APPENDIX H

STOCKTON–ON–TEES LANDSCAPE CHARACTER ASSESSMENT AND THE GREEN INFRASTRUCTURE STRATEGY

> "We are faced with a wide range of serious environmental, social and economic challenges; developing housing to meet demographic changes, ensuring that our environments are resilient to a changing climate, maintaining adequate supplies of water, managing flood risk, securing food and energy supplies and safeguarding against biodiversity loss — all of these, and more, need to be considered by anyone concerned with the planning, design and management of our places"
>
> The Landscape Institute; 2009.

PURPOSE & CONTEXT

The purpose of this appendix is to describe how the Stockton-on-Tees Landscape Character Assessment and the Stockton-on-Tees Green Infrastructure Strategy interlock; in particular it draws attention, notably for the benefit of Green Infrastructure Planners, to the Landscape Character Assessment as a resource that can used when planning individual green infrastructure projects; it is therefore particularly relevant to the green infrastructure delivery process.

The Landscape Character Assessment shows sensitivities to be aware of (e.g. ecological) and opportunities that can be used creatively (e.g. landscape with recreational potential); this relationship between sensitivities and opportunities provides the scope for using the Green Infrastructure Strategy and the Landscape Character Assessment together. The Green Infrastructure Strategy's can act as a delivery vehicle to enhance and manage the Borough's landscape into the future; a notable example being areas where green-links should be devised or enhanced.

The Landscape Character Assessment should be considered as a tool to support cross-cutting themes across the work programmes of the Council and its partners; this includes Design, Planning, Environmental protection, Street Scene, Regeneration and others; these same themes resonate with delivery of the Green Infrastructure Strategy.

Stockton-on-Tees Borough Council has commissioned the preparation of a Landscape Character Assessment from WYG Environment; this commission has taken place at the same time as a Green Infrastructure Strategy is being prepared for the Borough by an environmental partnership led by the Borough Council. There is a further coincidence of timing; in 2009, a position statement on green infrastructure was issued by the Landscape Institute. The Landscape Institute is the professional body that represents chartered members of the landscape profession and a charity responsible for protecting, conserving and enhancing the natural and built environment for the benefit of the public; this appendix also draws on that statement.

The interaction between the Landscape Character Assessment and the Green Infrastructure Strategy has been facilitated by the involvement of Clive Davies Associates as consultant advisors. Clive Davies has acted as the technical advisor to WYG on the Landscape Character Assessment and is also the consultant advisor to Stockton-on-Tees Borough Council on the preparation of the Stockton-on-Tees Green Infrastructure Strategy. Sarah Edwards at Stockton-on-Tees Borough Council has also been involved with both the Landscape Character Assessment and a member of the steering group for the Green Infrastructure Strategy.

LANDSCAPE INSTITUTE POSITION STATEMENT 2009

This position statement recognises that a Green Infrastructure approach to land-use planning can promote the widest range of functions which can be performed by the same asset, unlocking the greatest number of benefits. It also recognises that multi-functionality, connectivity and eco-system services are part of the green infrastructure mix. The Landscape Institute believes that the benefits of incorporating green infrastructure into the planning, design and management of landscapes includes:-

o **Climate change adaptation**: that even modest increases in tree canopy cover can significantly reduce the urban heat island effect via evapo-transpiration and shading, as well as improving air quality.

o **Climate change mitigation:** that well-designed and managed green infrastructure can encourage people to travel in a more sustainable way, such as cycling and walking and has the potential to efficient, decentralised, renewable energy, improving local energy security, providing space for ground source heating, hydroelectric power, biomass and wind power.

o **Water management:** that green infrastructure is a good approach for managing flood risk.

o **Dealing with waste:** that green infrastructure can deal with waste in a sustainable way a good example of this is the use of reed beds which remove pollutants from water.

o **Food production:** that creating space for food production through allotments and community gardens and orchards, increases access to healthy food, provides educational opportunities, contributes to food security and reconnects communities with their local environment.

o **Biodiversity enhancement, corridors and linkages:** that green infrastructure has a role in providing wildlife habitats in both urban and rural areas and that taking a landscape-scale can facilitate species migration.

o **Recreation and health:** that providing accessible green infrastructure provides important opportunities for informal and active recreation, notably by ensuring that assets are provided in close proximity to people's homes.

o **Economic values:** that quality green space can have a major positive impact on land and property markets, creating settings for investment and acting as a catalyst for wider regeneration.

o **Local distinctiveness:** that well-designed and managed assets, particularly those that engage local communities and which relate to landscape character and heritage, can enhance local sense of place and foster community spirit.

o **Education:** that natural environments which are connected to local communities can provide a range of educational opportunities and assist in reconnecting society with the natural environment.

o **Stronger communities:** that green infrastructure can help in meeting a wide range of community needs.

THE LANDSCAPE CHARACTER ASSESSMENT AND GREEN INFRASTRUCTURE STRATEGY – DISCUSSION AND RECOMMENDATIONS

The Green Infrastructure Strategy for Stockton-on-Tees is based on the delivery of ten themes; there is a consistency between these themes and the benefits of green infrastructure identified by the Landscape Institute. Landscape will interface with all the functions although it is more relevant to some than others. The following sections describe how Landscape and/or the Landscape Character Assessment can be used in respect of the ten themes included in the Green Infrastructure Strategy; recommendations and key points are shown in ***bold italic***.

Green Infrastructure Strategy Theme 1:   Image and green settings for new development.

> ***Existing landscapes and landscape enhancements can be used to create and re-enforce the 'green settings' for new development*** envisaged in the Green Infrastructure Strategy. This can be achieved by ensuring that 'built features' are 'framed' and 'set within' high performance landscapes.

> ***Landscaping well-in-advance of new built development is to be encouraged***; landscape professionals; architects, contractors and engineers are nowadays well versed in building and site works that minimises the damage to the landscape setting. Advance landscaping also makes the commercial marketing of sites easier.

> New developments that make use of natural systems as engineering solutions such as 'sustainable urban drainage systems' help maintain a heterogeneous landscape.

> It should be recognised that development can encroach on valued landscapes; this is illuminated by the River Tees corridor which is an important regional resource; encroachment leads to long term landscape decline.

> There are relatively few areas of Stockton-on-Tees where new development is totally inappropriate on landscape grounds alone; even so ***master-planning must include a robust approach and understanding of landscape issues*** to ensure this is so; the Development Control process has a key role in this respect.

> Green Corridors are especially vulnerable to development encroachment and maintaining these as open landscapes is recommended. ***In green corridors new development proposals need to pass a higher threshold of need*** if these valuable landscape and ecological corridors are not to be lost.

> The multi-dimensional qualities of trees; noting their height; is especially relevant to new development. In the past 25 years the norm has been towards low height low maintenance arboriculture but with green infrastructure the time has come to challenge this thinking. The reason is simple to find; large trees offer significantly more eco-system services than small-sized amenity trees and shrubs; indeed the relationship between size and eco-system services of trees is a logarithmic rather than linear relationship. ***New development provides the funding opportunity for extensive tree planting; and encouragement is given towards the planting of large trees***, which make a landscape statement.

Green Infrastructure Strategy Theme 2:   Natural systems to combat climate change.

> All of the stated 'key ambitions' in the Green Infrastructure Strategy theme on Natural systems to combat climate change; interact with landscape planning and design at some level.

> Whilst ambitions to increase woodland cover need to be consistent with other landscape types; there are ***specific opportunities to diversify some landscapes, including those which are otherwise absent or rare such as floodplain woodland and Carr***.

> The Tees Forest project has shown that there is ***ample opportunity to establish new larger woodlands with productive and recreational potential***. The consultation on the Landscape Character Assessment showed how important the work of The Tees Forest has

been and the value placed on community woodland. The Tees Forest project is no longer operational but a ***Tees Forest Plan exists and could be delivered by partners***.

River restoration projects are strongly encouraged as a way of returning rivers to a more natural character and can also assist in the delivery of strategic objectives such as those set out in the water framework directive.

Green buildings provides an exciting opportunity for combining landscape with built architecture; ***green roofs and green walls could make the urban offer substantially more attractive***.

Two landscape types impact most on climate change adaptation these are (a) woodland/tree landscapes – both urban and rural and (b) fluvial (water) landscapes. Together they will help deliver the aspirations of the green infrastructure strategy.

Amenity green space such as parks and woodlands can be engineered to act as flood holding areas to divert and hold water away from commercial and residential property during fluvial and pluvial flooding events.

Green Infrastructure Strategy Theme 3:   Local green spaces for enjoyment, health and well-being.

People value local landscapes for the amenity they provide and the contribution they make towards their 'quality of life' whether in the town or countryside. It is self evident that landscapes exist at all scales and are nested amongst each other. Local landscapes are simply the units that are the components of larger landscapes. This analysis means that the role of landscape in local green space can not be separated from the wider landscape that it is apart of. ***Master planning of local green spaces should consider its landscape performance within the wider landscape setting***.

Landscape is one of the factors that people use to perceive their own personal safety in local green-spaces. There is a preference to see landscapes as 'well managed'; this does not however imply that naturalness is unpopular; indeed the opposite is true. The point here is that ***natural green-space requires care and management to the same extent as formal green-space***; albeit different skills may be involved.

Research by organisations such as CABE Space has shown that quality landscapes are also those associated with the greatest use by all sections of the community and in promoting physical and mental health.

Mature landscapes are highly valued for their visual amenity but take generations to mature; these are a precious resource where ***conservation is a key priority***.

Initiatives such as ***the introduction of street trees to urban areas should be viewed as long term projects*** as maturity can take up to 100 years plus to achieve. The selection of trees should be diverse to help protect against diseases, be cognoscente of the changing climate and include a substantial proportion of larger tree species; which will be valued in the future for their status.

Green Infrastructure Strategy Theme 4:   Destinations for recreation and tourism.

As can be seen from areas such as National Parks and Areas of Outstanding Natural Beauty; landscape is a major attraction in its own right. However it is not only naturalistic landscapes that people value; the relationship between the built environment and natural areas is also of value as can be seen in the Estuarine Marshland of Greatham Corridor.

Stockton's existing attractions include many landscape types; some of the most notable examples being woodland (Coatham Wood, Wynyard Woodland Park); post industrial landscapes (Stillington Forest Park) parklands (Preston Park and Wynyard) and river corridors (Tees Barrage). This mix is considered to be a sign of a healthy landscape framework.

The ambition to develop a regional nature park with RSPB Saltholme acting as the hub is a clear example of landscape and biodiversity combining; the notable opportunity from a landscape perspective is to link with other landscape types in the area; of which the Cowpen Bewley Woodland Park is a substantially different but complimentary landscape as is the ridge and furrow field patterns at Cowpen Bewley village.

Coatham Wood, part of The Tees Forest project and run by the Forestry Commission is an example of the creation of a completely new landscape resource; although immature in landscape terms (planting started in 1997); this large woodland is evidence of how quickly a new landscape can be created for recreation and tourism. There are ***opportunities for community forestry projects of the same scale to take place elsewhere; especially where there is a coincidence of linear access (cycle, walking), open arable landscapes and access by road and public transport***.

Green Infrastructure Strategy Theme 5:   Biodiversity, air and water quality

Biodiversity and landscape are closely aligned; especially when considered in terms of 'habitats'; by definition these have an ecological and landscape component. Hence the green infrastructure strategy ambition to conserve and enhance the priority species and habitats identified in the Tees Valley also requires a strong focus on landscape.

The highest aim for a landscape approach in the Stockton Green Infrastructure Strategy is to achieve connectivity; the professional disciple that supports this work is called Landscape Ecology. The key objective being to reduce habitat fragmentation through the creation, extension and restoration of priority wildlife habitats. Landscape ecology normally requires landscape to be considered at the 'landscape scale' with a priority being placed on linear features and buffering sensitive habitats from potential damaging adjacent land-uses. The landscape features that can contribute to this include (a) wetlands and river corridors including small water features (b) hedgerows and field trees (c) deciduous woodland (d) boundaried green-lanes, footpaths and bridleways which act as 'greenways'.

In urban areas landscape design can be used to 'design in' close to nature experiences close to residential areas and in the public realm.

Opportunities should be taken to allow for natural regeneration especially of post industrial sites, the resulting habitats can be unique in ecological and landscape terms.

Green Infrastructure Strategy Theme 6:   Routes for sustainable travel and recreation

Landscapes contribute to this theme in similar ways to that applying to biodiversity, notably through landscape connectivity. *Projects that help 'bridge' gaps in the network of cycle, footpath and bridleway routes can be used to create new landscape corridors*; most notably by providing off-road safe routes; these can be tree lined and contain linear landscape features such as hedgerows and hedge banks.

One area of need is to bridge urban/rural boundaries; in Stockton such areas are often fringe farmland. Improvements to existing rights of way are a clear starting point for this work but there are specific challenges associated with negotiating new access corridors; this is both attitudinal and associated with development hope value. Where restructuring is possible a variety of landscape opportunities exist; such as the creation of new green lanes boundaried by hedges and hedgerow trees.

Sustainable transport corridors have a low impact at the landscape scale although there will be local issues to be dealt with through master planning and consultation. *If the ambitions of the green infrastructure strategy are delivered the landscape of Stockton will contain more linear corridors than presently.* This will make the landscape more heterogeneous which is considered to be beneficial in landscape terms.

Green Infrastructure Strategy Theme 7:   Landscape and heritage

The Green Infrastructure Strategy's ambitions for heritage and landscape include conservation and enhancement of local landscape character; tackling poor landscape quality through landscape restoration projects and conserving and enhancing the Borough's geodiversity, archaeology and cultural heritage. The Landscape Character Assessment will help the local authority in the prioritisation of those landscapes that most need these interventions.

Intrusive features in the landscape, such as pylon lines and wind turbines require careful consideration within the wider landscape setting; most notably how landscape modelling can ameliorate the visual impacts; this requires these features to be considered at some distance from source (several kilometres); it is at this distant that landscape interventions may be required.

Maintaining a landscape that is genuinely reflective of Stockton-on-Tees, the so called 'genius loci', is a landscape that reflects cultural heritage and cultural diversity. For this reason not all post industrial landscapes should be considered bad. Assumptions that post industrial landscapes should always be reclaimed, even for green end uses, need to be challenged. The world famous Emscher Park in Germany is an example where natural regeneration has created an internationally celebrated landscape.

The most notable landscapes that give Stockton its special landscape qualities; are the river corridors, especially the section of the River Tees between Stockton centre and Yarm but also its tributaries notably the River Leven; the estuarine landscape of the Greatham corridor and the now extensive network of new community woodlands and countryside facilities such as Wynyard Woodland Park which have developed in the period between the Cleveland Community Forest Landscape Assessment and this new Landscape Character Assessment.

Green Infrastructure Strategy Theme 8:   Productive landscapes

This term generally refers to landscapes in primary production, such as farming and forestry, yet in reality most landscapes are productive. It is just that the non-market benefits are more difficult to define; nevertheless these are taken to include landscapes that inspire people, add to quality of life, and attract visitors and tourists. The three themes emerging from the Green Infrastructure strategy are a sustainable agricultural landscape (which is taken to include forestry), local food production and renewable energy production.

In the second half of the 20ᵗʰ Century agricultural intensification, driven by UK and European policies had a considerable and normally detrimental impact on the landscape. This was characterised by the rationalisation of field size, removal of hedgerows, wetland features and trees; this result in a less heterogeneous landscape. Contrary to belief in some quarters these improvements were not always popular with the farming community but driven by economic pressures; many farmers decided to leave farming because of these economic factors. The last ten years has seen a 'sea change' in attitudes with environmentally sensitive farming becoming the norm rather than the exception and this has resulted in the reintroduction of many landscape features; nevertheless these features will take many years to mature. **_Landscape guidelines for farming should include diversification and a strong focus on eco-system services_**. Farming landscapes are very important to biodiversity and linear access corridors can be created as green lanes; reintroducing landscape features such as hedgerows and hedge banks, unmanaged margins sometimes known as beetle banks and field and hedgerow trees are an essential part of the mix.

Local food production is undergoing a renaissance as witnessed by the spread of ideas such as the Havana method and the demand for new allotments. These landscape units are usually small but constitute components of the wider landscape setting and it is expected that the majority of these will be in urban areas. The local authority will have a role to ensure that these areas are not maltreated or left to decline, which could detrimentally affect the landscape.

There are some small holdings in Stockton associated with fringe agriculture; but these are overwhelmed in area by the amount of land used as paddocks or informal horsiculture.   It is suggested that the **_planning authority might wish to consider an expansion in the number of small holdings_** perhaps linked to self-build housing; with landscape requirements placed as a planning condition.

Energy production is a contemporary use of the agricultural landscape; although it is by know means new; in particular wood has been used as a fuel source since prehistory.

- An expansion of tree cover (forestry) as a wood fuel source would be beneficial in landscape terms.
- Biomass production (poplar & willow or straw & grasses) is largely neutral in landscape terms.
- Bio-digesters have a low profile or can be set underground and also have a low impact on the landscape.
- Ground-source is largely invisible and has no measurable impact on the landscape.

- o Geothermal, where possible, and local hydroelectric have a low landscape footprint excepting service buildings.
- o Wind turbines are intrusive features; public policy is for an expansion of wind energy production, but there is often strong local opposition.
- o Telecommunication features are rarely as intrusive as turbines and are less demanding on the wider landscape.

Green Infrastructure Strategy Theme 9: Promoting understanding and community involvement

The Green Infrastructure Strategy sees education as a key dimension to access and learn about the Borough's natural environment and heritage and through this to create a greater understanding of the role of natural systems and processes. At one level 'landscape' can be seen as the cultural outcome of natural and manmade processes and as such is a dimension to be included in educational programmes; as will be seen under the next theme this has significant consequences in terms of skills, training and employment.

The Landscape Character Assessment has shown the diversity of the local landscape and this in turn suggests there are ample *opportunities to utilise landscape within educational programmes both in schooling and adult learning*. Some of the most interesting learning landscapes in Stockton are close to urban centres or have visitor facilities.

Countryside Managers need to consider whether the workforce of wardens, rangers and other professionals in sufficiently skilled to help teach about landscape as this is may be a less developed skill to biodiversity and ecological knowledge amongst this work force.

Some regions have charitable Landscape Trusts; no such organisation exists in the Tees Valley, which raises the question whether such a Trust should be formed. Elsewhere Landscape Trusts; coordinate tree warden activities, run tree nurseries, undertake hedgerow and orchard planting and promote community engagement in the landscape.

Green Infrastructure Strategy Theme 10: Skills, training and employment

Landscape based skills and training will form a significant part of the employment opportunities presented by green infrastructure strategy; yet the Stockton area is poorly serviced in this regard. There are no professional landscape courses in the area (the nearest is Leeds) or landscape research groups (the nearest is Newcastle) and landscape skill's aimed at the manual workforce are delivered outside of the sub-region notably at Newton Rigg (Cumbria) and East Durham College, the latter providing; arboriculture, environment and horticulture qualifications at their Durham City campus. Furthermore there are notably few providers in the Intermediate Labour Market. Hence it is a reasonable assertion that *Stockton does not have an adequate skills base to fulfil the employment needs brought about by the Green Infrastructure Strategy*.

The situation described above is reflected nationally; in response CABE Space has launched the 'Skills to Grow' national strategy for improving the green space skills of the workforce. It contends that the green space sector is facing a skills crisis with shortages of

landscape architects and people with the horticultural know-how to create and maintain high quality green spaces. The strategy contains a 'GreenSKILL' on-line database for improving skills and training within the green space sector; 'GROW careers' based on seven priorities to improve urban green space skills and highlights the severe shortage of horticultural skills facing the green space sector and 'Parkforce', a campaign highlighting the importance of park workers in transforming and maintaining Britain's parks. CABE Space provides an invaluable source of advice and guidance on landscape skills and also orgnaise free best practice workshops for urban local authorities on how to run a successful green space apprenticeship scheme.

Another area highlighted in the Green Infrastructure Strategy is volunteering. Landscape works are ideal for volunteers to participate in, notably 'estate skills' footpath works, tree planting etc but also the soft infrastructure of organising events, recruiting volunteers and raising funds. ***The green infrastructure delivery partnership should consider how to develop the volunteering sector locally to meet the landscape needs of the green infrastructure strategy***.

CONCLUSIONS

This appendix has been written to show the close relationship between green infrastructure strategy and landscape. The Landscape Character Assessment is a tool to be used by Green Infrastructure partners to help inform all aspects of the Green Infrastructure Strategy. It can help by identifying those landscapes that are most sensitive and those that are not. Yet the discussion necessarily reaches beyond assessment towards future trends and detailed analysis. In the 10 sections above each has been looked at through the lens of a landscape led approach.

Overall, Stockton is well positioned in terms of its current landscape and how these landscapes can act in tandem with the Green Infrastructure Strategy. There is a notable strength in the diversity of landscapes including the new community woodlands created through The Tees Forest project, the Estuarine Marshland which is of regional significance and the importance of river corridors of which the River Tees is the most notable. It is reasonable to state that the Stockton landscape has improved immensely in 20 years although much remains to be achieved.

The weaknesses lie in respect of skills, training and employment; the challenges of creating new linear access that bridge the town and countryside; and the need to contain urbanisation of green corridors notably the River Tees between Stockton centre and Yarm. It should be debated as to whether there is a need for a charitable Landscape Trust in the Tees Valley to complement the work of other providers and the local authorities.

RECOMMENDATIONS

1. Assessments of the landscape impact of the green infrastructure strategy are undertaken every five years.

2. That a landscape audit of the finished green infrastructure strategy is undertaken.

3. Green infrastructure delivery group debate the recommendations and discussion points in this appendix