Preferred Options Consultation, October - November 2009

Option 2 was subsequently taken forward to form the basis of the preferred option Masterplan, taking into account comments from the Sustainability Appraisal on the options, consultation, market review, assessment of flood risk and ecology. At this point the AAP Preferred Options Report, Sustainability Appraisal and Masterplan and Design Codes documents were produced and underwent a formal six week consultation period during Autumn 2009. The preferred option masterplan is shown below.

Further Consultation, January 2011

In the period following the formal preferred options consultation, a number of external factors influenced the AAP strategy and led to aspects of the Masterplan being reconsidered. Changes were proposed to the education facility and spine road locations as a result. These changes were subject to a further six week period of consultation in early 2011 to enable views to be exchanged and taken into account in the compilation of the final version of the Masterplan, AAP and associated documents. The further consultation masterplan is shown below.
Pre-submission AAP, April 2011
The Masterplan and Design Codes contained within this document have taken on board changes as a result of comments received during the preferred options and further consultation.
This document sits alongside the Pre-submission AAP which will undertake a further round of formal consultation in May 2011 and will subsequently be examined and adopted as policy.
4.0 The Masterplan

4.1 Masterplan Framework

The Masterplan Framework is designed to create an exemplar new community for the Northern Quarter. It is based on the Vision, detailed previous studies, outline plans, constraints, opportunities, design principles and consultation. It combines what has been considered the best solution for the regeneration of Cinderford and the best solution for the Northern Quarter in particular. The main principles for the four main categories of the Masterplan are:

Place
- The Northern Quarter will be transformed as a place in the forest;
- The site will become a local amenity centre for the surrounding communities of Steam Mills, Drybrook, Ruardean and Cinderford; and
- A new community will be built around a mixed-use centre and employment space including new offices, a hotel, the Gloucestershire College Campus and an eco/visitor centre.

Landscape
- The lake and the forest are recognised as key assets;
- The development is situated between the forest edges on former brownfield land; and
- Watercourses and floodplain become green fingers in the development.

Movement
- A new spine road will serve Cinderford and the Northern Quarter;
- A new east-west link will be created between Northern United and Steam Mills;
- Reduction of traffic on Steam Mills Road;
- Provision of public transport between the Gloucestershire College Campus, employment areas, local community and the wider area; and
- A good network for walking and cycling.

Sustainability
- High sustainability targets for all development: Code for Sustainable Homes Level 4 and rising, BREEAM excellent for non-residential development as a minimum;
- Provision of an energy centre and renewable energy technologies across the site;
- High levels of affordable housing;
- Provide a range of land uses to support economic development; and
- Develop social integration of communities.
4.0 The Masterplan

Fig. 4.4 Masterplan Framework

Development Area
Eco-Links
Water Course
Forest Fringe
Wetland Corridors
Forest
Village Green
Water
Sports grounds
Open grasslands
Public Square
4.2 Illustrative Masterplan

Fig. 4.5 Illustrative Masterplan
Fig. 4.6 Masterplan Perspective - looking east towards Steam Mills Village West
4.3 Character Areas

The Masterplan is organised in five character areas, defined by their use or mix of uses and their relative location in relation to key features of the site. The five character areas are:

1. Northern Quarter Centre
2. Steam Mills Village West
3. Northern United Enterprise Park
4. Forest Vale North
5. Linear Park

Northern Quarter Centre

This character area is the mixed-use core of the Masterplan and is located along the main movement corridor. The mixed uses of this character area include the Gloucestershire College Campus, high quality employment space, a hotel and an eco-visitor and activity centre - uses which are the most suitable for this accessible and prominent area.

Steam Mills Village West

This character area forms an extension to the existing communities of Steam Mills and New Town. It will be a new residential neighbourhood in a very leafy setting, interfacing directly with the forest, green fingers, water courses and floodplain. Public spaces and access areas will reflect the more quiet and homely qualities of this place.

Northern United Enterprise Park

Northern United Enterprise Park is the area of the former Northern United Colliery and includes several existing and future employment sites between Northern United and the lake. The character area will aim to intensify the employment uses while continuing the employment legacy of the site. The nature of these employment uses will be sensitive to the landscape setting and to the mining history of Northern United. The Masterplan encourages mixed employment uses in this area with a range of use classes being acceptable (B1, B2 and B8). In addition, the Northern United site could accommodate tourism or heritage related activities which create service-based jobs.

The site could accommodate small and medium sized businesses or a single larger operation. It is important that the development is sensitive to the forest context, mining heritage, miners’ memorial, ecology and the need to maintain a degree of public access to and through the site.

Forest Vale North

A small character area to the south-east, it is a seamless continuation of the Forest Vale Industrial Park and will contain office and light industrial employment space. In addition to the business uses, a new healthcare facility will be located just south of New Town. Large areas of the character area are in the functional floodplain and will contain uses compatible with the floodplain.

Linear Park

The Linear Park character area is the northern end of the entire Linear Park, stretching north to south at the west of Cinderford. The park is characterised by a mix of grasslands, woods, ponds and heritage features. Its greatest asset is the lake in the development area. The Linear Park is a place for recreation and contains a variety of habitats, and will be preserved in its natural rural state.

The Masterplan site also contains large amounts of forest, which have not been identified as a character area as such because they merge seamlessly with the surrounding forests outside the site boundary.
4.0 The Masterplan

Alan Baxter

Cinderford Northern Quarter Masterplan and Design Code / July 2011

Fig. 4.7 Character Areas

Character areas
- Northern United Enterprise Park
- Northern Quarter Centre
- Steam Mills Village West
- Forest Vale North
- Linear Park (key wildlife site)

Land use
- Residential
- Hotel
- Education
- Health care
- Office
- Cycleways
- Light industry / industry
- Public realm
- Eco visitor centre
- Footpaths
4.4 Land use

The mix of uses proposed in the Masterplan constitutes a comprehensive response to the identified issues and opportunities and the related sustainability objectives of the site. The uses include:

- Gloucestershire College Campus
- Office space
- Light industrial uses, including an energy centre
- A hotel
- An eco-tourism and activity centre
- Residential
- Retail (as part of the office development or ground floor shops)
- A health care facility

Education

The Gloucestershire College Campus will be the essential catalyst for the regeneration of the Northern Quarter. It will be located in a prominent, central and easily accessible place on the site adjacent to the lake. It is assumed that this facility will be a new college facility, providing a unique and vibrant environment for further education and adult learning for the Forest and its wider catchment. Strong links with the hotel, business spaces and environment, both in terms of curriculum and physical links, will be sought, in particular the facility will share its site with the eco-visitor and activity centre.

The Gloucestershire College Campus will incorporate out of hours use and flexible space for community use. The education facility will be of the highest standard of contextual and environmental design, contributing to a low carbon future for Cinderford.

Eco-visitor Centre

Sharing the Gloucestershire College site next to the hotel and lake, the Masterplan proposes an Eco-visitor centre. This centre will be a flexible space for tourist information, education about the forest, local heritage and environment. It may also provide space for local clubs and organisations. It will include teaching, exhibition, storage and catering space.

Activity Centre

The activity centre will be part of the Eco-visitor centre to cater for a long standing aspiration amongst the local community for modern leisure facilities. It is envisaged to provide modern facilities for the local community, education curriculum and visitors to the wider forest area but would seek not to duplicate the existing offer in Cinderford.

Together the Gloucestershire College, associated car parking, activity centre and eco-visitor centre are allocated a plot size of 1.7 hectares.

Residential

The residential development will aim to create an exemplar new neighbourhood focussed in the Steam Mills Village West character area which will support a sustainable, affordable and low carbon lifestyle in this semi-rural location. The Masterplan assumes a high level of affordable housing (target 40%) and supports all stages in life by providing a mix of family homes and apartments, with a presumption that the majority will be housing. Apartments and affordable housing should be distributed evenly across the site and delivery phases.

The plots allocated for residential development total 4.7 hectares within a neighbourhood area of around 6 hectares, supporting approximately 175 new homes.

Employment space (B1 Offices)

Cinderford currently lacks a supply of high quality office space and a key objective is to achieve a step change in the offer of higher quality employment space in the town. Office uses are located in prominent and accessible places along the main street, drawing on the attractive environmental setting of the lake and the forest. Office uses will also be scattered throughout the employment-led character areas of Northern United Enterprise Park and Forest Vale North, making the link between light industrial and office based industries. Office uses in the Northern Quarter Centre could include provision of live / work accommodation. The office space will be a leading example of high quality low carbon employment space, providing excellent places in a green environment for local business to thrive. The range of office space is recommended to be between 100 to 250 sqm net internal floor space.

The plot area allocated for employment space (B1 offices) is 4.3 hectares.

Employment space (B2/B8 light industrial/industrial)

The light industrial and industrial uses will be located in the employment led character area of Northern United Enterprise Park and units are recommended to be between 100 and 1000 sqm gross external floor space. They present an expansion of the existing light industry in Cinderford, which has a strong legacy in the town.

The plot area allocated for employment space (B2/B8 light industrial/industrial) is 4.1 hectares (including 1.7 ha occupied by existing businesses).

Employment space (B1, B2, B8 Northern United)

The Northern United site will be an area of mixed employment uses, sensitive to the mining heritage, miners memorial and ecology of the site. Alongside the potential for offices, light industry, storage and distribution the site could accommodate tourism or heritage related activities which create service-based jobs. The site is flexible in nature to accommodate small and medium sized businesses or a single larger operation, however a degree of public access to and through the site will need to be maintained connecting into the wider footpath network.

The plot area allocated for the Northern United is included within the employment space allocations.

Health, community and social infrastructure

A site for a health care facility is identified on Newtown Road. Other social infrastructure requirements will be reviewed by service providers including the County Council as development proposals come forward at outline planning stage.

The plot size allocated for the health care facility is 0.33 hectares.

Hotel

The Northern Quarter has significant potential as a visitor destination in its existing context as an attractive natural location adjacent within the Forest of Dean. A hotel is proposed, alongside the proposed activity centre and eco-visitor centre. It is envisaged that the hotel will be a new high quality destination for Cinderford aiming at a 4-5 star, maximum 60 bed facility, including a restaurant or pub. It is located next to the lake to make the most of the attractive views, but is also clearly visible from the new spine road.

The plot area allocated for the hotel will be 0.25 hectares.

Retail

Retail has not been identified as a single land use for any of the plots. Small retail units are expected to be integrated as part of the office or residential development in form of ground floor shops to cater for the local demand. Retail competing with the town centre will not be permitted on the site.
Fig. 4.8 Masterplan Land Uses

- Residential
- Healthcare
- Education
- Industrial (B1, B8)
- Office (B1)
- Office/Light Industrial (B1)
- Hotel
- Employment led mixed-use (B1, B2, B8 & service-based jobs)
- Car Parking
- Activity Centre
- Eco-Visitor Centre
4.5 Movement and Public Transport

Vehicular Movement
The Masterplan responds to the design objectives of creating streets for all and creating a permeable network for the site.

In areas used by protected bats species, lighting will have to be designed in order to reduce the disturbance of the bats. This could include the reduction of lighting to a safe minimum, baffle boards, use of bollard rather than pole lighting, and directional lighting.

Primary Route
The main north-south connection is the new spine road (primary boulevard) between the A4136, in the vicinity of the existing Northern United junction, and Broadmoor Road. This new route will provide an alternative to Steam Mills Road for accessing Cinderford. The vision for the route is to create a new street fronted by built development along the majority of its length, passing areas of open landscape and forest edge with a single carriageway and 30 mph speed limit. This route will also serve as a main public transport route for buses approaching and leaving Cinderford from the north. This primary access route will predominantly serve areas of employment, the Gloucestershire College Campus, the hotel, the visitor centre, and will provide access to the secondary and the tertiary street network. There is flexibility to adjust the alignment of the north-western section of this route in response to the findings of future habitat surveys which will be required as detailed design proposals are prepared.

Secondary Route
A secondary street links the new spine road with Steam Mills to the west and will be the main access for the residential development in this area. This will be a tree-lined street with a 20 mph speed limit.

Both the primary and secondary network are aligned through areas of high ecological sensitivity, being in the forest or at the forest fringe and through the Northern United site. The street design will include mitigation measures to reduce severance that these structures could bring for certain species, in particular bats. This will be achieved through the initial identification of key bat flight routes which will be subsequently maintained via green links. These could include culverts beneath the road, aerial crossways through additional tree planting, and green bridges via wires. Appropriate planting, fencing, and bollard lighting will accompany these green links to funnel bats to crossing points and encourage them to cross at height above the level of traffic.

Tertiary Routes
A network of tertiary streets will serve the residential blocks. The network will include shared surfaces and will respond in a flexible manner to its environment, such as the forest fringe or green fingers.

Most of the streets will include on-street parking. Details on parking and more information on the roads and network are contained in the Design Code section of this report.
Pedestrian Network

Walking and cycling will be fundamental in the design of the new Northern Quarter development and how it links to the nearby existing settlements around Cinderford and the forest landscape. This strategy aims to make use of best practice and quality design to promote walking and cycling. This will include the incorporation of incentives to encourage these sustainable forms of travel, to be designed into the Masterplan at the outset and not as afterthoughts.

Fundamental to the Masterplan, will be the creation of pleasant, safe and walkable environments. Irrespective of the character area, or type of development, the aim is to ensure connectivity with existing neighbourhoods and permeability through new sites.

The aim is to ensure that all new homes are situated in close proximity to local employment sites, shops, schools, community and health facilities and leisure facilities. Importantly, new homes should be within 5 minutes walking distance (400m) of a bus stop.

Formal walking routes through the site will link with more informal, traffic free paths in the landscaped and forested areas. The main recreational routes within the site are around the lake and along the green fingers, linking to the recreational facilities of Steam Mills, the primary school and the forest.

As illustrated in Figure 4.10, most of the site is within a 5 minute walking distance from the Northern Quarter Centre. This includes the new residential development at Steam Mills West and the existing Steam Mills village. Only the Northern United site is approximately a 10 minute walk from the Northern Quarter Centre.

Fig. 4.10 Pedestrian Network
Cycling

The hilly topography of the site and surrounding area is not ideally suited for cycling. However, recreational cycling is popular in the forest. One of the main aims therefore, will be to encourage cycling as a mode of transport, wherever possible. Some of the following measures can be explored:

• Providing safe and secure cycle parking adjacent to residential units, employment sites and other community amenities, such as at shops and the Gloucestershire College Campus.

• Ensuring the provision of sustainable transport infrastructure, including sheltered bicycle stands, quality road surfacing and safe, well-lit routes.

• Providing showers, changing facilities and lockers at workplaces.

• Introducing community bike rental initiatives and bicycle training programmes.

As illustrated in Figure 4.11, the majority of the cycle network will be on quiet streets and a smaller proportion on traffic free paths.

The main north-south connections will be on the new spine road and Steam Mills Road. It is envisaged that these connections will be extended to serve the communities of Drybrook and Ruardean Hill, as well as to Cinderford town centre.

Two connections will link the development and surrounding communities with the forest trails. One connection runs east-west along the forest fringe between the bowling green at Steam Mills and Northern United. The other connection will run between Steam Mills Road and the lake, providing a link to the existing cycle network in the Linear Park.

Additional connections are also recommended to provide links to the proposed new National Cycle Network Routes 42 and 44 that are now signed to the east and southwest of the site. These will require low-level improvements to existing trails and paths through the forest and to the east of Steam Mills Road.
Public Transport
Cinderford is not connected to the rail network and accessing local employment centres commonly does not require rail use. Therefore, the main focus for improvements to public transport are buses.

Bus Routing
The proposed bus routing through the site is illustrated in Figure 4.12. Given that the new spine road will provide an alternative access road into Cinderford from the north, key bus routes that currently run along Steam Mills Road will be diverted through the site, stopping at the new bus hub in the Northern Quarter Centre.

Public Transport Hub
A new transport hub is to be introduced at the Northern Quarter Centre, on the main spine road and adjacent to the Gloucestershire College Campus and employment sites. All diverted services through the new development and potential student buses will stop at the facility. The new transport hub is not considered to be a terminus.

Bus services could be improved by a number of initiatives to make these more attractive and to incentivise people to change from private car travel. The proposed improvements are as follows:

• Increase service frequencies – Increasing service frequencies and creating ‘bus corridors’ are vital to changing the mindset of commuters and ensuring that bus travel really is an option.

• Community transport - Provision of services for people with disability or living in remote locations without access to mainstream public transport services.

• Student buses - Buses can be introduced to provide a service for students from the Gloucestershire College Campus catchment areas.

• Quality bus corridors – New bus fleets and basic infrastructure, including quality bus stops and real time indicators. The quality of service and travel experience will make people want to use buses.

• Real-time information – Real-time information available within dwellings via telephone or internet. Travel information can be made readily available by a local authority operated website or one-stop centre.
4.6 Landscape and Biodiversity Strategy and Public Realm

Landscape and Biodiversity

The landscape of the site should maintain its rural-natural character, described as ‘wooded syncline and settled forest margin’ and as a result should not be manicured as in more urban areas. The aim for the site is to create a strong relationship with the existing landscape and biodiversity assets by providing green links and generous buffer zones whilst taking advantage of views and recreational footpaths.

The aim of the Masterplan is not only to mitigate against the loss of habitats, but to enhance the biodiversity and extent of habitats across the site, in particular encouraging the establishment of locally prevalent species and habitat communities typical for the area.

Of particular relevance is ensuring that the spine road and Northern United areas are developed in a manner which is sensitive to the significant Lesser Horseshoe Bat colony known to be in the area. To date a mitigation strategy has been implemented to encourage the use of an artificial roost outside of the derelict Northern United areas.

In addition to bats, there are known to be other protected species and species of local importance in the area of the AAP. Therefore, in developing a biodiversity strategy, the principles of connectivity (particularly to existing habitats in the wide area around the site) permeability and increased carrying capacity within retained habitats will be essential (including consideration of offsite mitigation if required).

The impact of roaming sheep on landscape areas within the development that are linked to the forest should also be considered.

Landscape Assets

The two key landscape assets – the forest and the lake with its tributaries – have shaped the layout of the Masterplan. The development will be bordered by the forest on two sides and the forest edge will provide a backdrop to the streets adjacent to it, with footpaths (rides) entering the forest and connecting to the surrounding countryside and other nearby settlements.

The lake is at the heart of the development and it will be designed and managed to provide a number of wetland habitats including aquatic planting and marginals around the lake fringes, wet meadow open space surrounding it and a scrub/wet woodland mosaic towards the periphery. It is intended that this will enhance the biodiversity level of this area and increase its carrying capacity for wildlife, including bats. Appropriate mitigation regarding potential lighting impacts on wildlife in proximity to the lake and associated habitats will be established, for instance reduction of lighting in this area, baffle boards, and directional lighting. The brickworks is currently screened by mature trees and this screen is to be retained.

Green Corridors

The brook feeding the lake and the outlet stream both create wetland corridors that permeate the development as ‘green corridors’ as well as the Old Engine Brook. At the northern end of the green corridors, near Steam Mills, a ‘village green’ is proposed. This area should be managed as an amenity grassland and may contain small play areas, footpaths and benches, though it should retain some of the character of the green fingers connecting to it. The landscaping of the green fingers should have minimal intervention to the existing habitats where possible and thereafter include reed beds, marginals and wet woodland scrub vegetation making up a valuable ecological asset for the site. The Masterplan includes 8-15m wide buffers to existing watercourses to respect the existing riparian habitats. Access to these areas will be via self-compacting gravel footpaths connecting to the existing network around the lake.

Old Engine Brook is currently an engineered channel with functional floodplain abutting it. The landscaping of this area would be encouraged to assist the hydraulic reconfiguration of the Old Engine Brook, with a primary focus on reducing the current risk of flooding to surrounding areas, encouraging a naturalised channel form and enhancing watercourse and riparian habitats.

It is the intention of the green corridors to maintain connectivity with the Linear Park Key Wildlife Site to the south of the development and it would be the intention to maintain a similar wetland/woodland habitat through the built areas and extending to the edge habitats into the woodland on the other side. Key features for a range of local wildlife will be included within these corridors and additional spaces within the built areas. These will include for example, log piles for reptiles, amphibians and invertebrates, flowering plants for invertebrates and continuous vegetation allowing the dispersal of wildlife through the site. This aspect will also be important in maintaining the long term viability of the habitats.

Biodiversity within Built Spaces

Biodiversity will be encouraged within the development itself through the provision of additional features which can be implemented through a biodiversity checklist to ensure they are appropriate for the setting. Such features will encourage wildlife to utilise the site and ensure the area continues to provide valuable dispersal routes to local habitats.

Features will include for example living walls, green roofs, native and locally appropriate tree planting with fruit or berry bearing species, nectar rich flowerbeds, swales and SUDS as appropriate and ensuring continuity of habitat as far as possible.
Fig. 4.13 Landscape plan

- Avenue planting
- Eco-links
- Environmental improvements to Steam Mills Road
- Water course
- Forest fringe
- Wetland corridors and habitat enhancement
- Forest
- Village green
- Water
- Sports grounds
- Open grasslands
- Public square
- Artificial bat roost
- Likely areas of bat mitigation
4.0 The Masterplan

**Street Planting**
Within the development, most of the streets will be planted with trees with formal avenue planting on the main spine route and secondary route. The western section of the spine route through to the junction at the entrance to the Northern United Site may have additional planting or other mitigation measures at the street edge to ensure that the functionality of the Northern United Lesser Horseshoe bat roost is maintained.

In addition, two tertiary routes contain a margin to create green links between the forest and green fingers. Tree species will be chosen based on their suitability for the site’s growing conditions and to create a variety of character across different streets. The car park associated with the Gloucestershire College Campus will be encouraged to incorporate deciduous tree-planting and minimal, directional lighting to try and encourage biodiversity value and integrate with the surrounding linear park.

**Squares**
The plan proposes several squares within the development. A central square with the most urban character is proposed in front of the Gloucestershire College Campus. A secondary, smaller square is proposed in the residential development in the Steam Mills Village West character area. Smaller nodes can be developed throughout the development, depending on more detailed design studies.

**Play space and allotments**
Appropriate levels of play space and allotment provision are desirable and should be provided locally as opportunities arise to meet the needs arising from residential development within the AAP area. This should be based on appropriate local standards.

**Landscape and Biodiversity strategy**
The landscape and biodiversity strategy presented in this document presents a broad but joint approach for the two aspects and it is recommended that more detailed landscape and biodiversity plans, are developed at a more detailed design stage.

These should detail mitigation measures, measures to incorporate and enhance designs for key wildlife and to encourage biodiversity within the development space and linking into the surrounding habitats, as well as specific management tools, such as biodiversity check lists and biodiversity management plans. Guidance on the preparation of these plans should be taken from the Forest of Dean ‘Landscape Supplementary Planning Document’, 2007 and the Biodiversity Action Plan (Local BAP) for Gloucestershire. Elements of the biodiversity strategy may need to be established to demonstrate mitigation success prior to development.

Ongoing engagement will be encouraged with local groups, such as environmental groups (e.g., Friends of the Forest and Friends of the Earth), The Gloucestershire Bat Group, Steam Mills Angling Club, Butterfly Conservation, Gloucestershire Naturalists’ Society, Forest of Dean Council, Natural England, the Environment Agency, the Forestry Commission, local schools and youth organisations to prepare more detailed proposals and to involve them at implementation stage and in maintenance work.
4.7 Views and Vistas

The main asset of the site is the lake and its setting. The Masterplan is developed to protect key views of the lake, and to draw on its potential with carefully located development, maximising and framing views to it. Other important local views are in the area of the floodplain along Old Engine Brook and the green finger between the lake and Steam Mills.

An important current vista is to the bath house of the Northern United site which is a local landmark. This vista is to be maintained should the bath house be retained.

It is also proposed that the new Gloucestershire College Campus should create a prominent vista for long distance views on the approaches to the development, emphasising the importance this use will have for Cinderford in the 21st century.
4.8 Height and Densities

Height
The proposed heights of the development illustrated in the Masterplan are broadly in line with the predominant heights of Cinderford, which are between 2 and 3 storeys for residential and commercial buildings (or equivalent). Around the lake, building height must protect the setting of the area and should demonstrate how this will be achieved whilst being limited to no more than three storeys.
Density

Residential densities for the Northern Quarter will reflect the suburban character of the development whilst creating a sustainable development. They also reflect the average density of existing development in Cinderford, ranging broadly between 20 and 40 dwellings per hectare.

The densities of the Masterplan respond to the locations of the residential development, with lower densities / open campus type development closer to the natural assets of the forest fringe. This is to protect the setting of the lake from over development and to create a green transition with larger gardens and higher biodiversity value. Higher densities can be achieved along the main movement corridor and within the existing built context of Steam Mills.

Overall, across the whole neighbourhood to be developed for housing, a density of 30 dwellings per ha would be appropriate.
4.9 Waste and Energy

Sustainable Waste Management

The need to manage waste during design, construction, occupation and eventual demolition of the development is a key consideration in the design of the Cinderford Northern Quarter.

Facilitating waste management through the Masterplan

It was recognised in the baseline study (May 2009) of the Northern Quarter that within the existing Gloucestershire Waste Local Plan 2002 to 2012, there are two potential waste sites at Forest Vale Industrial Estate, one of which falls within the Masterplan boundary. There is also a waste transfer operation at the Northern United site although this site was not allocated in the Waste Local Plan. Since then consultation has been undertaken with Gloucestershire Minerals and Waste policy team to ensure that the Masterplan development accords with the upcoming Waste Core Strategy which will replace the existing Waste Local Plan.

In relation to a specific waste facility site allocation within the Masterplan area, it has been confirmed with the County Council that neither Northern United or Forest Vale are likely to be identified as strategic waste allocations within the Waste Core Strategy.

Managing waste through the Masterplan lifecycle

In relation to construction waste, it is anticipated that the majority of sites within the Masterplan will be required to produce Site Waste Management Plans in accordance with the Site Waste Management Plans Regulations 2008, which apply to all construction projects exceeding £300,000 in value. In addition, designing out waste will be an important aspect of the waste management strategy and it is anticipated that design development will utilise the range of tools available from WRAP such as Designing out Waste - A Design Guide for Buildings (http://www.wrap.org.uk/construction/tools_and_guidance/designing_out_waste.html).

In order to assist this process and to support the sustainable management of waste arising across the site, the potential for a shared on site central Materials Recovery Centre should be explored through the development of the Masterplan. This would be a facility where materials can be brought by contractors for segregation, sorting and storage prior to re-use and recycling, further recovery or disposal.

It is anticipated that as a minimum provision should be made during construction for the following materials to be segregated for reuse, recycling and safe disposal throughout the Masterplan development:

- Metals (and other high value materials)
- Inert Waste
- Hazardous Waste
- Wood
- Plasterboard
- Packaging materials (e.g. cardboard and plastics)

Waste will also be managed through utilisation of Code for Sustainable Homes and BREEAM criteria to ensure the provision of suitable space and separation at source of waste streams.

The viability and scale of this option will need to be explored in more detail to ensure it accords with the wider design requirement and specifications of the Masterplan in relation to energy demand and is in accordance with the waste hierarchy.

A materials recovery centre to increase reuse and recycling of commercial and industrial waste will be encouraged to divert this waste stream from landfill throughout the construction period. Any such proposal will be considered in the context of the Forest of Dean Core Strategy and the Gloucestershire Waste Core Strategy.

Suitable design and mitigation measures will be encouraged to ensure that any facility does not have a negative impact in terms of visual or landscape amenity.
Energy and Climate Change

From the outset of the Masterplan, development has continued to respond to the overarching objective of the business plan:

“To progress Cinderford as a regional model of sustainable new development and management, and reduce the town’s ‘carbon footprint’.

The Sustainable Development Framework for the Cinderford AAP and supporting Masterplan identifies the following key objectives in relation to energy and carbon reduction:

• To reduce the carbon footprint of the development, and its wider area, through design, delivery and operation;
• To integrate sustainable waste management facilities and services within the development, to the benefit of it and Cinderford more broadly;
• To encourage the use of renewable energy where appropriate; and
• To develop new residential building to Code for Sustainable Homes Level 4 (and increasing with Government policy), non residential Buildings to achieve at least BREEAM excellent or relevant equivalent.

This shows that there is a requirement for the Masterplan to minimise the carbon footprint of the development in order to respond to climate change and align with strategic priorities of Government and other key stakeholders, notably the Homes and Communities Agency.

The effective integration of renewable and low carbon energy will be an essential part of the Cinderford Northern Quarter, not only in relation to achieving a more sustainable development but also in delivering against design standards such as the Code for Sustainable Homes. With regards to the operational energy consumption of the site, a two tiered approach will be taken to minimising the carbon emissions of the future development:

1. Minimising energy demand – buildings proposed on site will be required to achieve certification standards that place an emphasis on energy demand (e.g. Code for Sustainable Homes and BREEAM).
2. Supply of heat and power from renewable energy technologies.

A strategic review of renewables technologies for the Masterplan area has favoured a biofuel (either biomass or biogas) boiler/Combined Heat and Power (CHP) system for macro on-site generation, with supplementary energy requirements being met through building level technology such as geothermal, solar or wind. In response to this, the Masterplan incorporates a plot allocation for the CHP plant which:

• is located in the Northern United Enterprise Park character area. Two sites are of particular interest: next to the brick works or on the Northern United site,
• is well located to allow effective access to the site and main road network, and
• has minimal interaction with potential sensitive receptors such as residential users. It is noted there are sensitive environmental receptors in and around the Northern United site and the energy centre design and mitigation would need to account for this.

A detailed energy study should be undertaken at the outline planning stage to clarify the technology, size, potential environmental effects and infrastructure requirements of the energy centre. This study should:

• conduct an estimate of expected heat and electricity demand loads from the land use mixes on the site;
• carry out a detailed viability analysis of biomass and biogas to identify a preferred fuel approach;
• set out the needs for the phased integration of macro renewable energy (boiler to CHP) across the site; and
• produce an optimal selection of renewable energy technology options that facilitate the design standards required for the site and minimise its carbon footprint.

In addition to the integration of renewable energy and low carbon building types, the Masterplan has responded to the needs of Climate Change with a transport strategy to improve and encourage use of public and non-vehicular transport and the sensitive location and positioning of infrastructure and development to account for increased flood risk over time.

Fig. 4.21 Energy Centre Locations