

Southern Expansion Land, Peterborough

WORKING PAPER 07: SUMMARY TECHNICAL ASSESSMENT

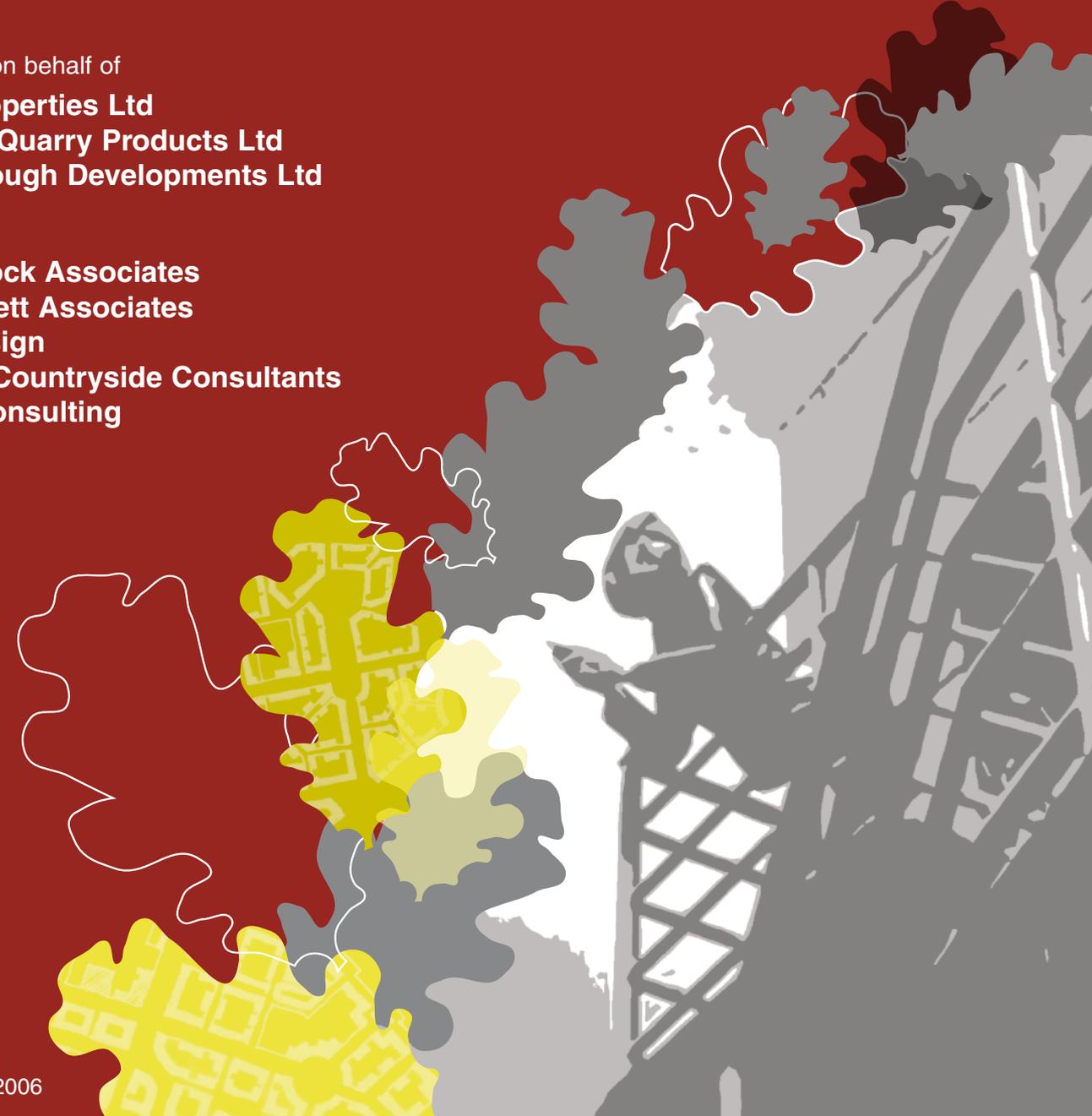
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JANUARY 2006



Working Paper 7: Summary Technical Assessment

Working Papers 1-6 in this series outline the issues relating to large scale growth for Peterborough as proposed in the government's Sustainable Communities Plan, and the way in which a Strategic Southern Expansion of Peterborough could help to meet this growth in a sustainable and economically-viable way.

This Working Paper summarises the Technical Assessment which was prepared at the request of Peterborough City Council in January 2006 to support an expression of interest for the Southern Expansion Land as the location for strategic expansion. The Technical Assessment examined the infrastructure capacities, environmental characteristics and transportation networks within and surrounding the Southern Expansion Land and analysed how these could influence future development in this location.

In the 12 months since the Technical Assessment was completed, a decision has been taken to revise the boundaries of the Southern Expansion Land to limit the development area to that north of the A15. Although it remains a long term aspiration of O&H to develop south of the A15 (as set out in the original working papers), the reluctance of Huntingdonshire District Council to entertain any strategic development in this location as part of its emerging LDF means that this land cannot be promoted as part of the current proposal, but will be retained as a long term development option.

This Summary Technical Assessment therefore addresses land north of the A15 only.

Environmental Factors

Flood Risk

The Southern Expansion Land is not at risk of flooding from tidal, coastal or groundwater sources¹. The Stanground Lode runs west to east through the central part of the site, generating a moderate risk from fluvial flooding, restricted to a narrow corridor along its length. Overall, the site is categorised by the Environment Agency as falling within Flood Zone 1 – little or no risk of flooding. Any mitigation required relating to flooding, such as Sustainable Urban Drainage (SUDs) can be incorporated within the overall design, as can the enhancement of the Stanground Lode as a green corridor.

Nature Conservation

Whilst the majority of the site is given over to intensively managed agricultural land (of limited ecological value), some ecologically valuable habitats are present on site, including blocks of woodland, ponds, running water, unimproved grassland, mature trees, scrub, hedgerows and ditches. Initial survey work² has identified those areas worthy of retention, and these have been incorporated into the emerging development concept plan. Mitigation measures to protect these habitats will be integral to any development, and there are other areas, such as along the length of the Stanground Lode corridor, where enhancement of existing habitats will create a higher quality and more varied habitat than exists at present. The scale of the development proposed is such that there are tremendous opportunities to retain and enhance the existing nature conservation assets of the site within the context of a development strategy.

Orton Pit SAC and the Green Grid

The location of the Southern Expansion Land offers additional benefits in terms of nature conservation and green infrastructure. The Orton Pit SAC (site of European Importance for Nature Conservation) lies to the north east of the proposed development site. Because of the nature of its ecological interest the SAC will not be publicly accessible, but development of the southern expansion land offers the opportunity to secure an appropriate western boundary/area of transition between development and the SAC (treatment of the northern and eastern boundaries of the SAC are already defined and managed as part of the Hampton development).

As part of the City Council's work on the Peterborough Green Grid, the Southern Expansion Land is already seen as a key driver for delivering elements of the green infrastructure planned. Although further work is required to refine the emerging strategy, the natural assets of the site, coupled with imaginative master planning, offer the opportunity to deliver the identified strategic green infrastructure needed in the south of the city, linking with existing and planned investment in green infrastructure within Hampton and the rest of the area.

¹ Peter Brett Associates (December 2005) Preliminary Flood Risk Review and Strategy

² Landscape Design Associates (January 2006) Ecological Report

Agricultural Land Classification

Due to a combination of soil wetness and heavy soil textures, it is understood that much of the agricultural land in the Southern Expansion area is of Grade 3b quality (moderate quality), whilst some small areas fall within Grade 3a (good quality)³. Whilst the exact proportions are not yet known, the site is likely to represent some of the lower quality agricultural land in this part of Cambridgeshire. As such, the quality of the agricultural land is not deemed to be a constraint to development.

Landscape Character and Visual Impact

The landscape of the Southern Expansion Land broadly reflects that of the wider area, although the presence of highways infrastructure and some development has a strong urbanising influence⁴. The site itself does not contain any specific landscape designations, Listed Buildings or Scheduled Ancient Monuments but does include a Regionally Important Geological Site north of London Road. However the RIGS designation at Orton Brickworks is not considered an in principle constraint to development (the Action Plan for the site merely relates to access arrangements and recording in the event that clay extraction recommences).

The emerging landscape strategy for the site seeks to retain and incorporate existing landscape features where practical, and to link and enhance those landscape features of significance to create a high quality environmental framework for the development. The site is visually contained and views of the site from surrounding roads and settlement are limited. The site has robust boundaries created by the existing highway network and the Orton Pit SAC to the north east. The landscape treatment of these boundaries will be carefully considered through the evolution of the proposals.

Archaeology

A desktop archaeological assessment⁵ has concluded that there is potential for the survival on site of evidence from the prehistoric, Iron Age, Roman and Anglo Saxon periods. However, the archaeological potential of the site is not considered to be of national importance and as such does not present an absolute constraint to development. Further archaeological assessment work is to be carried out as part of the evolution of the proposals.

Scheduled Ancient Monument

The remains of a Napoleonic Prisoner of War camp are located at Norman Cross, just outside the southern boundary of the Southern Expansion Land. The POW Camp is designated as a Scheduled Ancient Monument, and although lying outside the development area in Huntingdonshire District, initial discussions with the local authority suggest any development proposals in this location should respect the setting of the SAM. The use of landscape buffer zones, protection of key views and the preservation of the openness of the POW site are ways in which the emerging development concept for this part of the site seeks to minimise any indirect adverse impact of development.

Contamination and Ground Conditions

None of the land north of the A15 has been previously worked, and with the exception of the number of individual properties across the site, the site does not include any previously developed land. Thus, the contamination survey undertaken as part of the technical assessment work does not indicate any sources of ground contamination which would constrain development in this location, nor are there considered to be any abnormal ground conditions which would act as a constraint to development. Nonetheless, an Environmental Risk Assessment will be undertaken to comply with local policy.

Rights of Way

There are several Rights of Way crossing the site. These will be incorporated into the layout of development in their current location, or realigned as part of the creation of green corridors and connections within the site, linking where appropriate with the wider network.

Underlying Mineral Reserves / Aquifers

As detailed in Working Paper 6, there are two extant minerals consents on land within the development site. Neither of these consents is intended to be implemented for development due to land ownership and geological factors, and as such neither represents a constraint to the comprehensive development of the site.

³ Kernon Countryside Consultants (January 2006) *Agricultural Land Classification Report*

⁴ Landscape Design Associates (January 2006) *Landscape Appraisal*

⁵ CgMs Consulting (December 2005) *Archaeology Desk Based Assessment*

Primary Infrastructure Capacities

Water Supply and Discharge

Future development will be designed to accommodate existing on-site sewerage services, incorporating appropriate on-site facilities and connection to external sewerage networks. Any necessary improvements to existing services can be adequately met by the development and as a result, water supply and discharge are not constraints to development. However, in the interests of delivering sustainable development in practice, the potential for greywater recycling and reducing water consumption through sustainable design measures will be examined as part of the overarching sustainable design strategy for the development.

Surface Water Drainage

The Environment Agency has advised that similar principles in respect of surface water drainage to those agreed for Hampton could be adopted in the Southern Expansion Land. A sustainable strategy for surface water is proposed which delivers on site balancing and attenuation lakes as an integral part of the development, making best use of the existing lakes at Hampton and creating additional lakes on site.

Working within this overall strategy, there are a number of options for surface water drainage for different parts of the site which benefit the wider area. This could include draining the area between the A15 and the Stanground Lode directly into Beeby's Pit or Haddon Lake, and/or the possibility of transferring storm water from the Stanground Lode catchment to the adjacent system to the south and east which has a water deficit. The implementation of an appropriate surface water strategy will ensure the long term viability of the Southern Expansion Land.

Electricity

The Southern Expansion Land is served by high voltage electricity, both undergrounded and via overhead powerlines⁶. Undergrounded cables are located outside the site so do not require diversion to accommodate future development. Given the potential scale of future development, additional on-site sub-stations and reinforcements to offsite networks are inevitable, but will not impact upon the deliverability of the Southern Expansion Land.

As with the supply of other infrastructure, in the interests of delivering sustainable development in practice, the ability to reduce energy demands through energy efficient buildings and use of renewable technologies will be examined as part of an overarching sustainable design strategy for the development.

Gas

The existing gas main which runs through the development site will either be diverted in sections or accommodated within the design. Connection to a medium pressure gas main will adequately serve the future needs of the development⁷.

Oil Pipeline

An oil pipeline which traverses the site may need to be diverted to allow the development of the Southern Expansion Land.

Telecommunications

Records indicate that BT have some services on the Southern Expansion Land which are sufficient to supply the proposed development and can be simply accommodated within a final layout. Other telecommunications provision is evident along the existing road network and will not require diversion.

⁶ Peter Brett Associates (July 2005) Utilities Briefing Note

On-Site Sustainable Energy Production

An initial assessment of the potential for producing energy on-site⁷ has concluded that the Southern Expansion Land provides a valuable opportunity to incorporate sustainable energy as an integral part of development. The scale of development proposed means that biomass for local heating, geothermal, wind and solar energy are all thought to be potentially viable, which in addition to designing the layout of development and balance of land uses to reduce energy use, could contribute to the construction of a flagship sustainable energy development. Further feasibility studies are currently being undertaken to examine the potential for these sustainable energy options.

Transport and Movement

An outline transport strategy for the Southern Expansion Land has been produced⁸ and will be developed further as part of the emerging development concept. The strategy is based on the following principles:

Reducing the need to travel

The scale of future development will support a mix of uses that minimise the need to travel, as will the proximity of the site to existing and proposed employment developments. The balance between jobs and homes has been a key consideration in evolving the development concept.

Maximising non-car modes of travel

Larger development areas can maximise the use of non-car modes of travel more effectively by providing a better choice of non-car transport alternatives and integrating public transport into the pattern of development from the start. Strategic direct public transport corridors will be fully integrated with the wider network (linking with current proposals along London Road to the City Centre being delivered as part of the Hampton development), and will include bus priority systems and real-time information. Park and ride facilities to serve both the site and the wider area of South Peterborough are also being promoted as key elements of the transportation strategy.

Land use and transportation have been progressed jointly through the development concept: adopting highly permeable forms of development to encourage pedestrian and cycle movement in safe, direct and attractive environments; proposing an appropriate distribution of land uses within walking distance of the resident population; and developing strategic cycle networks which link to surrounding networks in the city as an integral part of development.

Making best use of existing and committed transportation infrastructure

The Southern Expansion Land is in a unique position in Peterborough. Investment in transportation infrastructure in the surrounding area, either related to the development of Hampton, or strategic improvements to the Parkway system with secured funding, will deliver the majority of the strategic infrastructure necessary to serve the scale of development proposed, removing the need for external funding or likelihood of delay in delivery due to infrastructure constraints. The emerging development concept therefore draws on the advantages of:

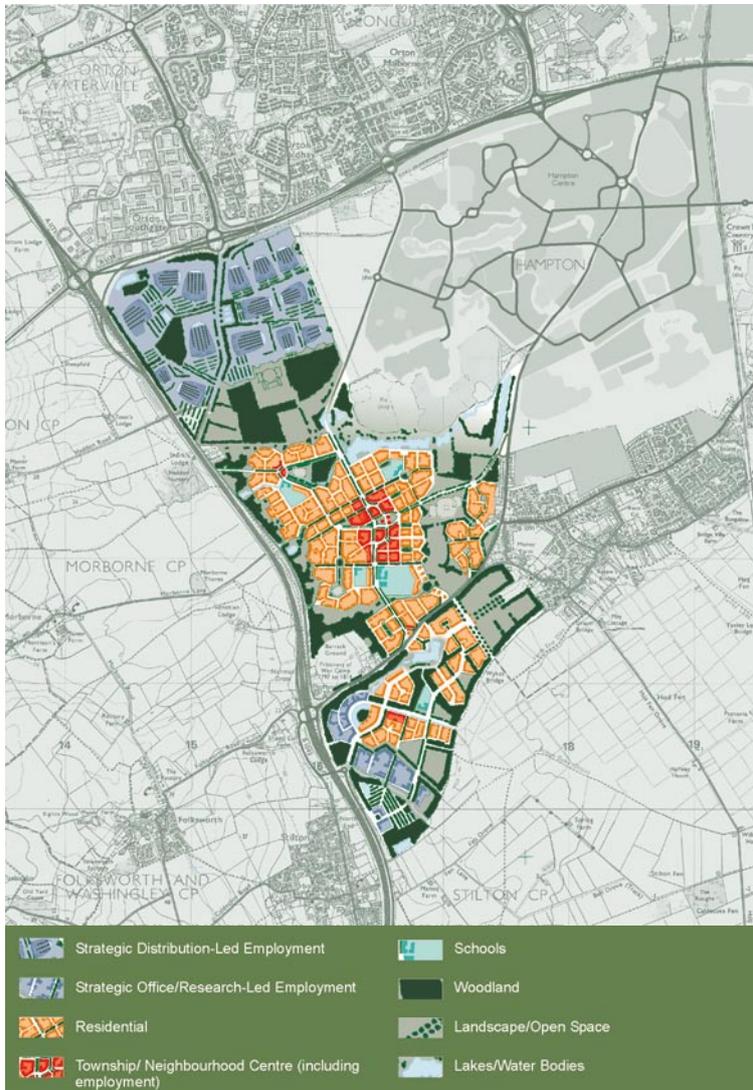
- Using the planned Hampton Western Peripheral Road (to be funded and constructed by O&H as part of the Hampton development) as the key access to and through the development;
- Using the former Great North Road (existing but underused highway) to provide access between the A15 and Junction 1 of the Parkway;

The initial transport assessment indicates that the impact of development in this location is unlikely to be different from any other strategic development location, and the amount of strategic advance infrastructure needed to unlock its potential is minimal. Assessment and design work undertaken to date concludes that the site is well positioned to effectively promote non-car modes of transport through a network of pedestrian and cycle routes, the integration of an effective public transport system and the considered distribution of uses.

⁷ Peter Brett Associates (December 2005) Sustainable Energy Briefing Note

⁸ Peter Brett Associates (January 2006) Transportation Assessment

Ongoing Development Concept Work

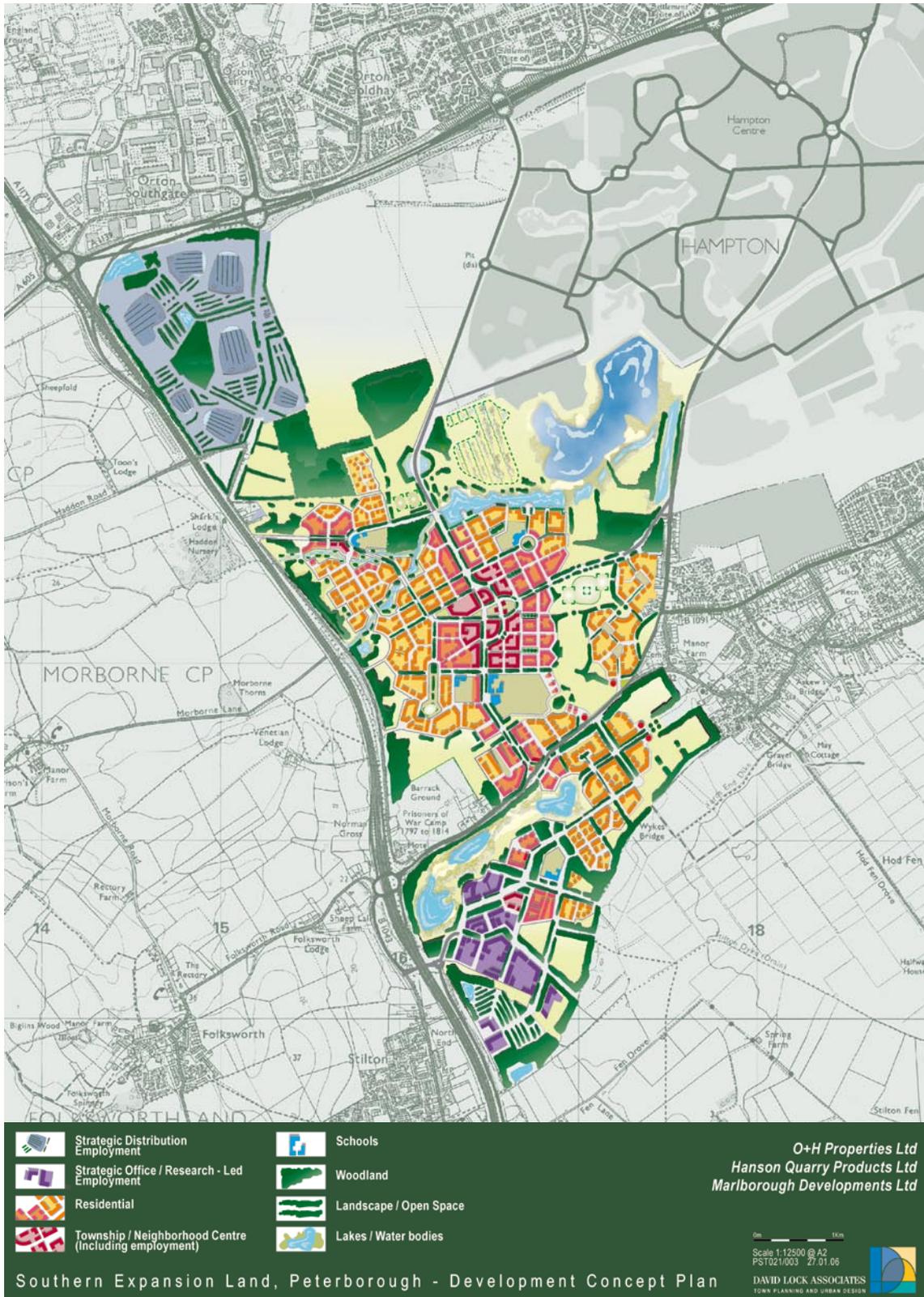


Development Concept Plan 2004

The development concept process has evolved as follows:

- Original development concept prepared in May 2004 (see Working Paper 4 and plan above);
- 2004 development concept used as basis for technical assessment work undertaken by consultant team during 2005;
- Conclusions of Technical Assessment suggested revisions to the 2004 development concept. Recommendations on ecology, landscape, the public transport strategy, the setting of the Scheduled Ancient Monument, and the treatment of the Stanground Lode Corridor all taken into account in the preparation of an updated development concept prepared in September 2006 (shown opposite);
- Additional change made to 2006 concept plan to remove an area of proposed employment land east of the access road to junction 1 of Fletton Parkway in response to a request from Hanson plc [note: this has since been resolved and the employment area reinstated].

Work will continue on the development concept, using the technical assessment as the basis for further design and survey work. The progression of RSS14 and the LDF for Huntingdonshire District, changes in land ownership, new development in the vicinity and further thoughts on the transportation strategy for the site will be key influences in the continuing evolution of the concept plan.



Development Concept Plan 2006 (updated following results of Technical Assessment).

Appendix 1: Technical Assessment Reports

1. Utility Services Briefing Note prepared by Peter Brett Associates (July 2005).
2. Sustainable Energy Briefing Note prepared by Peter Brett Associates (December 2005).
3. Preliminary Flood Risk Review and Strategy prepared by Peter Brett Associates (December 2005).
4. Ecological Report prepared by Landscape Design Associates (January 2006)
5. Agricultural Land Classification Report prepared by Kernon Countryside Consultants (January 2006)
6. Landscape Appraisal prepared by Landscape Design Associates (January 2006)
7. Archaeology Desk Based Assessment prepared by CgMs Consulting (December 2005)
8. Transportation Assessment prepared by Peter Brett Associates (January 2006).
9. Preliminary Geotechnical Scoping Study prepared by Peter Brett Associates (July 2005).
10. Extended Phase 1 Habitat Survey Report prepared by Landscape Design Associates (January 2006)