Oxford Road and Bankside

Throughout the total construction period, users of Oxford Road and Bankside (pedestrians, cyclist and vehicles) will be aware of varying degrees of construction activity and traffic, ranging from highway improvements and access provision to views of building and landscape works on the site. These effects will, for the most part, be transitory and of little significance.

SECTION B - CONSTRUCTION METHODOLOGY – MITIGATION OF IMPACT

- 1.12 College Fields will be under construction for approximately five years. The construction process will be carefully managed to ensure that disruption to the adjacent settlement and the progressively completed parts of College Fields is avoided. This section discusses the extent of the construction works necessary to service the development and the measures that will be adopted to reduce the impact of the construction process.

Scope of Construction Works

- 1.13 The principal construction works are as follows:
- **Construction of 1,070 dwellings, a neighbourhood centre, primary school and B1 employment.**
 - **Construction of a new signalised junction on Oxford Road to serve the site and the signalisation of Weeping Cross in association with this;**
 - **Construction of a new roundabout on Bankside to the south-west of Chatsworth Drive;**

- **Construction of a road linking these two accesses to serve the site (AREA B) and subsidiary internal site road infrastructure;**
- **Construction of a simple priority junction with Bankside to provide access to the Northern Development Area (AREA A) and internal road infrastructure within this area;**
- **Construction of a Toucan Crossing of Oxford Road to the south of Broad Gap;**
- **Construction of a localised road widening on Oxford Road in the vicinity of Farmfield Road, Horton View and Hightown Road;**
- **Construction of a canal basin on the Oxford Canal;**
- **Implementation of a new foul water pumping station and diversion of a short length of existing rising main crossing the development land;**
- **Construction of earthworks to create flood detention basins and to raise development parcel levels at discrete locations within the development area. Works include topsoil stripping, excavation of flood detention basins, formation of filled areas, excavation of temporary borrow pits and formation of temporary stockpiles, and excavation of temporary flood alleviation and stilling ponds (siltation) to ensure that the risk of flooding during construction is no greater than the existing risk.**
 - **Construction of strategic foul and surface water drainage and land drainage works.**
 - **Construction of principal development roads including associated junctions, structures, drainage, services, traffic signs and lighting.**
 - **Construction of strategic landscaping including public open space and buffer zones.**
 - **Removal of unacceptably contaminated areas of historically deposited materials in the Bankside area of the site.**
 - **Provision of public utilities to serve the new development including temporary works, off-site reinforcement and on-site distribution mains and services.**

1.14 In addition to the construction of principal infrastructure works described above the developers will manage the provision of infrastructure for individual development parcels in accordance with the Urban Design Framework to ensure that high standards are maintained throughout the development process.

Control of Construction Process

- 1.15 Key to the successful development of College Fields will be a strong site presence from the developers and their appointed supervision teams. A Project Manager will be appointed, responsible for overall on-site implementation, and compliance with the CEMP, and monitoring health and safety issues.
- 1.16 The impact of construction traffic on surrounding neighbourhoods and road network will be minimised by careful on-site management and reducing the need to import/export materials. A management framework will be provided within the CEMP, within which construction traffic will be segregated, wherever practicable, from residents/employees' traffic as the development progresses.
- 1.17 Action will be taken to minimise and control any nuisance arising from construction traffic by using measures such as controlling vehicle speeds, wheel washing of HGV's upon departure from the site and / or roadsweeping to keep all site entrances and adjacent highways in a clean and safe condition.
- 1.18 Facilities such as temporary offices and works compounds, storage areas for construction materials and assembly areas for components of construction will be outlined within the CEMP. These will be located away from existing residential areas, the Canal Lane bridleway, hedgerows and ditches, and the Oxford Canal.
- 1.19 Potentially hazardous materials will be stored in secure areas away from ditches leading to watercourses.
- 1.20 The use of artificial lighting during construction will be minimised to reduce the impact on local residents, open countryside or wildlife corridors.

Public Relations and Community Consultation

- 1.21 The objectives of public relations and community liaison are :
- **To have full consideration for existing and new neighbouring communities in all aspects of works to minimise disturbance, noise and dust during construction.**
 - **To ensure that all safety measures are undertaken at all times and to ensure that the construction areas are maintained in a clean and tidy way as far as is possible.**
 - **To ensure that wheel washing and/or road sweeping is provided where necessary to prevent mud being deposited on local roads, for example.**
- 1.22 The contractor will appoint a centrally based Community Liaison Officer. This will enable representatives from the community to discuss any issues of common concern, the

development programme and to resolve any disputed issues. A planned Communications Programme will be put in place which will include community contact points (for emergencies and for general enquiries) and a feedback consultative process.

Construction Workforce

- 1.23 It is estimated that a construction workforce of between 80 –120 people per year will be employed in the construction of College Fields. Contractors will be encouraged to use local sub-contractors during the construction phase of the project. Contractor's staff will not be permitted to reside on the site in temporary accommodation.

Construction Site Layout

- 1.24 The construction site layout will be informed by a number of factors:

- **The Concept Masterplan and The Assessment Plan;**
- **The Urban Design Framework;**
- **Existing site conditions and facilities;**
- **The protection of Canal Lane public bridleway;**
- **Ownership and legal constraints;**
- **Ecological constraints;**
- **Existing services and easements;**
- **Drainage;**
- **Timing constraints;**
- **Commercial constraints;**
- **Construction phasing.**

- 1.25 The Project Manager will have a central base, which will remain in place throughout the construction of the development. However, individual contractors will establish their own construction compounds located to suit the needs of their specific contracts. It is not possible at this stage to be prescriptive about where these site compounds will be located, as this will depend on the timing, scope and nature of each contract. However, the location of all site compounds will be subject to the approval of Cherwell District Council and the Project Manager to ensure that all relevant factors have been taken into account including other existing and future contracts.

- 1.26 A number of areas will be identified for the temporary stockpiling of surplus materials and topsoil. These will be selected to minimise intrusion to local residents and users of Canal Lane.

Construction Traffic and Permitted Routes

- 1.27 The strategy for the location of the site accesses for construction vehicles is to minimise disturbance and to ensure that any internal haul roads are located and designed in such a way as to avoid any noise, smell, dust, visual or other adverse impacts on existing residents and businesses, and on the new residents and businesses.
- 1.28 Predefined on-site haul routes will be established through the development, which will be delineated to ensure that the potential impact from physical damage, noise, dust, and contaminative effects are minimised and adequately controlled.
- 1.29 Contractors will be required to take all necessary measures to ensure that public roads are maintained clear from construction debris. Measures will include transporting any contaminated waste in sealed lorries, sheeting all loads in open wagons, providing wheel washing facilities for construction vehicles departing the development, inspecting the off-site routes daily and employing road sweepers.

Service Diversions and Temporary Installations

- 1.30 Service diversions and temporary site supplies will be implemented in a co-ordinated manner to minimise adverse environmental impacts.
- 1.31 Contractors will need to contact the relevant utility companies prior to work commencing on-site to ensure that adequate supplies are available to serve their temporary accommodation and to carry out their works. Contractors will be required to carry out surveys, employing detection equipment, to verify the location and status of all known underground services, and to check for unrecorded services, prior to commencing any demolition, site clearance or earthworks.
- 1.32 Diversionary works may be required to ensure that supply is maintained to the site and surrounding settlement whilst allowing the site to be constructed. This may require temporary diversions whilst the permanent routes for utilities are being constructed.
- 1.33 Implementation of the new foul water pumping station will be completed alongside the existing system, to ensure the ongoing provision of the adjacent foul water network throughout the works. Flows will be switched over to the new pumping station and diverted route once construction is complete and commissioned for use.
- 1.34 Off-site reinforcements required to serve the development proposals will be carried out in such a way so as to ensure a co-ordinated approach and to minimise disruption to the public.

- 1.35 All service works will be undertaken in accordance with the National Joint Utilities Group requirements.

Construction Stage Flood Risk Assessment

- 1.36 The strategy for dealing with flood risk issues whilst College Fields is under construction is identical to the strategy for the completed development, i.e. in accordance with PPG25 'Development and Flood Risk'. The evolving development and the completed scheme will neither place any of the new properties at an unacceptable risk of flooding nor will it increase the flood risk to the surrounding areas. This will be achieved by means of a comprehensive and coordinated flood risk strategy that will be agreed with the key stakeholders prior to construction. The strategy will address flood risk from the surrounding watercourses, from groundwater and from the development runoff itself.
- 1.37 The development and associated infrastructure will be constructed in phases and for each phase flood mitigation measures will be implemented in line with the overall strategy. This approach means that mitigation for each phase will be in place at the start of each phase and therefore the flood risk issues will be addressed prior to this being required.
- 1.38 During the construction works temporary stilling ponds may be required to deal with construction based solids in suspension affecting water quality in off-site watercourses. Contractors will be required to obtain approval from the Land Drainage Authority, British Waterways and the Environment Agency to their site specific proposals for surface water protection measures to be adopted during construction.
- 1.39 The Project Manager and Contractors working at the site will have regard to existing preferential flow paths and land / surface water drainage, to ensure that local flooding is not caused during the works. All existing drainage will be maintained in a clean and operational condition.
- 1.40 Contractors will be required to identify appropriate means of sanitary drainage that are either connected to the foul system or collected for appropriate disposal.

C - HEALTH AND SAFETY – MITIGATION OF IMPACTS

Health and Safety Management

- 1.41 The developers are committed to promoting a positive safety culture within all of the organisations involved in the planning, design and construction of College Fields.

1.42 All construction works will be carried out in accordance with requirements of the following :-

- **Health and Safety at Works Act 1974.**
- **Management of Health and Safety at Works Regulations 1999.**
- **The Provision and Use of Work Equipment Regulations 1998.**
- **The Lifting Operations and Lifting Equipment Regulations 1998.**
- **The Personal Protective Equipment (PPE) at Works Regulations 1992.**
- **The Manual Handling Operations Regulations 1992.**
- **The Control of Substances Hazardous to Health Regulations 2000.**
- **The Construction (Design and Management) Regulations 1994.**
- **The Construction (Health, Safety and Welfare) Regulations 1996.**
- **The Electricity at Works Regulations 1989.**
- **New Roads & Streetworks Act 1991.**

Working Hours

1.43 Normal working hours for all construction activities will be restricted to the following unless otherwise previously agreed in writing with the Cherwell District Council:

Mon - Fri 07:30 - 18.00

Saturday 07:30 - 14:00

1.44 No working will be permitted on Sundays or Bank Holidays.

1.45 The Contractors will be expected to adhere to the normal working hours. However, certain operations such as earthworks are seasonal and weather dependant and in these instances the contractor will seek, as is customary in the construction industry, to extend the working hours and/or days for such operations to take advantage of daylight hours, with the agreement of Cherwell District Council.

1.46 Certain construction activities and vehicular movements may be restricted during peak traffic hours in order to minimise disruption to local residents.

1.47 Work requiring possession of roads for reasons of safety or operational convenience will require night time, Sunday and/or bank holiday working from time to time. Some repair and maintenance work may be required outside normal working hours. Repair and maintenance carried out on Sundays would be limited to the hours of 0800 to 1600. Activities outside normal working hours that could give rise to disturbance will be kept to a practicable minimum.

- 1.48 Where such working outside normal hours has been discussed and accepted, occupiers of nearby residential or other sensitive property who are likely to be affected will be informed as soon as reasonably practicable by the contractor and where appropriate the likely duration of the works.
- 1.49 In the case of work required in response to an emergency, (or which if not completed would be damaging or unsafe), Cherwell District Council will be advised as soon as is reasonably practicable of the reasons for and likely duration of such works.

Control of Hazardous Materials

- 1.50 The following construction materials and substances have been identified as potentially posing special health and/or safety hazards during the construction of the works: -

Material / substance	Hazard	Guidance
Dust, dirt, debris, vermin	H,F	
Hazardous piped substances	T,H,I,C,F	
PCB's	T,H	
Fumigants	F	COP30, CS10, 12 (HSE)
Flammable gases, liquids	F	CS6, 15 (HSE)
Contaminated ground	T H	HS(G)66
Hardwood dust	T, I	
Softwood dust	I	
Paints, stains, varnishes	H,F I	
Protective coatings / treatments	T,H,F,I,C	GS6((HSE)
Adhesives	H,F,I	
Sealants	T,H,F	
Solvents	H,F,I	
Foam fillers	H	
Sillica dust	T	SS38(HSE)
Plaster, cement, concrete and brick dust	I	
Concrete / mortar admixtures, formwork treatments	H,F,I	
Grouts	H,F,I,C,	

Brick / stone cleaners	T,H,F,C	
Paint removers	H,C	
Weed killers, pesticides	T,H	L9 (HSE)
Fuels, oils, lubricants	H,F	
Water treatment chemicals	T,H	

T – toxic; I – irritant; C – corrosive; H – harmful; F – flammable; 4 – explosive

- 1.51 The materials and substances listed in the above table do not represent an exhaustive list of all potentially hazardous materials and substances. Other common materials and substances used during construction will also present health and/or safety hazards. Contractors must carry out COSHH or other risk assessments in respect of all hazardous materials or substances, referring to the relevant manufactures data sheets and / or HSE guidance regarding these materials and substances.
- 1.52 Contractors will be required to make adequate provision for the introduction of appropriate measures during construction to prevent or control exposure to hazardous materials and substances.

D - ENVIRONMENTAL PROVISIONS – MITIGATION OF IMPACT

General Requirements

- 1.53 All traffic management will be designed in accordance with Chapter 8 Vol. 1 and 2 of the Traffic Signs Manual 1991, The Reduction of Traffic Delay at Roadworks and "Safety at Roadworks: Notes for Guidance (1994) issued jointly by DoT and County Surveyors Society.
- 1.54 The Contractor shall take effective measures to prevent mud or other material being deposited on highways by traffic from the site or from other land in use for the purposes of the Works. The Contractor shall remove without delay from highways any mud, dirt or debris which may have arisen from or be due to the construction of the works and shall employ sufficient labour and suitable plant for this purpose.
- 1.55 The Contractor will consider options for reducing the quantities of construction materials requiring transfer by public roads so far as reasonably practicable.
- 1.56 Adequate temporary fencing shall be supplied, erected and maintained to protect the public where work, which may constitute a hazard to the public and unauthorised persons has commenced until such times as it is complete or the permanent fencing is erected. Where

construction work occurs adjacent to existing properties, hoarding fences will be used to minimise disturbance.

- 1.57 All existing lighting, where appropriate, shall be maintained until the new installation has been accepted by the Project Manager/Adopting Authority.

Surface and Ground Water Protection Controls

- 1.58 In conjunction with British Waterways and the Environment Agency, a plan will be prepared detailing the surface water features to be protected and setting out the required controls and protection measures to be adopted during construction.

- 1.59 In planning and carrying out any construction works, precautions will be taken to secure protection of watercourses and water in underground strata against pollution.

- 1.60 In order to limit pollution from silt, cement and other potentially polluting materials, a number of measures will be implemented, including:

- **The washout from any concrete mixing plant, or the cleaning of ready mixed concrete lorries must not be allowed to flow into any drain or watercourse. Any residue shall be removed from the site and either recycled or disposed of at a suitably licensed waste management facility.**
- **Site roads must be regularly maintained and kept free from deposits in order to prevent silt, oil or other materials entering any drain or watercourse.**
- **Any lorry wheel cleaning facilities shall be securely constructed with no overflow and effluent shall be contained for proper treatment and disposal.**
- **Before any discharge of water is made from the site, adequate provisions, such as settlement lagoons, must be made to ensure that pollution will not occur.**

- 1.61 In order to prevent pollution from oil and chemicals:

- 1.62 All fuel and chemical storage must be either in double skinned storage tanks or sited on an impervious base within a bund and secured. The base of the bund walls must be impermeable to the material stores and of sufficient capacity to contain 110% of the volume of the largest tank, or 25% of the total capacity of all tanks, whichever is the greater. Filling and refuelling must be strictly controlled and together with any oil storage tanks, should be confined to a location remote from any watercourse or drain. Leaking or empty drums must

be removed from the site immediately and taken to an appropriate facility for treatment/disposal.

- **All valves and trigger guns shall be as resistant to unauthorised interference and vandalism as possible, and should be turned off and securely locked when not in use.**
- **The capacity and contents of any tank shall be clearly marked on the tank and a notice displayed requiring that valves and trigger guns be locked when not in use.**
- **Any tanks or drums shall be stored in secure containers or compounds. These must be kept locked when not in use.**
- **Before any tank is removed or perforated, particularly during demolition works, all contents and residues must be emptied by a competent operator for safe disposal. Pipes may contain significant quantities of oil or chemicals, and shall be capped, or valves closed to prevent spillage.**

Contaminated Land Procedures

1.63 A detailed strategy for the full investigation of the site and removal of any unacceptable material from the historically deposited soil will be agreed with the regulatory authorities prior to the construction phase.

1.64 The general approach to development of the site will include the following :-

Removal of vegetation and topsoil from the area of deposited material

- **Remediation by way of excavation and removal from site to licensed facility of unacceptable material.**
- **Implementation of any insitu reclamation / remediation necessary**
- **A systematic regime of soil, ground water and gas confirmatory testing during the works to ensure that all unacceptable material is dealt with in an appropriate manner.**
- **Construction, including installation of infrastructure and service connections, followed by substructure construction (foundations etc) and then superstructure.**

1.65 For the currently identified conditions and any that may be found during further works, procedures will be developed to mitigate the risks posed to construction workers and nearby sensitive receptors. These will include: -

- **A suitable health, safety and environmental management plan will be developed as part of the construction programme which will include the consideration of suitable levels of PPE for site operatives, the provision of decontamination**

facilities and suitable environmental control measures to be adopted during site works. This plan should also contain locations and details of any on site contamination, which will be clearly marked.

- Use of dust suppression techniques during development to minimise off-site impacts.

Sustainability

1.66 The developers are committed to minimising production of CO₂ and wastage of resources through the design and construction of the new development. The construction stage of the project will adhere to a strict sustainable materials strategy, and contractors will be encouraged to :-

- Select materials from the current BRE Green Guide for Specification, 3rd Edition, BRE 2002. They will achieve A ratings, where practicable, thereby giving preference to materials with high environmental performance through reduced pollution and low embodied energy.
- Give preference to the use of locally-sourced materials.
- Give preference, where permitted by the adopting authority, to the use of locally available reclaimed and recycled materials and aggregates, particularly in the construction of roads, footpaths, cycleways and hard landscaping.
- Where possible, material containing CFCs, HCFCs or HFCs volatile organic pollutants will be avoided.

Reduction, Re-Use And Recycling Of Construction Waste

1.67 The developers are committed to minimising construction waste by adopting new site practices including a site wide waste minimisation scheme that maximises material use and keeps waste to a minimum. The locations of waste management facilities will be carefully planned to minimise disturbance to the public and to allow easy access for contractors.

1.68 The developers will partner with a waste management contractor throughout the construction phase of the development, with a brief to reduce and recycle construction waste. This will be achieved by :-

- Ensuring that all contractors are contractually obliged to participate in the waste minimisation scheme. Details of contractors proposals for waste minimisation must satisfy the schemes requirements which will be enforced by the Project Manager, and contractors' full co-operation will be required at all times. Materials to be recycled will include timber, cardboard, paper, concrete, brick, bituminous materials and metals.

- **Reduction of materials wastage through good storage and handling.**
- **Entering into agreements with suppliers for disposal and recovery of their products including plasterboard offcuts, insulation offcuts and timber pallets.**
- **During that all suppliers of materials provide returnable or practicably recyclable packaging.**
- **Providing waste minimisation induction courses for all site personnel.**
- **Regular toolbox talks throughout the construction phase to raise awareness.**

1.69 Waste management priorities for the proposed demolition operations will focus on reducing, reusing and recycling waste materials to minimise disposal to landfill.

Noise and Vibration Controls

1.70 During the construction of the proposed development, there will be various site clearances and construction activities undertaken, all of which have the potential to generate noise and/or vibration at existing and future sensitive properties.

1.71 Adherence to the construction working hours will ensure that any noise and vibration emanating from the works will be limited to specific times during the week. Work outside these core hours will only be permitted if that work is previously agreed with the Local Authority in accordance with any agreed noise restrictions. If work outside these core hours is permitted, monitoring of construction noise and/or vibration will be considered in the management of these operations.

1.72 During all works, 'Best Practicable Means' as defined in Section 72 of The Control of Pollution Act 1974 will be employed to minimise noise and vibration from the construction operations and equipment. Furthermore, the guidance given in BS 5228: 1997 (Clause 10, Control of noise and vibration) and BS 5228: 1992 Part 4 will be followed. Such measures will control and minimise noise and vibration at source by using effective acoustic enclosures, temporary screens and barriers and ensuring regular maintenance of machinery.

1.73 Best construction practices and methods will be used in executing the construction works so as to avoid or reduce noise and vibration as far as possible. These practices and methods will be a contractual requirement. Furthermore, only plant that conforms to the relevant EU noise emission standards will be used during the construction of the proposed development.

1.74 All plant items brought to site shall be properly maintained, provided with effective silencers and operated in a manner as to avoid causing any excessive noise, vibration or exhaust emission. All items of plant operating on the site in intermittent use will be shut down in the intervening periods between use.

- 1.75 Construction traffic that may arrive prior to the site opening will be prevented from waiting on local roads adjacent to the site. Vehicles that may arrive prior to the site opening will wait away from the site and any adjacent residential properties
- 1.76 Haul roads will be constructed and maintained so that the road surface is smooth and the gradient minimal. This will minimise noise and vibration from traffic on haul roads.
- 1.77 For each construction site and before starting the sequence of main construction activities on that site, the contractor will prepare and implement a method statement to include:
- **an outline of the proposed construction method;**
 - **the type of plant to be used and the proposed noise and vibration control methods;**
 - **a work programme which identifies the location and duration of each significant noise generating activity;**
 - **the sound power levels for each relevant activity; and**
 - **an assessment of predicted noise and vibration levels at specified locations**

Security and Lighting

- 1.78 Security (and consequentially safety) are crucially important, and the Project Manager through the CEMP will be directly responsible for ensuring that all contractors give this aspect a very high priority, liaising with the Police and local community as appropriate. Ultimate responsibility for maintaining site security and safety will be with the individual Contractors. However, coordination across the development will be the responsibility of the development Project Manager, who shall have contractual powers to ensure that the site security and safety undertakings developed as part of the Construction Environment Management Plan are implemented. The Project Manager shall also act as the conduit for interface between the regulatory authorities, public and contractors to ensure that matters arising are effectively coordinated across the development activities.
- 1.79 The objective is to maintain a secure site boundary at all times, both for the entire development site and for individual development plots. High quality clean tidy fencing or hoardings will be required, with particular care being paid to public frontages and areas in close proximity to existing residential properties.
- 1.80 A balance needs to be struck between achieving appropriate levels of lighting and avoiding unnecessary light spillage, pollution and glare. Liaison with the local community will be essential.

SECTION E – STATEMENT OF EFFECTS

- 1.81 Specific topics identified within the Environmental Statement with the potential to generate or experience construction impacts have been addressed. The predicted levels of impact are assessed and described.

CONSTRUCTION TRAFFIC

Baseline Conditions - Traffic

- 1.82 A Transport Assessment has been produced and is contained within Appendix 12 of the Environmental Statement Volume 2. The site is currently undeveloped land and therefore does not generate any significant levels of traffic. However, there would be infrequent visits by agricultural type vehicles to maintain / manage the land. Existing traffic flows on the road network around the site are detailed in the Transport Assessment for the proposed development

Construction - Potential Effects and Mitigation of Impacts

- 1.83 The potential impacts of construction traffic are as follows :-
- **Additional traffic movements adversely affecting the capacity of the surrounding highway network;**
 - **Increases in noise associated with construction vehicle movements;**
 - **Reduction in local air quality due to construction vehicle movement;**

Construction Traffic Generation

- 1.84 Heavy goods vehicle numbers will vary on a day to day basis depending upon what activities are currently taking place on site. However, typical daily delivery movements are likely to be of the following order :-
- **Site clearance and set-up of the site compound:6 deliveries average per day.**
 - **Road infrastructure construction:9 deliveries average per day**
 - **House construction:14 deliveries average per day**

- 1.85 It should however, be noted that on some individual days HGV numbers could be substantially higher than this. For example, when road surfacing is undertaken there will be a need for a continuous supply of dense bitumen macadam to be delivered. At this stage it is not possible to define exactly what the maximum daily delivery rates will be as it is too early to produce a detailed construction programme for the development.

- 1.86 Deliveries are likely to occur throughout the day. Earliest arrivals are likely to be around 08:00, whilst the latest are likely to be around 16:00. For particular tasks on site there may be occasions when this is extended, for instance if foundations are being poured they need to be finished as one operation, which may extend working hours.
- 1.87 In addition to deliveries, staff working on the site will also generate car movements. It is anticipated that the maximum number of staff on site at any one time will be between 80 and 120. Not all staff will drive and there is likely to be an element of car sharing.
- 1.88 It is generally considered standard practice that work on construction sites begins at 07:30 and ends at 18:00. The majority of employee trips will therefore occur outside the peak hours.
- 1.89 Consequently the total daily vehicle numbers visiting the site, even at the busiest periods of construction, will be substantially less than the traffic generation of the completed development. The majority of trips will occur outside of the peak periods, the numbers within the peak periods are likely to be less than 20% of the peak hour trips that the finished development will generate.
- 1.90 Action will be taken to minimise and control any nuisance arising from construction traffic by using measures such as controlling vehicle speeds, limiting delivery hours, wheel washing of HGV's upon departure from the site and / or road sweeping to keep all site entrances and adjacent highways in a clean and safe condition, etc.
- 1.91 The impact of construction traffic on surrounding neighbourhoods and road network will be minimised wherever practicable, by careful on-site management and reducing the need to import / export materials.

Construction Vehicle Types

- 1.92 A variety of different activities requiring a range of different plant and equipment will be ongoing throughout the construction. Looking firstly at site set-up, this will require the delivery of temporary site offices, probably in the form of portacabins and lockable containers for storage of smaller items of plant. These are likely to arrive on large low-loaders and would be craned off as single units. Large plant items, such as tractor/excavators, rollers and dumpers will also need to be delivered. Some of these may arrive under their own power (for instance JCB type diggers are generally licensed for road use), whilst others may arrive by low-loader. Smaller items of plant will arrive on flat-bed lorries.

- 1.93 In addition to plant and site offices, the site compound will also need to be levelled and a temporary paved surface laid. This will require deliveries of materials, either on flat bed lorries with Hi-AB loaders or tipper trucks.
- 1.94 The road / access construction phase of the project will require delivery of materials. These are likely to include bulk materials such as Type 1 aggregate and bituminous materials and individual pre-formed items such as kerbs, gully pots, drainage pipes, etc. The former would arrive by tipper truck and the later on flat bed lorries. There may also be some requirement for ready-mix concrete deliveries at this stage, for instance for kerb foundations or backfilling around manholes.
- 1.95 The development areas of the site (AREAS A and B) are relatively level and no major re-grading is anticipated. It has been assumed at this stage that the majority of excavated material from roads and foundations will be used elsewhere on site.
- 1.96 The house building phase of the project would require some deliveries of bulk goods, such as sand for use in cement, but these are likely to be significantly less than for the road construction. The majority of materials will arrive on pallets delivered on flat bed lorries. The number of ready mixed concrete lorries is likely to be higher than for the road construction as they will be needed for pouring building foundations. This may be offset by the provision on site batching.
- 1.97 In the above paragraphs four main types of delivery vehicle have been identified :-
- **Low-loaders**
 - **Tippers**
 - **Flat bed lorries with HI-AB loaders**
 - **Ready mixed concrete lorries**
- 1.98 Low-loaders are generally a maximum of 15m long and have a maximum weight of 38000kg. Tipper lorries have between two and four axles and range in size from 6.35m long to 9m long. The smaller ends of the range have gross vehicle weights (GVW) of 16260kg up to 30490kg for 4 axles tippers. Flat bed lorries with hydraulic lorry loaders are similar in size to tipper lorries. Their maximum GVW is generally lower at around 24390kg. Ready mixed concrete lorries are typically 7.5m long and have a GVW in the range of 17150kg to 26550kg.

Impact of Construction Traffic on Road Network Capacity

- 1.99 The Institution of Highways and Transportation provides the following advice on identifying when an increase in traffic can be considered significant :-

“It is not possible to provide any hard and fast rules as to what constitutes a significant traffic impact and hence one for which a full traffic impact assessment should be undertaken. In the absence of alternative guidance from the highway (roads) authority in the form of approved or adopted policy, The Guidelines therefore recommend that a TIA should normally be produced where one or other of the following thresholds are exceeded:

- Traffic to and from the development exceeds 10% of the existing flow on the adjoining highway***
- Traffic to and from the development exceeds 5% of the existing two-way traffic flow on the adjoining highway, where traffic congestion exists or will exist within the assessment period or in other sensitive locations”***

1.100 The existing peak hour flows on Bankside and Oxford Road are in the order of 700 vehicles per hour and 1900 vehicles per hour respectively. For a significant impact to occur peak hour flows as a result of the development would need to exceed 70 vehicles per hour on Bankside and 190 vehicles per hour on Oxford Road. It is anticipated that peak hour construction traffic flows would be lower than these thresholds.

Mitigation

1.101 In order to minimise the effects of construction traffic on existing local residents predefined routes for construction traffic will be set out within the CEMP. The Contractors and sub-contractors will be required to comply with these construction routes. The Contractor shall erect and maintain in good condition signs of a type approved by the Highway Authority giving effect to these routing requirements.

1.102 All public and private roads, footways, cycleways and accesses affected by the Works shall be maintained throughout the period. Where adjacent to the works, appropriate temporary fencing and signing shall be installed for reasons of public safety.

1.103 During the construction of the works, contractors will be required to make temporary provisions for dealing with all pedestrians and cyclists until such time as the permanent works have been completed. All such facilities shall be maintained in a condition safe for use. Where necessary, diversion signing will be provided.

1.104 Suitable signposted alternative routes will be provided for all cyclists and pedestrians.

1.105 All pedestrian routes diverted onto the carriageway will be clearly defined by continuous barriers, constructed to the requirements of the Highway Authority.

- 1.106 During the construction of the works, provision will be made for maintaining an existing access for mobility impaired persons and, where such facilities already exist, appropriate measures will be implemented where feasible to ensure suitable diversions, temporary footpaths or walkway accesses.
- 1.107 The Developer is committed to minimising the inconvenience to the public arising from increases in traffic flows and disruptive effects of construction traffic on local and main roads, as far as is reasonably practicable.
- 1.108 The Contractors will be required to produce and implement a Traffic Management Plan. The Plan will take account of the requirements of the highway authority and Cherwell District Council. The plan will typically include details of :-
- **Temporary traffic control measures;**
 - **Temporary and permanent accesses to the works;**
 - **Temporary road layouts;**
 - **Construction traffic routes;**
 - **Specified delivery hours;**
 - **Means of monitoring lorry routes.**
- 1.109 The form of the traffic management proposals to be implemented will be agreed with the Cherwell District Council and the Project Manager prior to construction.

Statement of Effects

- 1.110 The review of the potential traffic impact shows that the level of traffic anticipated will be substantially lower than the final traffic generation of the completed and occupied site. The bulk of traffic movements will occur outside of the peak periods on the existing road network and any effects on road capacity will be minimal. There will be heavy goods vehicle movements associated with the construction process, but the numbers will be insufficient to have any impact on network capacity. It is also intended that delivery vehicles associated with the development use the main road network wherever possible. On this basis it can be concluded that there will be no impacts associated with construction traffic that cannot be mitigated for by the application of a package of measures similar to those identified previously.

LANDSCAPE & VISUAL RESOURCES

Introduction

- 1.111 A Landscape and Visual Impact Assessment of the proposed scheme has been conducted and is contained within Section 5 of the Environmental Statement and Appendix 5 of the Environmental Statement Volume 2.
- 1.112 This was prepared using the assessment methodology outlined within the “Guidelines for Landscape and Visual Impact Assessment” (GLVI-Second Edition, April 2002) published by The Landscape Institute and the Institute of Environmental Management and Assessment. Construction impacts are determined using the same assessment methodology.
- 1.113 Following an analysis of the baseline conditions the sensitivity of the landscape and visual resource is determined. This is the degree to which the resource affected can accommodate change without detrimental effect. The magnitude of change or effect depends upon the scale and nature of the development proposal and its duration. It is important to recognise that change can be either adverse or beneficial. Finally, the significance of the effect can be assessed.

Baseline Conditions - Landscape

- 1.114 The application site is characterised by an intensively managed agricultural landscape. Low cropped hedgerows segregate a regular, predominantly large scale field pattern. Although some hedgerows include scattered semi mature / mature hedgerow trees, many are fragmented and there is a general absence of trees. Arable production has eroded much of the river valley character and diversity that once existed. As a result there are few landscape features, which has also resulted in a limited wildlife resource.
- 1.115 A large proportion of the site lies on a generally featureless plateau, above the Cherwell Valley to the west. Its immediate character is influenced by Banbury’s existing residential edge along the Oxford Road and the residential area of the Cherwell Heights estate, off Bankside. Due to the hedgerow structure being fragmented and generally low cropped, an abrupt urban edge currently results, particularly along Bankside. Bankside and the Cherwell Heights estate descend the plateau onto the more visually sensitive valley slopes to the east.
- 1.116 The slopes are characterised by an increase in tree and hedgerow cover, with small pockets of woodland, and in general a good hedgerow structure. The slopes roll down to the flatter land of the Cherwell Valley floor. The River Cherwell and the Oxford Canal form important landscape features. The Oxford - Birmingham railway line and embanked M40

motorway dissect the valley. The M40 and Banbury's Industrial Area, to the north, form prominent and somewhat incongruous features within the valley landscape. East of the valley the landform rises gently with settlements at Kings Sutton, Overthorpe and Lower Middleton Cheney some 2.8km to the north of the site.

1.117 Canal Lane (A Public Bridleway) crosses the application site providing a link from the Oxford Road to the Oxford Canal. This forms part of the Banbury Fringe Circular Walk, which connects with the Oxford Canal Walk and the Jurassic Way Recreational Path.

1.118 With the exception of the existing hedgerows, the built development areas of the site have limited features of landscape value. The sensitive valley slopes, which are to be safeguarded as part of the Community Park proposals.

1.119 The assessment of the site and immediate surrounds reveals a landscape that is generally fragmented, in need of restoration and enhancement and much influenced by urban fringe uses.

Baseline Conditions - Visual Resources

1.120 Significant visibility of the site is restricted to a fairly limited visual envelope, with few significant views beyond the immediate environs of the application site. Local and internal views are assessed from individual properties along Bankside and Oxford Road, the Canal Lane public bridleway and the Canal. Topographic variations, vegetation, and the existing urban edges of Cherwell Heights and Oxford Road (Bodicote) curtail the extent of visibility.

1.121 The gently falling valley slopes are an important local landscape feature, and are visually sensitive. They afford cross-valley views. Whilst some views of the application site are possible from the rising ground east of the Cherwell Valley, these are generally in excess of 2 km in distance, and consequently are of limited significance. They form a small component of the overall view, which includes urban fringe uses of the Industrial Area on Banbury's eastern edge and the M40 corridor. The rise of the land westward to the plateau edge defines the eye line and restricts the extent of visibility to the west. There are only restricted views towards the southern development area from the western valley slopes themselves due to the landform. However, Canal Lane does provide views towards the more distant northern development area.

1.122 The M40 and the railway line provide transient views across the Cherwell Valley and a component of the view includes parts of the application site, with views of Banbury beyond. These views are of short duration and low sensitivity.

Construction- Potential Effects and Mitigation of Impacts

- 1.123 Construction works will be fully mitigated by meeting recognised best practice procedures, in order to minimise any landscape and visual impact.
- 1.124 The developers will specify measures for dealing with trees that may be directly or indirectly affected by the construction works, together with details for new planting areas. Measures will be consistent with the procedures outlined in BS 5837:2005 'Trees in Relation to Construction-Recommendations'. This will include for example Construction Exclusion Zones; barriers and ground protection, in order to avoid damage to trees.

Vehicular Access Arrangements

- 1.125 The three access points into the site taken from Bankside and Oxford Road will result in a transient landscape and visual impact. Inevitably some permanent loss of localised boundary vegetation will occur to accommodate the proposed roundabout and access arrangements on Bankside, and the junction on the Oxford Road.
- 1.126 These minor losses will be fully mitigated by compensatory woodland, hedgerow and tree planting as part of the development's overall landscape strategy. New tree and hedgerow planting will occur along the boundary of the Formal Sports Area, close to the proposed Bankside junction and within the swathe of frontage public space alongside the Oxford Road. The magnitude of change to the landscape is assessed as low, and over time as new planting matures significance is assessed as moderately beneficial. Further extensive compensatory habitats are proposed within the Community Park.
- 1.127 Properties along Bankside and Oxford Road have close views of the road corridors and traffic. Due to their location a small number of properties will have additional views of construction activities for the access arrangements. These will be seen as a component of the overall view, which includes existing traffic and vehicles. Although there would be some initial visual impact, this would only be short term. On completion there would be a limited magnitude of change to the view, and impact would be no more than slightly adverse.

The Northern & Southern Development Areas (AREAS A & B)

- 1.128 The landscape character of the development areas is not assessed as being of high sensitivity. They are already influenced by urban fringe uses, and are characterised by a declining landscape condition. They are tolerant of change and would benefit from overall enhancement and a restoration of landscape character.
- 1.129 The retained hedgerows and semi mature-mature hedgerow trees will be fully protected during the construction process by methods identified within B5837. This will include appropriate

construction exclusion zones, to include fencing, and the use of best practice construction methods in proximity to trees.

- 1.130 Inevitably the construction activities would result in a high magnitude of landscape change over a localised area. This will consist of views of hoardings, fencing, storage compounds, portacabins, moving builders plant, scaffolding, emerging and semi-constructed buildings, and occasional cranes and possible concrete batching plants. The scene will be skeletal and transitory, gradually being replaced by finished buildings. However, the proposals will ultimately establish a high quality development within a high quality landscape setting. This includes the reinforcement of the existing hedgerows and establishment of broadleaved woodland along the development edge as part of the Community Park. Over time, as the landscape matures, new areas of woodland, trees, hedgerows and wetland habitats will enhance the local landscape character and restore its structure. Substantial landscape benefits will occur, particularly as the current abrupt urban edge will be replaced by a more sympathetic transition zone.
- 1.131 The visual assessment identified a relatively limited number of significant receptors. Many of the views of the proposed development are predominantly local or internal, such as, a restricted number of properties on Canal Lane, Bankside and Oxford Road and users of Canal Lane and the Oxford Canal. Inevitably there will be a degree of initial adverse visual impact as the construction activities take place. However, these will be short term and transitory, so that impact is localised. At worst, it is anticipated that construction impacts will be slightly or occasionally moderately adverse.

Community Park

- 1.132 The Community Park is located predominantly on the valley slopes and is an area of significant open space. Some localised construction activities within the Community Park will occur. These will include largely soft landscape features, with the formation of the footway-cycleway, play areas, sports pitches, detention basins, drainage swales, and areas for structural tree planting and landscaping. During the construction process there will be a limited slight landscape impact on very localised areas. Existing vegetation will be fully protected in accordance with B5837. On completion, the Community Park will significantly enhance landscape character and result in a substantial beneficial effect.
- 1.133 Distant cross valley views are afforded of the Community Park from the rising landform to the east of the Cherwell. Transient views of the Community Park are also possible from the elevated M40, and generally more filtered views from the railway line. These are of low sensitivity, and there will only be negligible effects from the construction process.

- 1.134 Localised views of construction activities would be possible from some residential properties on Bankside and users of Canal Lane and the Canal, across the Community Park. These would be temporary, over an 18-month period and form a minor component of the overall view, with a low magnitude of change and only slight impact. Overall, as the landscape framework matures, the development of the Community Park will have major beneficial visual effect.

Rights Of Way – Canal Lane

- 1.135 Canal Lane is the only existing public rights of way across the site, and this will be protected during the construction process to maintain safe direct routes for users. Appropriate temporary fencing and hoardings will be erected to protect the public, where construction work abuts the route. As Canal Lane runs directly through the southern development area (AREA B), it is inevitable that users will experience close views of construction activities, with some initial disruption. Although the magnitude of visual change would be locally high, this would be temporary and of limited significance. Channelled views would still be retained channelled towards the Cherwell Valley. On completion the route would be set within a new green corridor of tree and hedgerow planting, with direct access to the Community Park, Children's Play Areas, and the Oxford Canal.

Oxford Canal

- 1.136 Users of the Canal and Oxford Canal Walk would experience passing views of construction activities within the northern development area, which would be set against the backdrop of Banbury's existing urban edge. These views would however be short term and localised. A high quality urban design and attractive canal side setting, to include land for the Canal Basin and a new western towpath would enhance the character and visual amenity of the area. Transitory impact would be no more than slightly adverse.

Bankside Park

- 1.137 This local community facility lies immediately adjacent to the Northern Development Area (AREA A). For approximately twelve months, users of the park would be aware of residential development along the southern boundary of the park. The impact would be no more than slight, and ultimately the park would benefit from the resulting passive supervision that would be afforded by the new housing.

Statement Of Effects

- 1.138 A degree of landscape and visual impact will occur during the construction phases of development, although the extent of this impact is restricted to a limited number of local and internal receptors. Impacts can be mitigated successfully by way of considerate

management techniques to be contained within the CEMP. Residential impact will be temporary and due to the transitory construction process, will be localised. Overall construction impacts on landscape and visual resources are considered to be of limited significance and of negligible effect. The proposed landscape mitigation provides a substantial package of landscape enhancement measures which will restore and significantly improve the landscape character and visual resources of the area.

ECOLOGICAL RESOURCES

Introduction

1.139 An Ecological Assessment of the proposed scheme has been conducted and is included within Section 6 of the Environmental Statement and Appendix 6 of the Environmental Statement Volume 2. This includes full details of the impact assessment methods and baseline surveys of habitats, features and species. Surveys included :-

1.140 Phase 1 Habitat Survey

- **Hedgerows**
- **Mature Trees**
- **Badgers**
- **Water vole**
- **Otter**
- **Bats**
- **Dragonflies and damselflies**
- **Breeding birds**
- **Reptiles**
- **Amphibians**
- **Crayfish**

Baseline Conditions – Ecology

1.141 In summary, the application site is characterised by an intensively managed agricultural landscape dominated by arable farmland, with small areas of improved and semi-improved grassland also present within field compartments. These areas are all considered to be of negligible to low nature conservation value.

1.142 Field boundaries were dominated by hedgerows and were typically species rich although generally only of moderate structure as a result of intensive mechanical management. Hedges H1, 2, 3, 4, 7, 9, 12, 14, 15, 17, 18 and 20 were considered to be of moderate nature conservation value due to their qualification as “important” under the Wildlife and Landscape Criteria of the Hedgerow Regulations 1997 or as grade 1 under the HEGS

methodology. Remaining hedgerows were considered to be of low or negligible nature conservation value.

- 1.143 Wetland habitats within the vicinity of the site, including the River Cherwell, Oxford Canal and a small fragment of marshy grassland beyond the canal, are considered to be of low to moderate interest due to their value to a range of species within the wider countryside.
- 1.144 Fauna of interest that occur include fully protected species such as: otter, which occurs along the River Cherwell; badger, which use some of the hedgerows for foraging, resting and as corridor habitat, and bats, which forage along the wetland habitat and some hedgerows.
- 1.145 Other notable species include a number of declining bird species which are worthy of conservation effort. While most are generally considered to be common in the wider countryside, the corn bunting is considered as a rare species in Oxfordshire. Additional notable species included the white-legged damselfly, which occurs in the Oxford Canal.
- 1.146 No evidence of any reptile, amphibian or water vole was observed during surveys.

Construction - Potential Effects and Mitigation of Impacts

Habitat Loss

- 1.147 Construction activities within the site will lead to the total loss of improved and semi-improved grassland, which is of low or negligible value and as such is of only minor significance at most.
- 1.148 Areas of nature conservation value that will be affected during construction include hedgerows, which will mainly be affected by small-scale interruption to provide accesses of approximately 10 – 13m. Hedgerows H2 (part of), and 19 are to be removed, resulting in additional losses of 100m and 180m respectively. Neither of these is considered important under the Wildlife and Landscape Criteria of the Hedgerow Regulations 1997.
- 1.149 The impact of this loss is likely to be minor at most and will be more than compensated for by the improved management of retained hedgerows and additional planting associated with the Community Park. By way of mitigation no hedgerow trees will be affected.
- 1.150 The affected lengths of hedgerow would be coppiced and translocated to other areas within the Community Park, where new hedgerows are proposed. The Community Park will also include new hedgerows, broad-leaved woodland copses and groups of individual trees to fully compensate for any loss of hedgerow. Furthermore all retained habitats will be safeguarded

within an appropriate buffer zone during the construction phase of development to ensure that disturbance is minimal and sensitive species retained. Best practice detailed within BS 5837:2005 'Trees in Relation to Construction-Recommendations'. This will include for example Construction Exclusion Zones; barriers and ground protection, in order to avoid damage to trees and hedgerows.

Effects on Fauna

- 1.151 The potential for retained habitats outside of the immediate working area to be disturbed during construction operations will be reduced or avoided by ensuring that all retained and un-worked habitats within the site are protected during normal operation to ensure that disturbance is minimal and any existing species retained in situ. All working areas will be kept to an absolute minimum enabling the retention of as much of the existing adjacent vegetation as feasible.
- 1.152 Evidence of badger occupation is limited and is identified outside AREA A and B. None of the setts are close to built development areas. To ensure that badgers are not inadvertently disturbed during construction activities, a 30m exclusion area will be maintained around the badgers setts during all works. If any works are required within 30m of a badger sett a license may be required and English Nature would be contacted for advice to ensure that any disturbance is minimised.
- 1.153 Construction works likely to cause disturbance to birds (such as piling), would be undertaken outside of the bird-breeding season. Furthermore, any length of hedgerow will be removed outside of the bird – breeding season, which lasts from March to August. Any ground works are proposed within the bird-breeding season that will affect any areas identified as supporting breeding birds will first be checked by a suitably qualified ecologist to ensure breeding birds their nests, eggs or dependant young remain unharmed.
- 1.154 Given the large-scale retention of existing habitat corridors and lack of foraging opportunity for bats the significant disruption of bat foraging routes and corridors of movement through construction is considered to be unlikely. Nevertheless floodlighting associated with construction site compounds will be avoided adjacent to hedgerows. Good practice methods will ensure that floodlighting is carefully controlled, directional and have low intensity.
- 1.155 The River Cherwell is used by otters but is relatively secluded from the development as a result of the isolation provided by the Oxford Canal and railway line to the north.

Pollution Effects

- 1.156 The possibility of accidental pollution incidences and fuel spillages would be minimised through sound site management. However, to prevent accidental spillages entering local watercourses, site drainage systems will be designed following good practice criteria (Environment Agency Pollution Prevention Guidelines).
- 1.157 Construction activities such as ground works and the creation of the canal basin also have the potential to reduce, in the short term, water quality through increased silt load in water bodies. The white-legged damselfly and other invertebrates associated with the canal, which require aquatic habitats with a low level of suspended silt, may therefore be temporarily negatively affected. The impact is likely to be slight and local in occurrence and mitigated for by good site management such as the control of works during inclement weather and in ensuring that suspended silts are allowed to settle prior to the opening of the basin to the canal.
- 1.158 To reduce the silt load of construction site runoff, settlement ditches on the canal side of the Northern Development Area (AREA A) and the Community Park will be constructed prior to the main construction activities to allow suspended silt to settle prior to it entering the canal. Managing canalside grassland habitat as tall grass will also ensure that most suspended solids are intercepted prior to entering waterbodies. Furthermore, best practice construction site management will be followed. The Environment Agency guidelines for works near watercourses would be adhered to.
- 1.159 Mitigation for the potential degradation of habitats through dust deposition will include good site management. To ensure that airborne dust is kept to a minimum, suitable measures will be implemented such as the damping down of roads and temporary tracks, use of vehicle wheel washes and the seeding of temporary topsoil mounds with a suitable species to stabilise mounds.

Statement of Effects

- 1.160 The vast majority of the site is intensively managed farmland, which is of limited value to wildlife and of restricted value in itself. While it is accepted that some minor short-term displacement of wildlife will be unavoidable during construction works, any long-term impact from habitat loss on nature conservation interests during the construction phase will be more than mitigated for by the creation and sympathetic management of the Community park, which will greatly enhance the diversity of habitats and species within the development site area. As such potential impacts during construction are mainly associated with the potential disturbance of retained habitats and species, which may be inadvertently/accidentally affected during construction operation. These risks will be avoided by ensuring that working areas are minimised and that retained habitats are protected adequately from inadvertent damage

during construction. Furthermore, good site management practices will further avoid or reduce impacts associated with pollution from the construction site area.

GEOLOGY, HYDROGEOLOGY, HYDROLOGY - SERVICE INFRASTRUCTURE & WASTE

Introduction

- 1.161 An assessment of Geology, Hydrology and Hydrogeology is outlined within Section 8 of the Environmental Statement and Appendix 8 of the Environmental Statement Volume 2. Service Infrastructure and Waste is identified within Section 13 of the Environmental Statement. This section further considers potential construction impact in relation to, geology, hydrology, hydrogeology, service infrastructure and waste.

Baseline Conditions

- 1.162 The baseline conditions and methodology are included within the Environmental Statement.

Proposed Implementation Works

The following construction works at the site have the potential to result in environmental impact:

- **Building superstructure**
- **Foundations and floor slabs**
- **Storm and foul drainage including a strategic pumping station**
- **Site reclamation works**
- **Canal basin**
- **Highways**
- **Provision of new service supplies**

These works involve the following construction operations, which may result in an impact on the ground and surface water environment, service supplies and waste.

- **Earthworks operations**
- **Discharges of waters from implementation works**
- **Storage and use of chemicals and materials for incorporation into the built development**

Construction Potential Effects and Mitigation of Impacts

- 1.163 The principal potential construction impacts have been identified relating to geology, hydrogeology, hydrology, air quality and service infrastructure. These are as follows :-

- **Contamination of soils, surface and ground water due to mobilisation of soils, existing contamination and spillage of oils and the like from construction plant or processes**
- **Changes to baseline hydrology & hydrogeology and potential flooding due to construction related disturbance of the ground.**
- **Direct short term loss of supply due to connections to the supplying network**
- **Generation of excessive waste due to insufficient control during the construction process.**

Construction Impact: Direct and indirect contamination of soil, surface and ground water

- 1.164 Disturbance of the ground during construction operations has the potential to contaminate the soil and both ground and surface waters due to discharge of solids into water or by the short-term mobilisation of any background contaminants within the soil matrix. In mitigation, various good practice working methods will be employed to limit or prevent such potential impact.
- 1.165 The discharge of suspended solids to watercourses and ground waters will be avoided by prohibiting any temporary construction discharge without the prior approval of the Environment Agency. Discharges of waters resulting from construction activities will generally be directed to foul sewers, subject to approval of the drainage authority.
- 1.166 Generally, the topography of the site will permit the design of gravity surface water drainage. Therefore, major earthworks are not required, with the exception of local 'cut and fill' earthworks to trim building levels. These works will be completed in a manner that protects the water quality environment and ecological interest of the adjacent watercourses.
- 1.167 The nature of the works and the proposed implementation methods will agreed with the Environment Agency and British Waterways in advance and all works will accord with the recommendations of EA Pollution Prevention Guidance for Works in, Near or Liable to Affect Watercourses. It is anticipated that the works will generally provide an earthworks 'cut and fill' balance, thereby avoiding the need for large vehicle movements or disposal of soils off-site.
- 1.168 Risks associated with the mobilisation of potential contamination will be controlled by employing appropriate best practice techniques, outlined in current CIRIA and Environment Agency guidance. It will involve measures such as :-

- **Providing covered and lined areas for the temporary storage of any contaminated materials**

- **Segregating materials of differing nature and of intended use in discrete marked areas**
- **Regular dampening down during dry weather**
- **Use of covered vehicles for the transport of material**
- **Maintaining a buffer zone between the works and watercourses**

1.169 Works involving the canal basin will be completed employing working practices approved by British Waterways and the Environment Agency. It is anticipated that all earthworks materials arising from the feature will be used within the site, thereby avoiding the potential of transporting and disposing of large volumes of material off-site. The permanent works will be completed in a cofferdam, dry excavation, arrangement to avoid any impact on the adjacent canal.

1.170 Proposed implementation methods will be developed and agreed with the Environment Agency and Environmental Health Department in advance of all works, with appropriate construction phase method statements developed to ensure that no impact on the site hydrology or hydrogeology results from the construction activities.

1.171 The residual environmental impact is assessed as low during the period of construction.

Construction Impact: Direct flooding and changes to baseline hydrology & hydrogeology

1.172 Flooding and changes to the baseline hydrology can occur due to various construction related activities, such as; temporary diversion of watercourses, infilling of land altering preferential drainage flow paths and flood routes, and dewatering of excavations. Such impacts can have major consequences

1.173 In mitigation of this potential impact, the contractor will be required to:

- **Where a temporary diversion of a watercourse is necessary, the contractor shall implement an alternative flow route, as close to the source as possible, which will be designed to have no lesser capacity than the original feature. The proposals for such diversions shall be agreed with the regulatory bodies and implemented for the shortest possible time to progress the works.**
- **The contractor will not be permitted to temporarily store materials or introduce 'borrow pits' or the like in areas that may affect drainage flow paths.**
- **Any proposed dewatering will be designed to have no material impact on potential receptors such local watercourse and points of ground water abstraction. Where necessary, the contract will be required to implement ground water recharge as**

mitigation. Such will also provide adequate means of ensuring that suspended solids are removed prior to discharge of water, such as settlement ponds.

- 1.174 Implementation of appropriate working practices will ensure that no material impact results in terms of flooding and drainage flow paths as a result of the construction activities.

Construction Impact: Direct short-term loss of supply due to connections to the supplying network.

- 1.175 Network outage may occur while making new connections to the supply network or through accidental damage to existing infrastructure.

- 1.176 In mitigation of the need to shut down supplies while making new connections, network operators have developed methodologies to permit 'live jointing' or the like whereby the existing network remains fully operational during connection works. During certain operations, it remains necessary to temporarily shut down the local network. In such circumstances, the area to be shut down is localised and planned for periods that cause the least disruption. The supplying company is required to give adequate notice to the affected users and ensure that appropriate provision is made for essential supplies.

- 1.177 Potential loss of supply through network damage is mitigated through carefully planning of the construction phases of the development. The existing and planned networks will be located on the ground and on plans for all contractors to use during implementation. Good working practices, such as 'licence to dig' will be employed, encompassed by the Health & Safety file, to control site operations. Such means of control will substantially reduce the potential risk of damage to the supplying network.

- 1.178 It is anticipated that the planned implementation of the strategic pumping main for the foul water system can be completed without any loss of foul network availability.

- 1.179 The residual environmental impact is assessed as negligible.

Construction Impact : Generation of excessive waste

- 1.180 While the production of waste is an integral element of construction, the implementation of appropriate controls and techniques can ensure that it is minimised.

- 1.181 Construction waste minimisation will occur through development of a waste minimisation scheme that will :-

- **Promote selection of construction techniques and products that reduce waste**

- **Encourage and recycling of materials and the use of recycled materials in construction**
- **Promote waste recovery schemes**
- **Promote and return reusable packaging**
- **Provide training on waste minimisation through site based induction and toolbox talks.**

1.182 The residual environmental impact is assessed as low during the period of construction.

Statement of Effects

1.183 When considered in the context of the planned development activities and proposed mitigation, the assessment of construction impacts arising from service infrastructures provision and waste management does not demonstrate any significant impacts or resulting constraint on development. Short term potential impacts during the construction phases are considered to be of minor overall significance. Construction activity can be carefully monitored by way of the CEMP in order to meet the overriding regulatory requirements of both Cherwell District Council and the Environment Agency.

AIR QUALITY

Introduction

1.184 An assessment of Air Quality is outlined within Section 11 of the Environmental Statement and Appendix 11.

Baseline Conditions

1.185 The baseline conditions and methodology are identified within the Environmental Statement.

Construction - Potential Effects and Mitigation of Impact

1.186 During the construction phase, there will be various site clearance and construction activities undertaken which all have the potential to generate particle emissions.

1.187 The main sources of particle emissions during construction activities include:

- **Haulage routes, vehicles and construction traffic.**
- **Materials handling, storage, stockpiling, spillage and disposal.**
- **Site preparation and restoration after completion.**
- **Earthworks and Remediation**
- **Construction processes.**

Mitigation

- 1.188 Monitoring of particle emissions during the construction phase will be considered in the management of operations.
- 1.189 In addition to general monitoring, a number of other mitigation methods will be implemented, as appropriate, including:

General Management

- **No unauthorised burning of any materials anywhere on site. If authorised burning is carried out, it is to be controlled in accordance with legislative requirements in liaison with the appropriate local authority officer.**

Aggregates

- **Vehicles carrying loose aggregate and potentially dusty materials to and from the site will be sheeted at all times.**
- **On-site aggregate handling and mixing will be carried out in controlled areas to minimise dust.**

Equipment and Vehicles

- **Design controls for construction equipment and vehicles and use of appropriately designed vehicles for material handling.**
- **Use of dust-suppressed tools for all operations.**
- **Ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use.**

Earthworks and Stockpiles

- **Completed earthworks will be sealed, covered or vegetated as soon as is practicable.**

Dampening of exposed soil and material stockpiles, if necessary using sprinklers and hoses, or planting if longer-term exposure is envisaged

- **Stockpiles of soils and materials will be located as far as possible from sensitive receptors.**
- **Minimise surface areas of stockpiles (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up.**

Wind Sensitive Activities

Use of wind break netting screens around materials, stockpiles and vehicle loading/unloading areas, as well as exposed excavation and materials handling operations.

- Avoidance of particle generating activities during period when wind direction and/or high wind speeds may carry particles into sensitive areas.
- On-site cement and concrete batching will be undertaken in enclosed plant, with suitable water dowsing and wind shielding measures applied as appropriate.

Roads

- Regular inspection, and if necessary cleaning, of local highways and site boundaries to check for dust/mud deposits (and removal if necessary).
- Preparation to permanently surfaced site roads as early as possible during the development period; surfaced and un-surfaced site access roads will be watered as necessary using water bowsers during dry weather conditions.
- An appropriate speed limit on roads within the construction site will be established and enforced, to limit dust nuisance due to vehicle movements.
- Appropriate routing of construction traffic will be agreed with the Authorities prior to construction activities commencing.

Exhaust emissions

- Engines are not to be left running unnecessarily.
- Exhausts of vehicles or plant used for construction should be positioned at a height to ensure appropriate dispersal of exhaust emissions.

Odours

- Appropriate measures will be adopted by the Contractor so as to avoid the creation of statutory nuisance from odours;

Statement of Effects

- 1.190 The traffic flow levels associated with construction are substantially lower than will occur as a result of the completed development and air quality effects associated with construction traffic will be negligible. The construction process itself can affect air quality and give rise to dust, the amount being dependent on the works being undertaken and weather conditions. However, this impact will be short term and transitory and will be kept to a minimal level by applying the mitigation measures outlined previously.

NOISE

Introduction

- 1.191 An environmental noise survey of the site has been carried out: full details of the methodology and measurement locations are contained in Chapter 10 of the Environmental Statement and Appendix 10 of the Environmental Statement Volume 2.

Baseline Noise Conditions

- 1.192 The results of the measurements have been converted into period L_{Aeq} values for comparison with the guidance in PPG 24 for potential residential sites. These are summarised below : -

Measurement Position	Daytime $L_{Aeq, 16h}$	Night-time $L_{Aeq, 8h}$
1 – North east corner – Oxford Canal	58	54
2 – West side behind existing houses – Oxford Road	55	49
3 – Eastern corner – Rural Boundary	58	52
4 – Southern corner – Oxford Road	66	58
5 – Southern corner – Oxford Road	67	-
6 – Western side - Bankside	60	-

- 1.193 Measurement positions are identified in Appendix 10, Figure 11.1 of the Environmental Statement volume 2.

- The noise climate at positions 1 and 3 was controlled by traffic on the M40 motorway, which lies to the east of the site in the distance. At position 1, some noise from traffic on Bankside was audible in the distance. Much of the site is currently rural in nature, meaning that there were few other noise sources of note other than birdsong, and occasional shotgun fire in the distance. Train pass-bys on the Oxford-Birmingham railway line were noted to be barely audible, due to the distance between the site and the tracks and the type of rolling stock using the line.
- At measurement position 2, the noise climate was controlled by traffic on the A4260 Oxford Road. The measurement position was well screened from this road by a row of existing houses. Measurement position 4 was specifically selected to check the levels of night time traffic using the A4260 Oxford Road. It was therefore traffic on this road which controlled the noise climate throughout the survey.
- Measurement positions 5 and 6 were specifically chosen to quantify levels of daytime traffic noise on the A4260 Oxford Road and Bankside respectively.

1.194 The construction activity is scheduled to take approximately five years. Between the start and finish of the construction, various areas of the site will subject to various construction activities for varying lengths of time depending on the number of dwellings being erected. In addition, there will be haul roads set up and used for varying lengths of time at different locations across the site.

1.195 For these reasons it is not pertinent to consider noise emanating from the site as a whole nor from a small number of specific locations during the entire duration of the construction activities. A segmental approach to the issue of construction noise generation and emission has been adopted. The noise emission from each segment is assessed according to the specific activities that will be undertaken as well as their timing and duration.

Potential Impacts - Construction Activity and Equipment Types

1.196 Regarding the actual construction activity with each segment of the site, the assessment is based upon the following :-

- **Construction of dwellings and commercial units.**

All units will be erected using a 35 tonne crane, in combination with a forklift for all works up to first floor level. The roof in all cases is to be installed using a crane. Hand cutting machines such as Stihl saws will be used to cut steelwork, roof tiles and special bricks.

- **Ground works:**

Site grading will require the use of a dozer and grader for around 3 days at each building plot. This will be done in advance of the actual building works, and the two types of activity will not occur at the same time. The installation of estate roads and sewers will require standard JCB machines: track diggers, Hymacs and dumpers.

- **Deliveries**

Concrete will be delivered by ready mix vehicles. General deliveries of bricks, blocks, tiles and all other construction materials will typically be by rigid or articulated vehicles.

1.197 In order to assess the potential construction noise levels at any of the designated receptor locations, the precise positions and operating times of noisy construction equipment need to be determined. For this assessment, the following allowances have been made for each building segment : -

- the grader and dozer work on the site ground conditions for three days, amounting to a 10% on time taking a month's worth of activity,
- a 35 tonne crane is assumed to operate for 5% of the time on any given day,

- power hand tools, such as Stihl saws or cutters, are assumed to operate for 10% of the time on any given day, powered by a small Honda generator located adjacent to each plot
- normal hand tools, such as hammers, saws or brick laying implements, are assumed to operate for 10% of the time on any given day. two JCB 12m forklifts operate between the units spending approximately 10 minutes (2% of the total working day) at each unit per day.
- To construct the road elements of the scheme, a tracked excavator, trench excavator, a compaction machine, a dumper truck and an asphalt spreading machine would be in operation, one of each type and each machine running for 25% of the construction day,
- During a typical day, HGV's (including an allowance for concrete deliveries) arrive at and access onto the site via any one of the designated access points and deposit materials in accordance with the traffic figures. Private cars carrying staff also arrive and depart the site each day, and use the haul routes while on the site.

Assessment Standards

- 1.198 The first step in the process is to predict the construction noise levels, expressed in terms of $L_{Aeq,T}$, where T is the length of the day construction period. The significance of the airborne noise impact identified at any residential receptor depends on the degree to which the predicted level of construction noise is evaluated as being above the pre-existing ambient noise level (during the same period).
- 1.199 In this case, an impact of significance is considered to exist if the construction noise levels exceed 75dB $L_{Aeq,9h}$ at any receptor. In the event that ambient noise levels are increased by more than 10dB due to the construction activity, but the 75dB $L_{Aeq,9h}$ threshold is not breached, due account shall be taken of the increase in noise levels and particular attention shall be paid to employing mitigation to reduce the noise emission.

Noise Predictions

- 1.200 The table below contains source noise, in terms of A-weighted sound power level, used for each item of construction equipment identified above. The data are taken from BS 5228 Part 1 1997.

Item	Noise Level: dB re 10^{-12} W
Grader	112
Dozer	112
34 tonne crane	102
Power Hand Tools	105
Manual hand tools	107
Small generator	95
Forklift	116

Tracked excavator	102
Compaction machine	106
Dumper truck	106
Trench excavator	102
Asphalt spreader	110
10 tonne lorry	108
Car	85

1.201 A noise model, following the prediction guidance given in BS 5228: Part 1 1997, has been constructed and run to determine the predicted construction noise levels at the designated receptors. The predicted noise levels are the average daily noise levels, defined as $L_{Aeq,9h}$ occurring over any given month of the construction activity. The assessment period reflects to the specified working day, and the monthly average is derived as the level of construction information presently available does not allow a break down of activities over any shorter period.

1.202 Each of the construction noise sources is defined in terms of its location on site relative to each of the receptors using a simple coordinate system. Noise emission from each source to each receptor is then calculated based on whether the source is defined as a point source (6dB per doubling of distance) or a line source (3dB per doubling of distance). For each noise source, a typical shielding loss of 5dB is allowed to take account of the effect of already built construction, including fences and hoardings, between the source and receptor. Where screening from other buildings or landscape features is known to exist, a specific value up to 10dB is allowed for. No other losses are taken into account. Taking this together with the fact that data and methodology of B5228 tends to over predict construction noise rather than under-predict it, the model is considered to be conservative and likely to lead to cautious decisions relating to construction noise and its effects.

1.203 It should be noted that calculations of this type undertaken using the data contained in BS5228 are generally expected to over-predict the noise impact compared to what is measured on site for the assessed level of activity. This, taken together with the very preliminary nature of the construction information available at this stage, points to the fact that this assessment merely points out those aspects of the construction activity that will require attention during the more detailed assessments to be carried out by the Contractor(s) as part of the planning obligations.

Noise Control

1.204 The contractors will use best practicable means (BPM) to reduce noise emission from their construction activities. Although the assessment is considered to be conservative, it is predicated on the fact that best practicable means to reduce noise from construction activities will be used and activities or equipment types that generate noise, which could be considered carelessly or gratuitously excessive, will not be used.

- 1.205 BS 5228:1997 requires *“all reasonable practicable means be employed to ensure the protection of local communities...”* It provides examples of what typically constitutes BPM, including the limiting of work to agreed hours during which receptors are less sensitive to noise, the use of plant with low or reduced noise output and the use of acoustic screens or other means of providing acoustic screening around noisy plant. In addition it stipulates that generators and compressors will be required to be supplied fitted with silencing or as inherently low noise plant, and that all stationary plant shall be located remote from sensitive receptors.
- 1.206 BPM will be incorporated into the working methods adopted throughout the site. An important consideration is that construction can first being undertaken on units that can provide natural screening to existing residences from the construction works occurring later in the programme. Secondly, the actual construction methods that will be employed for the residential units is not inherently noisy, relying mostly on hand tools, either powered or manual, which can be used in locations which are inherently screened from the existing residences.
- 1.207 As noted above, where a particular activity is identified as having a quantifiable effect on the noise levels at any of the existing receptors, consideration will be given to means of mitigation that could reduce the noise impact without compromising the construction work on site. This type of review shall be considered a normal part of the management of the site, so that noise emission is no higher at any given stage than it need be.
- 1.208 When the detailed assessment of construction noise effects is undertaken prior to commencement of work on site, activities likely to give rise to an impact of any significance will be subjected to additional forms of mitigation. Examples of types of mitigation that can be considered beyond the Best Practicable Means approach include :-
- **Enhanced site boundary hoarding to provide improved screening to nearby residential receptors. As the significant impacts are identified where the source to received distance is small, this technique can prove particularly useful.**
 - **Local screening of activities requiring the use of hand held tools in the open: such activities include pneumatic drills, chippers and breakers. Attenuation = 5dBA.**
 - **Reduction in the number of process or tools in use for a given activity where much of that activity could alternatively be undertaken off site: e.g. reduction in the number of powered saws used for timber formwork construction. Reduction in noise levels due to this approach = 5dBA for the equipment and processes so affected.**
 - **Fixed plant and equipment such as pumps and compressors located in purpose built noise attenuating enclosures. Attenuation = 15dBA.**

- 1.209 This list is neither exhaustive nor comprehensive but it does provide an indication of the types of techniques available at the detailed planning stage to mitigate construction noise effects.

ASSESSMENT OF IMPACT

- 1.210 For this study, the noise emission to nine individual receptor sites was assessed at locations considered to be potentially sensitive to construction noise. The receptor points are :-

Position A: Oxford Canal towpath opposite Area A

Position B: Residential properties in Cherwell Heights at the northern end of Bankside,
opposite Area A

Position C: Southern edge of Bankside Park open space

Position D: Properties on Bankside opposite the Community Park

Position E: Properties on the southern end of Bankside

Position F : Properties to the east of Oxford Road opposite Area B

Position G : Properties to the west of Oxford Road (south of Broad Gap) opposite Area B

Position H : Residential property closest to the centre of Area B on Canal Lane

Position I : College Farm House at the south east corner of the site

- 1.211 It is worth noting that the highest increases in ambient noise levels due to construction activities are predicted at Receptor H, which is directly adjacent to an area of significant building activity but remote from the nearest road that is the source of the ambient noise. The major contribution to the noise at this receptor point, and indeed at all receptor points used for this study, is the activity associated with the actual building of dwellings. The levels generated by this activity are expected to be higher than those due to the land grading, which is an advantage in terms of the further mitigation measures that may be available in the future to control this noise. The nature of house building activity using a large number of small tools, mostly hand held, means that they lend themselves well to means of screening or enclosing as well as simple day to management procedures for mitigating the noise emission.

STATEMENT OF EFFECTS

Site Derived Noise Impacts

- 1.212 The analysis of the nine receptors indicates that construction noise levels are not predicted to constitute a significant impact at any of the assessed receptors, as the 75dB $L_{Aeq,9h}$ threshold is not breached. It should be noted that the analysis indicates the risk of some receptors bordering onto the works experiencing increases (change) in their ambient noise levels of 10dB or more. These are locally of note, but capable of mitigation by careful management. Where receptors are more remote from the works, impacts are not expected to be significant even where the prevailing ambient noise levels are relatively low.

Off Site Noise Impacts

1.213 The construction activities associated with the scheme will give rise to a certain amount of road traffic generation. Noise generated by additional traffic on the existing road network in the area would be the principle source of any off site noise impacts

1.214 The traffic section has estimated the likely impact of construction traffic on the existing road network capacity in the area surrounding the site. The estimates are based upon the full range of vehicles, which would travel to and from the site during the normal working day, including cars for staff transportation, and heavy goods vehicles taking equipment and materials to/from the site. The traffic consultant has advised the following in respect of the impact of construction traffic on existing traffic flows :-

“The existing peak hour flows on Bankside and Oxford Road are in the order of 700 vehicles per hour and 1900 vehicles per hour respectively. “

1.215 Using methodology contained in the DoT document “Calculation of road traffic noise” (1988), it is judged that a 2% increase in traffic flow on Oxford Road would equate to an increase in existing levels of traffic noise of less than 1dB. A 6% increase in existing traffic flows on Bankside would also correspond to an increase in existing traffic noise of less than 1dB, in both cases an imperceptible change.

1.216 At positions further away from the site on the existing road network, the effects of any additional traffic would be even less significant due to the dilution of the additional traffic within the surrounding road network. We therefore conclude that any off site noise impacts to the wider surrounding area as a result of additional road traffic associated with the construction of the development would be imperceptible, and that no further consideration need be given to this matter.

OVERALL CONCLUSION – CUMULATIVE CONSTRUCTION IMPACTS

1.217 **This review of the potential environmental effects arising from the construction of College Fields demonstrates that individually the construction impacts are slight in nature. Furthermore, they are transitory and short lived, and, fundamentally, all are capable of comprehensive mitigation using established and proven techniques. The mitigation proposals are thoroughly covered by a proven and well tested regulatory framework. It is important to bear in mind that the College Fields site is typical of a Greenfield urban extension site and a degree of construction impact is an inevitable side effect of the pressing need to deliver new residential development in appropriate locations.**

QUESTION 2) WITH REGARD TO 6.3 OF THE FURTHER INFORMATION DOCUMENT FURTHER DETAILS OF THE HEDGEROWS IS PROVIDED. HOWEVER NO CLEAR JUSTIFICATION IS GIVEN FOR THOSE THAT IT IS ASSUMED WILL BE REMOVED AND THIS SHOULD BE PROVIDED

- 2.1 All hedgerows of high nature conservation value on the site are retained, protected and reinforced as part of the Masterplan, to form important landscape and biodiversity components of the proposed masterplan. However, some limited removal of hedgerows (H19 and part of H2) is required as part of the masterplan process which seeks to use land efficiently and provide a practical and realistic layout of development blocks, streets, open space and landscape. The ecological assessment confirmed that the hedgerows to be removed were of low nature conservation value, and were not considered important under the Wildlife and Landscape Criteria of the Hedgerow Regulations 1997. Nonetheless these hedgerows are not permanently lost. They are to be coppiced and translocated into the Community Park.
- 2.2 The Phase 1 Habitat Plan in Appendix 2 identifies the hedgerows to be removed.

QUESTION 3) REFERENCE IS MADE IN THE ORIGINAL ES SUBMISSION REGARDING FURTHER BAT SURVEY WORK. MY LETTER OF THE 19TH SEPTEMBER 05 REQUESTED THIS INFORMATION. THE RESPONSE IN THE FURTHER INFORMATION AT 6.12 MAKES REFERENCE TO THE RETENTION OF HABITAT BUT DOES NOT ADDRESS WHETHER SURVEY WORK HAS BEEN UNDERTAKEN OR IF IT HAS NOT THE REASON WHY IT HAS NOT BEEN UNDERTAKEN?

- 3.1 The statement "*further ongoing survey bat work*" as referred to in the Environmental Statement refers to best practice ongoing ecology surveying that would be carried out as a routine part of the construction process. It is essential to update the baseline ecology data throughout the development process.
- 3.2 Bats have been surveyed as part of the Environmental Statement, with a limited presence identified within the site. Bats use of the Oxford Canal for foraging, together with hedgerows H4 and H14, (refer to Appendix 6 of the Environmental Statement Volume 2) as corridor habitat. These features are retained as part of the development proposals. The hedgerows will only be affected by small interruptions of between 10- 13m for highway corridors. These distances are regularly crossed by commuting bats and are therefore not considered likely to impact significantly on commuting bats.

- 3.3 The overall value to bats of the development is likely to be significantly increased through enhanced foraging potential of new woodland and hedgerows within the Community Park, as well as the retention of the majority of exiting hedgerows.

QUESTION 4) REGARD TO THE POTENTIAL IMPACT OF EMPLOYMENT USES ON EXISTING RESIDENTIAL PROPERTIES ADDRESSED AT 9.3 OF THE FURTHER INFORMATION DOCUMENT, THE RESPONSE IS GENERAL AND DOES NOT TAKE ACCOUNT OF ISSUES SUCH AS DELIVERIES. THE PROPERTY MOST LIKELY TO BE AFFECTED IS THE PROPERTY TO THE SOUTH OF THE SITE ON OXFORD ROAD AND ASSESSMENT OF ANY EFFECT ON THIS PROPERTY SHOULD BE PROVIDED.

- 4.1 B1 employment and residential development are compatible neighbouring uses. Generation of vehicle trips arising from the employment uses to include deliveries will not have significant overall impact on existing or new properties. College Farm House is a single property, which stands on the Oxford Road in substantial well screened grounds. It is well removed from potential disturbance, in a location where ambient noise levels are heavily influenced already by Oxford Road traffic.

QUESTION5) SECTION 10 OF THE FURTHER INFORMATION DOCUMENT MAKES REFERENCE TO SUSTAINABLE CONSTRUCTION TECHNIQUES BUT IS NOT SPECIFIC ABOUT WHICH MEASURES WILL BE INCORPORATED ON THE SITE NEITHER DOES IT SET A BENCH MARK AGAINST WHICH PROPOSALS CAN BE JUDGED. IT SHOULD EITHER BE CLEAR WHAT IS TO BE INCLUDED OR WHAT STANDARD IS TO BE ACHIEVED.

- 5.1 With regard to sustainable construction the development will accord with the standards and methods identified within the BREEAM EcoHomes – the Environmental Rating for Homes.

- 5.2 Within Area A, the first 100 dwellings will meet the EcoHomes “good” rating. Within Area B, the first 400 will meet the “good” rating. The balance will all subsequently meet “very good” when assessed against the 2005 EcoHomes rating prediction checklist.

6.0 ADDITIONAL SUPPORTING INFORMATION

- 6.1 Subsequent additional information is presented here following ongoing discussions with CDC. These are on the following issues that were raised by CDCs letter of the 19th September 2005 as addressed within the Further Information Document (November 2005).

- 6.2 **The application is unclear about what is proposed in the way of retail uses and employment uses. The application describes uses as being proposed over retail uses. It**

also identifies the floor area of B1 proposed but describes this as on the first floor over ground floor retail uses or as small office units. The concept masterplan simply identifies areas for retail and employment. Please clarify how it is intended that the retail and employment floor space will be provided i.e. size and location of units and identification demand.”

- 6.3 Following consultation with CDC, the Local Centre will include a convenience store of no less than 200m² and no more than 400m² in size. There will also be a minimum of two further A3/A5 retail units no larger than 150m². It is anticipated that these sizes will be controlled by condition.
- 6.4 **The existing swing bridges are fixed in an open position and therefore do not provide footpath access to the towpath as stated.”**
- 6.5 In addition to the existing crossing over the Oxford Canal along Canal Lane, it is the applicant's intention to provide a financial contribution to CDC of sufficient magnitude to allow one of the swing bridges to be restored to working order.