Working list of Green Infrastructure assets and considerations

Indicative Development Area:
West Worcester

Allocation proposed in Preferred Option: 3,500 homes; 15ha employment land

Introduction

This document attempts to identify the key green infrastructure constraints and considerations which are likely to be associated with this area. Wychavon District Council, Worcester City Council, Malvern Hills District Council, Worcestershire County Council, Archaeology Service and Countryside Service, Natural England, Herefordshire and Worcestershire Earth Heritage Trust and Worcestershire Wildlife Trust have provided information on the following subjects:

- Biodiversity;
- Landscape;
- Historic Environment;
- Access, recreation, leisure and tourism;
- Natural processes.

However, this document does not provide a comprehensive assessment of the green infrastructure for the identified area. It does not attempt in any way to integrate the above subjects. It is based on desk-top research only and is no substitute for detailed site investigations. As such this document provides a desk-study start-point for green infrastructure consideration. A full Green Infrastructure Framework is currently in production, and, once completed, is expected to inform site design briefs and master planning.
Access, movement, recreation and tourism

- Access area – Broadheath common, at Broadheath.
- Public rights of way – Multiple footpaths and tracks through area; The Severn Way is located to the east on the opposite side of the A443.
- National cycle route – none.
- Regional cycle route – none.
- Local cycle route and links – none.
- Village/doorstep/millennium green – none.
- Conservation walk – none.
- Walking the way to health initiative – At the University of Worcester Campus and riverside (including Cripplegate Park, St John's Leisure Centre & rear of Cricket ground).
- Country park – none.
- Transport requirements – Connections to the town centre; Access to existing transport interchange nodes i.e. Foregate Street and Shrubhill railway stations and Crowngate bus station; High quality pedestrian and cycle routes within developments; Strong links to adjoining developments.
- Tourism - Elgar's Birthplace Museum and Elgar Centre.
Natural processes and environmental systems

- **Hydrology** – Laughern Brook from Hallow to Little Eastbury; Springs and ponds around Little Peachley, Peachley Lane and Hill Top Farm; Series of linked ponds across area, likely related to the sewage works; Scattered ponds and springs across area.

- **Geodiversity** - All of the growth point is located within the boundary of the Abberley and Malvern Hills Geopark. Sidmouth Mudstone (Mercia Mudstone Group). Kidderminster Station Member (4th Severn Terrace) underlies the elevated ground east of Laughern Brook. It creates a scarp feature running north from Little Eastbury to Hallow. An unusually located deposit of Head occurs east of Temple Laugherne. Unusual soil occurs around Temple Laugherne and between Crown East and Grove Farm Oakley Series. Identified as a potential soil Local Geological Site (formerly known as RIGS). This soil type only occurs in this small area between Hallow and Rushwick.
**Landscape Character**

**GROWTH POINT:** Worcester West (formerly WC13a, 13b, 14a, 14b, 14c plus additional land)

**LANDSCAPE DESIGNATIONS:** None

**LANDSCAPE TYPE:** Principal Timbered Farmlands

**RESILIENCE LEVEL:** Low

**LANDSCAPE SENSITIVITY CATEGORY:** High

**MAGNITUDE OF ADVERSE VISUAL IMPACT:**
- Local Views (up to 0.5 km.): substantial
- Medium distance Views (0.5 – 2 km.): substantial
- Long distance views (over 2 km.): substantial

**PRINCIPAL VIEWS FROM:** Local roads, public Rights of Way and properties and higher land to the north, the west and within Worcester city.

**ADDITIONAL SITE CONSTRAINTS:**
- Mature hedges; many fine, mature trees; Laugherne Brook Special Wildlife Site; brook corridor; Hollybank potential Special Wildlife Site. The landscape character of most of this site is highly sensitive, with little resilience to change. This is therefore, a valuable landscape asset falling within a category of landscape where development would normally be discouraged in order to protect the special character.

**LANDSCAPE ASSESSMENT:**

**Hollybank and surrounding area**
This is the northern part of the overall site, centred on Hollybank and the Laugherne Brook, both areas of particular wildlife and aesthetic interest. This is elevated, rolling rural countryside, visually divorced from urban settlement. Development here would be highly visually intrusive and seen as unacceptable encroachment into the surrounding countryside. It would link Hallow to Worcester city and effectively destroy the village's unique and distinctive character. It would destroy the special character and wildlife interest of Hollybank and the Laugherne Brook corridor.

**Eastbury Manor West (formerly WC13a)**
Located to the south west of the Hollybank area, this is rolling, elevated agricultural land that is visibly prominent in the landscape, particularly in views from the north. The area does not relate to existing settlement. Housing here would be viewed as visually intrusive from a wide area to the north, west and south.

**Eastbury Manor East (formerly WC13b)**
This is fairly low lying land, rising to the west. It is located adjacent to existing urban development. Although overlooked from higher ground, development here would be seen in the context of the existing urban framework. Site limitations include the
prominently sloping stream valley along the northern and eastern boundaries. These areas should be protected within the future urban framework.

**Crown East (formerly WC14a)**
This is an elevated site with gently sloping topography, prominently viewed from vantage points in Worcester city. It is unrelated to the existing urban framework and is seen as rural countryside associated with Crown East. Development here would destroy the separate character of Crown East and would be highly prominent and visually intrusive.

**Oldbury Farm West (formerly WC14b)**
This is rising land, inclined towards the east and therefore highly visible from all the surrounding land and views from Worcester city. It is unrelated to the existing settlement and development here would be visually intrusive.

**Oldbury Farm East (formerly WC14c)**
The northern part of this site (north of Oldbury Lane) is intensively farmed agricultural land, flat on the eastern side but rising to the high ridge on the outskirts of Broadheath and marked by Broadheath Foods factory. Although rising land, easily viewed from vantage points in the city, it is well contained and settlement here would be seen as a logical extension to the existing city development. The southern part of the site is flat, degraded agricultural land and relates well to the existing urban framework.

**SUMMARY:**

**Hollybank and surrounding area**
In order to preserve the special character of Hallow and Hollybank we strongly advise against any development in this area.

**Eastbury Manor West (formerly WC13a)**
Development should not be extended to this area in order to preserve views from adjacent areas.

**Eastbury Manor East (formerly WC13b)**
Development on this part of the site would be acceptable on landscape grounds. Landscape mitigation will be required to protect the more steeply sloping parts of the stream valley and the stream corridor.

**Crown East (formerly WC14a)**
In order to avoid unacceptable visual intrusion, development should not be extended to this site.

**Oldbury Farm West (formerly WC14b)**
Development is not suited to this site, on the grounds of visual intrusion.

**Oldbury Farm East (formerly WC14c)**
On landscape grounds this section of the Worcester West site is suitable for development.
The two colours shown on the map relate to both the likely visual impact of development and its effect on landscape sensitivity.
Historic Environment

This document is not a comprehensive assessment of historic environment requirements. It is an initial short summary of historic environment character, potential and likely constraints. It therefore serves as a starting point for further assessment.

Summary of historic environment features
Worcester West encompasses a diverse range of multi-period historic assets and landscape features including the Scheduled medieval settlement at Earls Court Farm. The historic buildings and overall site requires further evaluation in order to fully assess historic environment survival and potential.

Summary of Historic Landscape Character
The site is characterised by a broadly consistent pattern of medium to large-scale irregular amalgamated post-medieval fields, with scattered areas of relic orchard and medium sized compartments of ancient semi-natural woodland. The settlement is dispersed and small-scale.

Historic environment survival
Limited disturbance throughout this area suggests there is good potential for survival of extensive below ground archaeology. The dispersed settlement pattern is predominantly of medieval and postmedieval origin. The full extent of surviving below ground archaeology is currently unknown due to limited investigation, with the exception of Earls Court Farm (associated with Scheduled Monument, SAM31957), which was the focus of an archaeological evaluation in 2002.

Historic environment potential
Full area potential is unknown due to limited investigation, however, there is a likelihood for extensive surviving historic environment assets throughout the area, including multi-period below ground archaeology. Full potential should be established through detailed evaluation.

Sensitivity to change
Below ground archaeology and surviving earthworks will be sensitive to development. Loss of historic field boundaries and woodland will weaken Historic Landscape Character. A programme of investigation must be commissioned by the developer to inform detailed site planning, explore opportunities to mitigate loss and conserve historic assets as part of development and green infrastructure design.

Detailed planning should consult the following sources:
Specialist advice:
• Worcestershire Historic Environment and Archaeology Service (County Historic Environment Record covering Malvern Hills District)
• Worcester City Archaeological officer
• District Conservation Officer (Malvern Hills)
• District landscape officers (Malvern Hills)
• English Heritage
Sources:
• Historic Environment Assessment (Worcestershire Historic Environment and Archaeology Service)
• Sites or monuments registered on the County Historic Environment Record
• Sites or monuments on the Worcester City Historic Environment Record
• District Listed Buildings Records
• English Heritage record of Scheduled Monuments
• Other assets registered on national or local records
This map is based on current records and is not a definitive assessment of historic environment survival, or potential.
Biodiversity

Summary
This site offers opportunity for sustainable development and biodiversity gain, however there are considerable known and potential development constraints. The area offers excellent green infrastructure opportunities.

The primary constraint is likely to be the Laugherne Brook (SWS), its tributaries and associated meadows, pastures, floodplain features, orchard remnants and small woodland blocks, some of which are designated as Special Wildlife Sites and Grassland Inventory sites, but many are not. There are sizeable flat or gently sloping arable fields adjacent to the A443 that could accommodate sustainable development. The grasslands however will require survey; the flatter areas may have lesser to negligible biodiversity importance; the steeper slopes are more likely to have retained biological importance. The cluster of grasslands associated with Eastbury Manor and along the north side of the B4204 require surveys to determine their biological importance. Again there is a considerable amount of flatter arable land, particularly on the western half of the site, where significant biodiversity constraints to development will be unlikely.

The watercourse corridors and associated areas wetland, woodland, grassland and scrub should be retained as a cohesive network, restored (for example the Temple Laugherne tributary that has been ponded) enhanced and should receive appropriate ongoing management.

Road verges that are likely to be impacted by development of this area will require survey.

The hedgerows and tree network should be retained, enhanced and protected if the area is developed.

Sustainable drainage solutions will be essential if this area is to be developed, they should be utilised to compensate for loss of permeable surface and for biodiversity gain.

Statutory Nature Conservation Designations
- There are no statutory designated sites within this site.
- Development of this area is unlikely to directly or indirectly impact any statutory designated sites, however it is worth noting that the Laugherne Brook joins the river Teme (SSSI) around 2km to the south. Potential for impacts will require consideration.
- Much of the Laugherne Brook corridor adjacent to where it exits the site and for a further 1000 metres has been designated as a Local Nature Reserve LNR.

Non Statutory Nature Conservation Designations
- The Laugherne Brook SWS complex is the only non-statutory designation within this site. A significant proportion of the valley sides of the Laugherne Brook in the northern third of the site are either SWS or GI, however it is worth noting that considerably more of the valley sides are likely to meet the criteria
for SWS designation and that the upper valley sides will be critical to the health of this ecosystem should the area be developed.

Worcestershire Habitat Inventory, Landscape Character Assessment Ecological Profiles and Aerial Photo Interpretation

Zone descriptions
This is a large and complex site. For simplicity the following descriptions identify the likely degree of biodiversity constraint by the following subdivisions.

**Zone 1:** Considerable capacity for sustainable development, however the remaining areas of grassland (including two grassland Inventory fields) and the orchard (which itself has BAP grassland importance) associated with the Earls Court SAM should be retained, restored and enhanced as key green infrastructure components, as should the Laughern Brook corridor. The area contains at least two ponds and is adjacent to Oldbury Wood SWS; ancient woodland that will require buffering from the impacts of any development.

**Zone 2:** Considerable capacity for sustainable development. Known constraints include Grasslands, verges orchards and remnants are principally associated with Oldbury Grange and Farm and Temple Laugherne Farm / Laughern Brook valley; including fields that are either known to be interesting or that require survey to establish their importance. The southwest corner of the site is adjacent to Oldbury Wood SWS; ancient woodland that will require buffering from the impacts of any development.

**Zone 3:** Considerable capacity for sustainable development. Considerable biodiversity enhancement and restoration potential in this devastated area of countryside; particularly associated with the Laughern Brook tributaries, which have been substantially modified. The historic hedgerow and tree network has been almost entirely removed providing considerable restoration potential. Principal remaining biodiversity importance is associated with the Laughern Brook corridor. There are some orchards and orchard remnants and areas of grassland that require survey at Temple Laughern. Several ponds.

**Zone 4:** This Zone is more complex; however there are some sizeable areas that could accommodate sustainable development. The Laughern Brook, its tributaries and their valley slopes require retention, buffering, enhancement and ongoing management. There is a considerable amount of grassland in this zone that is either of known biodiversity importance or that is of unknown status and requires survey. The area contains several ponds, primarily in the western half.

Protected and notable species
The following protected and notable species have been recorded on this site or are likely to occur:

- **Amphibians:** High potential for all common amphibians, including great crested newts and common toads.
- **Badger** surveys will be required.
- **Bats:** Considerable potential. Assessment and surveys will be required. Impacts will require mitigation.
- **Birds:** An assessment of utilisation of the area by birds should be undertaken.
- **Club-tailed dragonfly**: High likelihood.
- **Dormouse**: Presence/status of dormouse in this area is unknown. There presence can not be discounted. Assessment and surveys will be required.
- **Otter** has been recorded along the Laugherne Brook.
- **Reptiles**: Slow worm and grass snake likely. Survey for viviparous lizard will be required.
- **Water vole** has been recorded in this area in the past, but may now be extinct. Assessment/survey will be required to ascertain presence/absence. Consideration of potential for recolonisation will be required.
- **White clawed crayfish**: Unlikely, but assessment of watercourses will be required.

**Worcestershire Habitat Inventory Key**

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Water body</td>
</tr>
<tr>
<td>Orange</td>
<td>Bracken</td>
</tr>
<tr>
<td>Teal</td>
<td>Wetland</td>
</tr>
<tr>
<td>Purple</td>
<td>Orchards that require investigation</td>
</tr>
<tr>
<td>Pale greens</td>
<td>Grasslands of biological importance</td>
</tr>
<tr>
<td>Pale green with grey stripes</td>
<td>Grassland that requires survey to ascertain biological importance</td>
</tr>
<tr>
<td>Green with purple dots</td>
<td>Heathland</td>
</tr>
<tr>
<td>White with ?</td>
<td>Unknown vegetation</td>
</tr>
<tr>
<td>Yellow</td>
<td>Quarry, rock or disturbed ground</td>
</tr>
<tr>
<td>Bright Green</td>
<td>Broadleaved woodland/scrub</td>
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<tr>
<td>Dark green</td>
<td>Conifer woodland</td>
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