

GEOSPHERE ENVIRONMENTAL

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SITE: Marriott's Park, Taverham, Norfolk, NR8 6HL

DATE: 28 May 2019



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REVISION RECORD

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V4	28-05-19	Minor amendments as requested by Client	RF	CJ

Executive Summary

Report Description	<p>Geosphere Environmental Limited was commissioned by M Scott Properties Ltd to undertake a Habitat Regulations Assessment of the site Marriott's Park, Taverham, Norfolk, NR8 6HL.</p> <p>The report relates to a proposed development covering approximately 80 hectares (ha). Phase 1 of the development covers an area of approximately 14.5 hectares, located at National Grid reference TG 16592 15572. The proposals form a phased development of the 80 hectare site which includes the construction of 1400 dwellings, with Phase 1 comprising of 200 homes.</p>
Summary of Main Findings	<p>Potential impacts from the proposed development were identified to the International Sites: Broadland SPA and Ramsar, and The Broads SAC, River Wensum SAC, Norfolk Valley Fens SAC.</p> <p>The potential sources of impact were considered to be: Water Pollution, Hydrological impacts, and Recreational pressure. These impacts are not considered to provide a significant negative impact to the International Sites, when considering the development "alone", however, when considering the cumulative impacts of development in the region, the proposed development has potential to contribute to a significant impact when considered in-combination.</p>
Mitigation	<p>In order to reduce the potential impacts of water pollution and hydrological impacts, the water quality and existing flow regime of watercourses surrounding the site must be maintained during construction, and throughout the lifetime of the development. This can be achieved through construction site management and suitable drainage design.</p> <p>To reduce recreational pressure on International Sites, the proposed development should include high quality, informal, semi-natural areas, with links to the wider area. This will provide the new residents of the proposed development with access to semi-natural greenspace within the vicinity of their homes, to avoid the need to travel to the International Sites.</p>
Conclusions	<p>Considering the proposals and the mitigation measures, it is unlikely that there will be significant negative impacts to the International Sites.</p>

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1. INTRODUCTION

Geosphere Environmental Limited was commissioned by M Scott Properties Ltd, to undertake a Habitat Regulations Assessment of the Marriott's Park site, on Land between Fir Covert Road, and Reepham Road, Taverham, Norfolk, NR8 6HL. Any limitations and conditions pertaining to the report are stated within Appendix 1, with a full list of technical references provided within Appendix 2. The site is located at National Grid reference TG 16592 15572.

The report relates to a proposed development covering approximately 80 hectares (ha), however Phase 1 of the development covers an area of approximately 14.5 ha.

1.1 Aims

This report has been prepared to support the promotion of the site through the preparation of the emerging Local Plan and for Phase 1 of the development. The aims of this Habitat Regulation Assessment (HRA) is to determine the likely impacts of the proposed development on Internationally Protected Sites.

1.2 Current UK Legislation

The Habitats directive 1992 was adopted as a means of protecting habitats and species listed within the Directives Annexes. This led to the setup of Natura 2000, a network of protected areas across Europe with the aim to protect breeding and resting sites for threatened species in order to ensure the survival of Europe's vulnerable species. Natura sites consist of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

The Conservation of Habitats and Species Regulations 2017 transposes the Habitats directive into British Law, which state that a competent authority may agree to a plan or project only after having confirmed that it will not have significant effect on a European site (either alone or in combination with other plans or projects). The method of assessing the impact on European Sites is termed Habitat Regulations Assessment (HRA).

The National Planning Policy Framework (ref. **R.1**) states that Ramsar sites should be given the same protection as SPAs and SACs, and as such, have all been considered within this report. The term "International Sites" is used within this report to refer to SPAs, SACs and Ramsar sites.

2. TECHNICAL APPROACH

The Habitat Regulation Assessment (HRA) has been undertaken following general guidance provided by the European Commission Managing Natura 2000 Sites (ref. **R.1**), Guidance document on Article 6(4) of the Habitats Directive (ref. **R.2**) and Assessment of Plans and Projects Significantly Affecting Natura 2000 sites (ref. **R.3**).

Regulations 102 of the Conservation of Habitats and Species Regulations 2017 states that if a plan is likely to have a significant effect on an International Protected Site and is not directly connected with or necessary to the management of the site, then an appropriate assessment of the implications for the site in view of the conservation objectives of that site must be made, before the plan can be approved.

An HRA determines whether there are any 'likely significant effects' on any International Sites as a result of the proposed development or plan (either on its own or in combination with other proposed plans) and if these effects will result in any adverse effects on the International site's integrity (ref. **R.4**).

The HRA process used in this report has been based upon the European Commission guidance and is outlined below:

Stage 1 – Screening: The identification of any impacts that the development proposals will have on International Protected Sites, and to consider if these impacts will be significant. Assessment will also take into account cumulative impacts of other development projects in the area.

Stage 2 – Appropriate Assessment: Where adverse impacts are identified, mitigation options are investigated and any adverse impacts assessed. If the mitigation options cannot avoid any adverse effects, then development consent cannot be granted until **Stages 3** and **4** are followed.

Stage 3 – Assessment of Alternative Solutions: If mitigation is not possible, alternative options which will achieve the objects of the project whilst lessening adverse effects on International Protected Sites will be explored.

Stage 4 – Imperative Reasons of Overriding Public Interest (IROPI): Where no alternative options exist, the development will be assessed to determine if it is necessary for IROPI and the potential compensatory measures needed to maintain the overall coherence of the site or the integrity of the International site network.

Although this four-stage process is recommended for an HRA, not all stages are always required.

3. DEVELOPMENT AND SOURCES OF IMPACT

3.1 Proposed and Existing Development

The proposed development site is situated on Land between Fir Covert Road and Reepham Road, Taverham, Norfolk, NR8 6HL. The proposals form a phased development of the 80 hectare site which includes the construction of 1400 dwellings. The development boundary is shown on the Preliminary Strategic Sketch, in Appendix 3. Phase 1 of the proposed development of 200 dwellings, is shown on the Brown & Co Drawing, new development off Fir covert Road, in Appendix 3.

Other developments within the region are detailed within the Joint Core Strategy for Broadland Norwich and South Norfolk (ref. **R.5**). It is proposed to build 37,000 new homes between 2014 and 2026, which equates to 3084 homes per year. Within the Broadland Local Authority, there are currently 54,885 dwellings, and a population of 124,646 residents (ref. **R.6**).

It is understood that the emerging Greater Norwich Local Plan requires a further 7,200 homes created by 2036.

3.2 Identification of Potential Sources of Impact

The first stage in the screening assessment is to identify sources of potential impact to International Sites. As each International Site has been designated to protect differing habitats, each site is sensitive to different impacts. A review of the protected sites within 25km of the site has been undertaken to determine potential sources of impact, identified within Natural England's Site improvement plans (ref. **R.7**), as shown in Table 1 overleaf. The locations of these sites can be found on Natural England's Magic mapping website (ref. **R.8**). A plan showing the location of the International Sites is included in Appendix 4.

Table 1 – International Sites within 25km of the Site Boundary			
Site	Distance from site	Description	Site sensitivity
Broadland SPA and Ramsar, and The Broads SAC	8.7km East	Broadland SPA and Ramsar is a low-lying wetland complex, important for wintering and breeding raptors and waterbirds. Overlapping much of the same area as the Broadland SPA, The Broads SAC contain a diverse mix of species including important fen, and aquatic plant communities, floating forest and wet woodland, and rare scrub. Supporting rare snail species and internationally important Otter populations.	<ul style="list-style-type: none"> Water Pollution. Public Access/Disturbance. Invasive species. Hydrological Impacts (water level change, abstraction etc.). Land management (inc. grazing and scrub control). Air pollution. Military and police aircraft disturbance.
Paston Great Barn SAC	24km North-east	The Barn is a 16th century thatched barn with the only maternity roost of barbastelles (<i>Barbastella barbastellus</i>) in the east of England.	<ul style="list-style-type: none"> Destruction of bat roost due to poor site management (including fire, lack of maintenance etc.). Loss in surrounding habitat quality (including vegetation management and increase in predators). Public Access/Disturbance.
River Wensum SAC	1.2km South-west	The River Wensum is a chalk-fed river which supports Stream water-crowfoot (<i>Ranunculus</i> spp.) and white-clawed crayfish (<i>Austropotamobius pallipes</i>) populations.	<ul style="list-style-type: none"> Hydrological impacts (water level change, abstraction etc.). Water Pollution. Invasive species.
Norfolk Valley Fens SAC	5km North	Norfolk Valley Fens contain lowland spring-fed Alkaline fens. The fens support wetland habitats and rare plant communities and two rare species of snail, the narrow-mouthed whorl snail and Desmoulin's whorl snail.	<ul style="list-style-type: none"> Hydrological Impacts (water level change, abstraction etc.). Land management (inc. grazing and scrub control etc.). Water Pollution. Invasive species. Air pollution.

The site sensitivities identified within Table 1 above, have been compared to the potential sources of impact of the proposed development. Table 2, overleaf, shows where potential sources of impact have been identified. If a potential source of impact has been identified, a zone of influence for the potential impact has also been identified.

Table 2 - Identification of Impact Zones

Potential Impact	Potential source of impact from development	Zone of influence
Water Pollution.	<ul style="list-style-type: none"> • Increase in surface water run-off. • Potential water discharge to watercourses. 	Water catchment area.
Public Access/Disturbance.	increase in residents, causing an increase in visitors to International Sites.	Up to 20km *
Invasive species.	No impact from development.	N/A
Hydrological Impacts (water level change, abstraction etc.).	<ul style="list-style-type: none"> • Construction of flood defences. • Increase in residents leading to increase in water consumption/ abstraction. • Increase in surface water runoff. 	Water catchment area.
Land management (inc. grazing and scrub control).	No impact from development.	N/A
Air pollution.	Potential increase in vehicle numbers leading to an increase in air pollution.	200m from roadside **
Military and police aircraft disturbance.	No impact from development.	N/A
Destruction of bat roost due to poor management of International Site (including fire, lack of maintenance etc.).	No impact from development.	N/A
Loss in habitat quality surrounding International Site (including vegetation management and increase in predators).	No impact from development.	N/A
Disturbance through construction activities.	<ul style="list-style-type: none"> • Destruction or damage to habitats within International Sites (e.g. through direct damage, dust, pollution). • Disturbance to species using International sites (e.g. from noise vibration etc.). 	Potential disturbance up to 500m from site boundary.

* Based upon studies relating to public access to International sites in Essex and Suffolk (ref. **R.9**).

** Based upon Natural England Guidance (ref. **R.10**).

In summary, the following are considered potential sources of impacts to International Sites: Water pollution, Public Access/Disturbance, Hydrological Impacts, Air pollution, and Disturbance through construction activities. These potential impacts are considered further in Table 3 below, which shows which International Sites are sensitive to the potential impacts, and are located within the zone of influence:

Table 3 – International Site within Zone of Influence (ZOI)					
Potential Source	Impact	Potential receptor			
		Broadland SPA and Ramsar, and The Broads SAC (8.7km East)	Paston Great Barn SAC (24km North-east)	River Wensum SAC (1.2km South-west)	Norfolk Valley Fens SAC (5km North)
Water Pollution (Water catchment area).		Yes- Within Broadland River catchment and listed as site sensitivity.	No - Not a site sensitivity.	Yes- Within river Wensum catchment and listed as site sensitivity.	Yes- Within Broadland River catchment and listed as site sensitivity.
Public Access/Disturbance (up to 20km).		Yes- Within ZOI and listed as site sensitivity.	No - Not within ZOI.	No - Not a site sensitivity.	No - Not a site sensitivity.
Hydrological Impacts (Water catchment area).		Yes- Within Broadland River catchment and listed as site sensitivity.	No - Not a site sensitivity.	Yes- Within river Wensum catchment and listed as site sensitivity.	Yes- Within Broadland River catchment and listed as site sensitivity.
Air pollution (200m).		No - Not within ZOI.	No - Not a site sensitivity.	No - Not within ZOI.	No - Not within ZOI.
Disturbance through construction activities (500m).		No - Not within ZOI.	No - Not within ZOI.	No - Not within ZOI.	No - Not within ZOI.

Paston Great Barn SAC was not considered to have potential impact from the proposed development. The potential impacts to Broadland SPA and Ramsar, and The Broads SAC, River Wensum SAC, and Norfolk Valley Fens SAC, will be considered further to determine if there is a likely significant impact of the proposed development.

4. ASSESSMENT OF INTERNATIONAL SITES

The proposed development site provides a potential source of impact to three International Sites: River Wensum SAC, and Norfolk Valley Fens SAC, and the Broadland SPA and Ramsar, and The Broads SAC (the Broadland The Broads are considered together).

Each of these sites is considered sensitive to Water pollution and Hydrological impacts, and the Broadland SPA and Ramsar, and The Broads SAC are also considered sensitive to recreational disturbance.

4.1 International Site Description

In order to assess the significance of the impacts, the qualifying features of the protected sites are described in Table 4 below. The information for the SPA and SAC has been taken from Natural England's Designated Sites view (ref. **R.11**) and information on Ramsar has been taken from the JNCC (ref. **R.12**):

Table 4 – International Sites Qualifying Features	
Site name and Designation	Designated features
Broadland SPA	<p>Non-breeding populations of:</p> <ul style="list-style-type: none"> • Bewick's swan (<i>Cygnus columbianus bewickii</i>). • Gadwall (<i>Anas Strepera</i>). • Marsh Harrier (<i>Circus aeruginosus</i>). • Ruff (<i>Philomachus pugnax</i>). • Shoveler (<i>Anas clypeata</i>). • Whooper swan (<i>Cygnus Cygnus</i>). • Wigeon (<i>Anas Penelope</i>). <p>Breeding populations of:</p> <ul style="list-style-type: none"> • Bittern (<i>Botaurus stellaris</i>). • Hen harrier (<i>Circus cyaneus</i>).
Broadland Ramsar	<p>Includes the following Annex 1 habitat features:</p> <ul style="list-style-type: none"> • Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>. • Calcium-rich fen dominated by great fen sedge (saw sedge). • Alkaline fens – Calcium-rich springwater-fed fens. • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) – Alder woodland on floodplains. <p>and the following Annex 2 species:</p> <ul style="list-style-type: none"> • Desmoulin`s whorl snail (<i>Vertigo moulinsiana</i>). • Otter (<i>Lutra lutra</i>). • Fen orchid (<i>Liparis loeselii</i>). <p>Internationally important wintering Populations of:</p> <ul style="list-style-type: none"> • Tundra swan (<i>Cygnus columbianus bewickii</i>). • Eurasian wigeon (<i>Anas Penelope</i>).

	<ul style="list-style-type: none"> • Gadwall (<i>Anas strepera Strepera</i>). • Northern shoveler (<i>Anas clypeata</i>).
The Broads SAC	<p>Annex 1 habitats that are qualifying features:</p> <ul style="list-style-type: none"> • Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. • Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation. • Molinia meadows on calcareous, peat or clay-silt soil. • Transition mires and quaking bogs. • Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i>. • Alkaline fens. • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> <p>Annex 2 species that are qualifying features:</p> <ul style="list-style-type: none"> • Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). • Otter, (<i>Lutra lutra</i>). • Fen orchid, (<i>Liparis loeselii</i>). • Little ram's-horn whirlpool snail, (<i>Anisus vorticulus</i>).
River Wensum SAC	<p>Annex 1 habitats that are qualifying features:</p> <ul style="list-style-type: none"> • Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and Callitricho-Batrachion vegetation. <p>Annex 2 species that are qualifying features:</p> <ul style="list-style-type: none"> • Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>). • Freshwater crayfish (<i>Austropotamobius pallipes</i>). • Brook lamprey (<i>Lampetra planeri</i>). • Bullhead, (<i>Cottus gobio</i>).
Norfolk Valley Fens SAC	<p>Annex 1 habitats that are qualifying features:</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with <i>Erica tetralix</i>. • European dry heaths. • Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites). • Molinia meadows on calcareous, peat or clay-silt soil. • Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i>. • Alkaline fens. • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>. <p>Annex 2 species that are qualifying features:</p> <ul style="list-style-type: none"> • Narrow-mouthed whorl snail (<i>Vertigo angustior</i>). • Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>).

4.2 Conservation Objectives

The conservation objectives of the SPAs and SACs have been detailed in Natural England publications for Broadland SPA, The Broads SAC, River Wensum SAC, and Norfolk Valley Fens SAC (ref. **R.13**).

In summary, the conservation objectives of the SPAs and SACs are to ensure that the integrity of the site is maintained or restored as appropriate, and to ensure that the site contributes to achieving the aims of the Wild Birds Directive, and to achieving the Favorable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying species/ features.
- The structure and function of the habitats of the qualifying species/ features.
- The supporting processes on which the habitats of the qualifying species/ features rely.
- The population of each of the qualifying species/ features.
- The distribution of the qualifying species/ features within the site.

4.3 Site Assessment Summary

The International Sites contain wetland habitats and waterbodies, which support notable species and assemblages of mammals, birds, invertebrates and plants.

The International Sites are considered sensitive to water pollution, hydrological impacts, and recreational disturbance. The impact of an "in-combination effect" of other developments in the region will be considered.

5. IMPACT ASSESSMENT

5.1 Water Pollution

The site is situated within the Wensum river catchment which flows into the river Yare. The River Wensum SAC has the potential to be affected by the proposed development. The River Yare flows through an area of Broadland SPA and Ramsar, and The Broads SAC, providing a potential pathway for water pollution to these International Sites.

The Norfolk valley Fens SAC is formed of small parcels of land scattered throughout Norfolk. Each of these parcels are located upstream from the proposed development, as such there is no pathway to the International Site.

During the construction process there is a risk that the proposed development has the potential to create a localised increase in siltation to local watercourses, increase levels of surface water runoff, and potential for a pollution incident, such as an oil-spill.

During the life of the development, potential sources of pollution are: an increase in surface water runoff into a nearby watercourse, potential increase in grey water drainage volume, increase in effluent volumes, misconnected effluent outflow into a watercourse.

The magnitude of these impacts has not been fully assessed, however considering the scale of the proposed development it is considered unlikely that the impacts outlined above, provide a risk of causing a significant negative effect on the River Wensum SAC, Broadland SPA and Ramsar, and The Broads SAC.

When considered in-combination with the development in the region, the cumulative impacts of development in the region raises risk that water pollution will raise to levels high enough to provide a significant effect to River Wensum SAC, Broadland SPA and Ramsar, and The Broads SAC.

Mitigation should be put in place to reduce the cumulative impact on the development, such that the adverse effects area avoided. If measures are put in place to reduce the cumulative impact, it will also further reduce the risk of the site causing a significant negative effect when considered alone. Recommended mitigation measures are recommended in section 6 below.

5.2 Hydrological Impact

As described in section 5.1 above, the site is situated in the Wensum river catchment, potentially impacting the hydrology of the River Wensum SAC, Broadland SPA and Ramsar, and The Broads SAC. Although located upstream from site, the Norfolk Valley Fens SAC could be affected if the hydrology of the River Yare is altered because of the proposed development.

The proposed development could impact the Hydrology of the International Sites during construction, through alterations to the flow regimes of watercourses near the site, e.g, by changing surface water

runoff and infiltration rates, and water storage onsite. The proposed development is not considered to provide a significant change to the flow rates of the River Wensum and Yare, and therefore the River Wensum SAC, Broadland SPA and Ramsar, and The Broads SAC are unlikely to suffer significant effects.

When considered in-combination with development in the region, the cumulative impacts of development in the region raises risk that the hydrology of the River Wensum and Yare are modified to an extent that could be considered significant, and therefore there is a potential significant effect to River Wensum SAC, Broadland SPA and Ramsar, The Broads SAC, and Norfolk Valley Fens SAC.

Mitigation measures should be put in place onsite to mitigate the impacts of cumulative impact of the propose development on International Sites, as detailed in section 6 below.

5.3 Recreational Pressure

Broadland SPA and Ramsar, and The Broads SAC, area sensitive to recreational disturbance. The proposed development will provide new homes within the region, which has the potential to raise the population in the local area. The new residents could contribute to an increase in visitor numbers at the International Sites.

The Natural England Site improvement Plan for Broadland SPA and Ramsar, and The Broads SAC (ref. **R.7**). states: "Recreational impacts on SAC habitats and disturbance to wintering waterfowl in particular, is an issue on a number of Broads' sites. This is largely a result of boat-based use of the water bodies."

The proposed development of 200 dwellings is not likely to cause a significant increase in visitor numbers, and as such is not considered to have a likely significant effect when considered alone. The entire phased development of 1400 homes, has the potential to provide a significant increase in visitors to International Sites, and as such has potential to cause a likely significant effect. The cumulative impacts of the proposed development when considered in-combination with other development in the region are considered to provide likely significant effects.

Mitigation measures should be put in place onsite to mitigate the impacts of cumulative impact of the propose development on International Sites, as detailed in section 6 below.

6. MITIGATION

6.1 Water pollution and Hydrology

In order to reduce the potential impacts of water pollution and hydrological impacts, the water quality and existing flow regime of watercourses surrounding the site must be maintained during construction, and throughout the lifetime of the development.

During construction:

The site must be managed following best practice following pollution prevention guidelines (ref. **R.14**). A construction environmental management plan should be produced to detail methods to reduce the likelihood and impact of any water pollution and flow rates of watercourses, including surface water management and capture, and methods to restrict spills and contaminated runoff. The aim of the environmental management plan should be to maintain the water quality and flow rate of surrounding watercourses.

Throughout the life of the development:

- Surface water should be managed onsite using Sustainable Urban Drainage (SUDS) to ensure that as much surface water is retained and treated onsite, rather than discharging to local watercourses. This will reduce impacts to water quality and flow rate of local water courses.
- Foul water drainage should be designed such that there is no potential for outflow into existing watercourses, avoiding impact to the water quality of the watercourses.

With these mitigation measures in place, the proposed development is not likely to provide a significant negative impact.

6.2 Recreational pressure

In order to reduce the visitor numbers to the internationally protected sites, onsite mitigation measures should be put in place, in line with Natural England recommendations (ref. **R.15**). The aim of the mitigation is to provide the new residents of the proposed development with access to semi-natural greenspace within the vicinity of their homes, to avoid the need to travel to the International Sites, because there is no alternative.

Within the current proposals, for onsite mitigation it should be possible to include:

- High Quality, informal, semi-natural areas;
- Circular dog walking routes of 2.7 km and with links to surrounding public rights of way;
- Dedicated "dogs-off-lead" areas;
- Signage/leaflets to householders to promote these areas for recreation;
- Dog Waste bins.

Phase 1 of the proposed development, includes the creation of a foot path between the development boundary to Breck Farm lane. The proposed footpath location is shown on the Public Access and Links to the wider area plan as shown on Drawing ref. 3709,EC/004/Rev 1, in Appendix 3. This joins to existing footpaths, which provide circular routes of more than 2km. The footpath will also link to Marriott's Way, a long-distance cycleway and footpath, covering a distance of 40km.

Within the phased development, additional footpaths and green links will be provided within the development. These are shown on the Public Access and Links to the wider area plan as shown on Drawing ref. 3709,EC/004/Rev 1. A footpath to the east of the development area is understood to have planning permission, shown on the Public Access and Links to the wider area plan.

For longer distance footpaths within the surrounding area, a desk-based assessment of public access routes has identified two potential walking routes of up to 7km, as shown on Public rights of way beyond the site boundary plan, Drawing ref. 3709,EC/006/Rev 0 in Appendix 3.

The availability of these walking routes and local green space should be advertised to the new residents of the development, through the provision of signage within the proposed development.

The impact of boats on the Broadland SPA and Ramsar, and The Broads SAC is beyond the control of this proposed development. Natural England Site improvement Plan (ref. **R.7**) has identified the need for further research this issue, citing The Broads Authority as the lead delivery Body.

With these mitigation measures put in place, the residents of the proposed development will have access to semi-natural greenspace within the vicinity of their homes as such, the impact of recreational pressure caused by the proposed development, are not likely to cause significant negative impacts to the International Sites.

7. CONCLUSIONS

The proposed development has the potential to contribute to a significant impact when considered in-combination with other developments. Appropriate mitigation should be put in place to reduce the potential impact of the proposed development.

Considering the proposals and the mitigation measures, it is unlikely that there will be significant negative impacts to the International Sites.

APPENDICES

Appendix 1 – Report Limitations and Conditions

General Limitations and Exceptions

This report was prepared solely for our Client for the stated purposes only and is not intended to be relied on by any other party or for any other use. No extended duty of care to any third party is implied or offered.

Geosphere Environmental Ltd does not purport to provide specialist legal advice.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

Interpretations and recommendations contained in the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based upon current legislation in force at that time.

Ecology Limitations and Exceptions

Any limitations associated with the report will be stated. The consequences of any limitations, findings and/or recommendations in the report are made clear in line with CIEEM (2013) 'Guidelines for Preliminary Ecological Appraisal' (GPEA) and BSI (2013) BS 42020:2013 Biodiversity – 'Code of practice for planning and development'.

This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context.

New information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment.

Geosphere Environmental Ltd may not be aware of information that could be held by other organisations or individuals, and it is always possible for features of nature conservation interest to be unrecorded during surveys.

Scientific survey data will be shared with local biological records centre in accordance with the CIEEM professional code of conduct.

Appendix 2 – References

- R.1.** Ministry of Housing, Communities and Local Government (MHCLG) (July 2018) National Planning Policy Framework (NPPF).
- R.2.** European Commission, (2012). Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC.
- R.3.** European Commission, (2001). Clarification of the Concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission. Assessment of Plans and Projects Significantly Affecting Natura 2000 sites.
- R.4.** European Commission, (2002). Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Commission, Brussels.
- R.5.** Greater Norwich Development Partnership (2014) Joint Core Strategy for Broadland Norwich and South Norfolk, Adopted March 2011, amendments adopted January 2014.
- R.6.** Office for National Statistics (2011). Official Labour Market Statistics: Broadland Local Authority, Local Area Report, (Accessed online 07-05-19) website: <https://www.nomisweb.co.uk/reports/localarea?compare=E07000144>
- R.7.** Natural England (2019) Site Improvement Plans: East of England (accessed online 10-05-19) website: <http://publications.naturalengland.org.uk/category/4873023563759616>
- R.8.** Natural England (2019) Magic (Accessed online 13-05-19) website: <https://magic.defra.gov.uk/>
- R.9.** Natural England (2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) (accessed online 10-05-19) website: <http://publications.naturalengland.org.uk/publication/4720542048845824>
- R.10.** Place services, Essex County Council (2018) Essex Coast Recreational Disturbance Avoidance & Mitigation Strategy (RAMS) Habitats regulations Assessment Strategy document 2018–2038.
- R.11.** Natural England (2019) Designated Sites View (accessed 13-05-19) website: <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx>
- R.12.** Joint Nature Conservation Committee (2017) Designated and Proposed Ramsar sites in the UK and Overseas Territories & Crown Dependencies (dated 4 August 2017, accessed 13-05-19) website: <http://jncc.defra.gov.uk/page-1389>
- R.13.** Natural England (2014) Conservation objectives for European Sites: East of England (accessed online 13-05-19) website: <http://publications.naturalengland.org.uk/category/6581547796791296>
- R.14.** Department for Environment, Food & Rural Affairs and Environment Agency (2019) Guidance- Pollution prevention for businesses- How businesses and organisations can avoid causing pollution from oil and chemical storage, car washing, construction and other activities. (accessed online 13-05-19) website: <https://www.gov.uk/guidance/pollution-prevention-for-businesses#construction-inspection-and-maintenance>
- R.15.** Halcrow Group Limited (2008). Three Rivers District Council, Core Strategy Issues and Options Paper, Study to Inform Appropriate Assessment, (Screening Report), February 2008, Appendix 4 Natural England SANGS Guidance. (Accessed online 03-12-18) website: <https://www.threerivers.gov.uk/download?id=23189>.

Appendix 3 – Drawings

Preliminary Strategic Sketch at Marriott's Park Rev D – Brown & Co

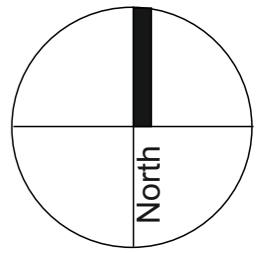
New Development off Fir covert Road Rev F – Brown & Co

Public Access and Links to the wider area – Drawing ref. 3709,EC/004/Rev 1

Public rights of way beyond the site boundary – Drawing ref. 3709,EC/006/Rev 0

CONCEPT OBJECTIVES

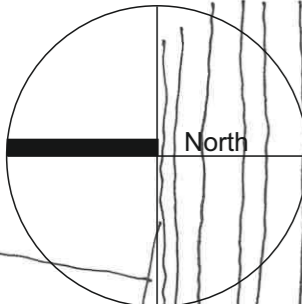
- CREATE A SERIES OF DISTINCT NEW NEIGHBOURHOODS WITHIN A HIGH QUALITY LANDSCAPE LED SETTING
- RETAIN AND ENHANCE EXISTING MATURE LANDSCAPE FEATURES
- CREATE A SENSE OF PLACE AT THE CENTRE OF THE NEW COMMUNITY
- CREATE LINKS AND PERMEABILITY TO THE EXISTING COMMUNITY AND FACILITIES
- ENHANCE MARRIOTT'S WAY WHERE IT PASSES THROUGH THE SITE



SMALL AMOUNT OF DEVELOPMENT TO GIVE FRONTAGE ONTO FIR COVERT ROAD

MARRIOTT'S WAY LANDSCAPE SETTING IMPROVED AND ENHANCED

Preliminary Strategic Sketch - 1:5000 @ A3



North south connecting path along edge of existing tree belt

New planting belt

Existing planting belt retained and enhanced

Existing planting belt retained and enhanced

Existing planting belt retained and enhanced

North south connecting path along edge of existing tree belt

5 acre extension to existing playing fields

Potential new pathway link to Taverham

New planting belt to NDR

Park

Park

Park

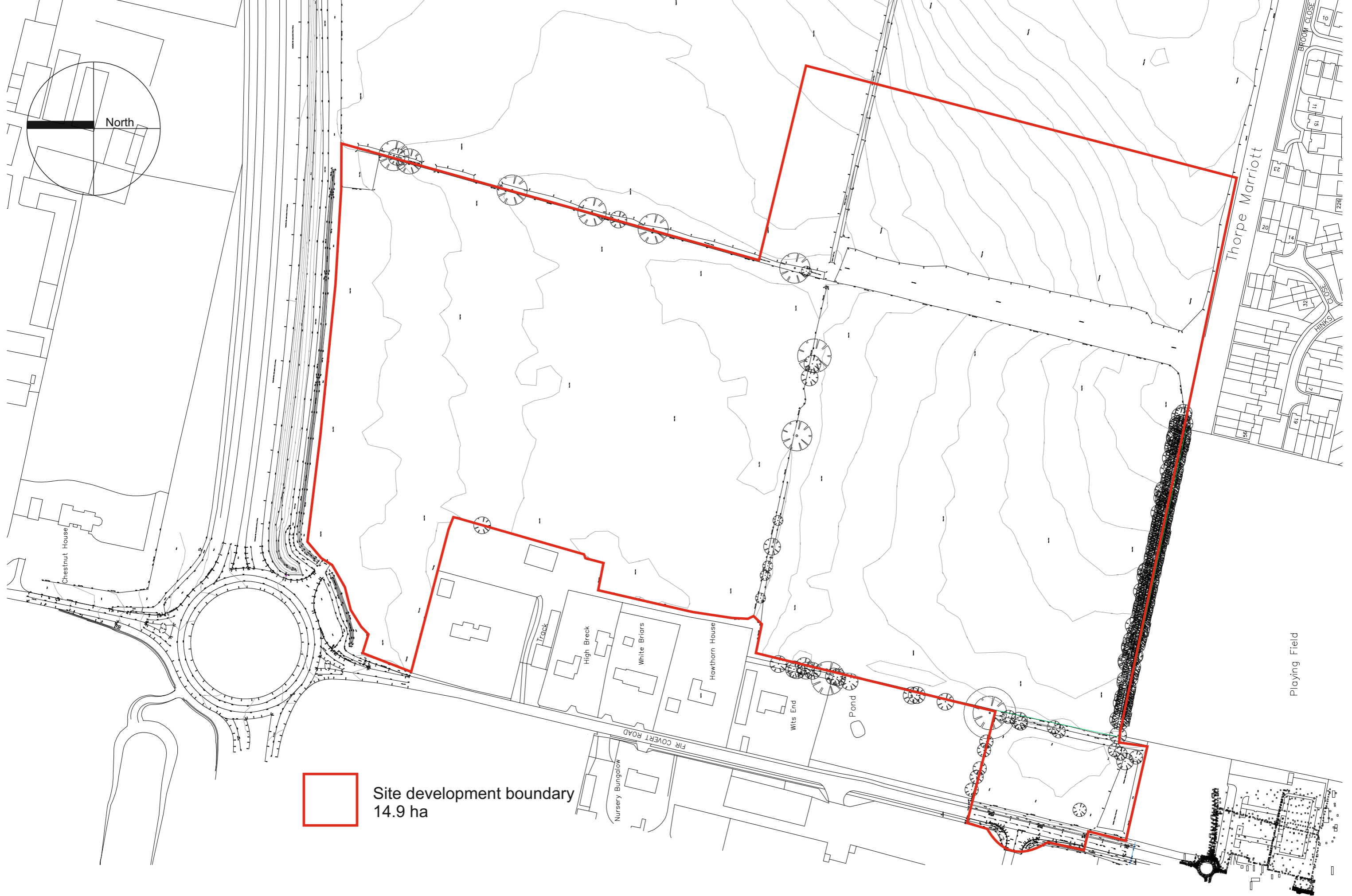
New pedestrian cycleway connection to roundabout on NDR


Existing planting belt retained and enhanced

Existing planting belt retained and enhanced

Village green

New access roundabout



 Site development boundary
14.9 ha

Red Line plan - 1:2000 @ A3

New Development off Fir Covert Road, Taverham , for M Scott Properties Ltd

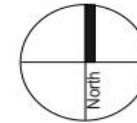
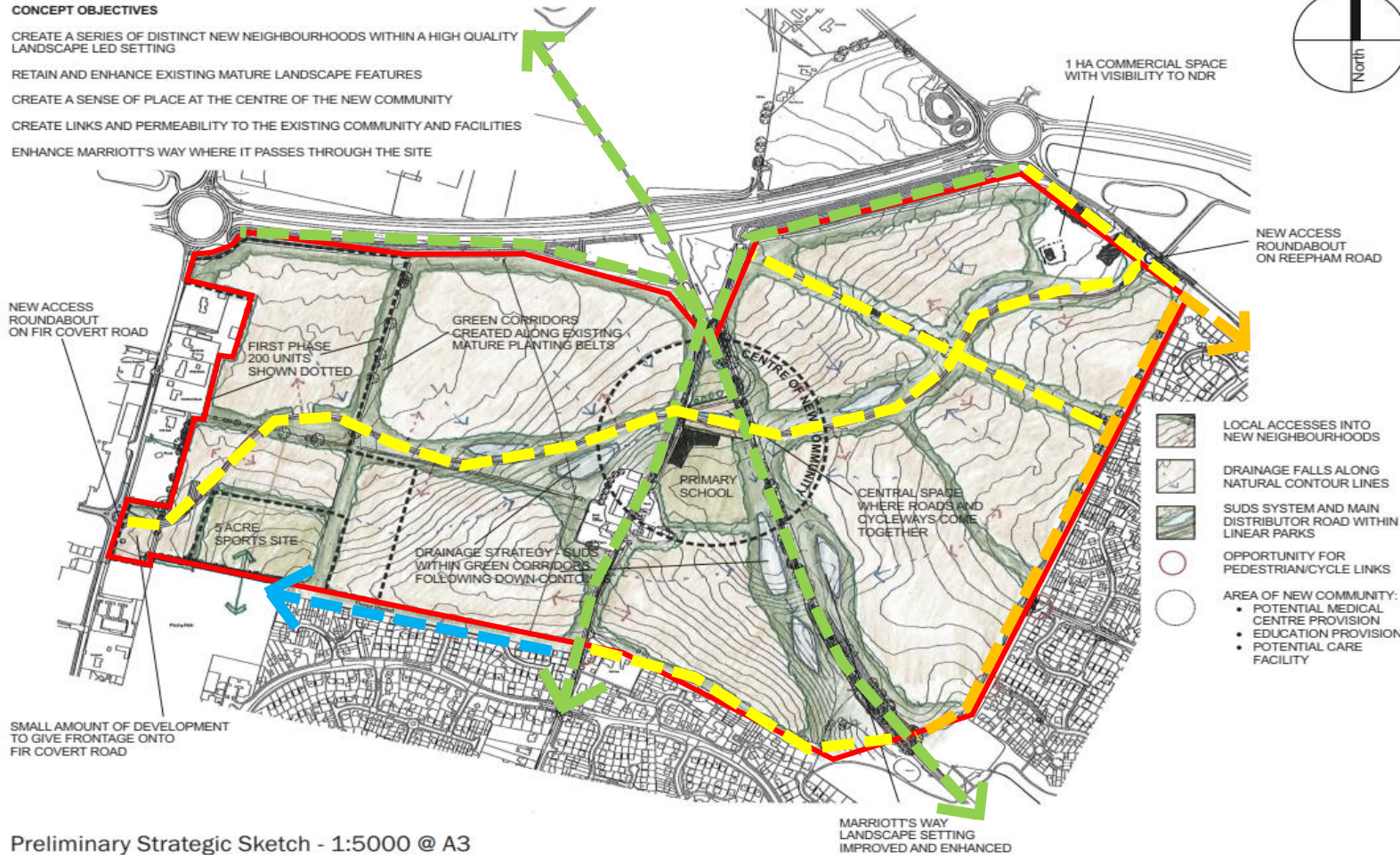


LEGEND

- Site boundary
- - - Proposed footpath location
- - - Existing footpath links
- - - Footpath with planning approval
- - - Potential footpath links within the phased development

CONCEPT OBJECTIVES

- CREATE A SERIES OF DISTINCT NEW NEIGHBOURHOODS WITHIN A HIGH QUALITY LANDSCAPE LED SETTING
- RETAIN AND ENHANCE EXISTING MATURE LANDSCAPE FEATURES
- CREATE A SENSE OF PLACE AT THE CENTRE OF THE NEW COMMUNITY
- CREATE LINKS AND PERMEABILITY TO THE EXISTING COMMUNITY AND FACILITIES
- ENHANCE MARRIOTT'S WAY WHERE IT PASSES THROUGH THE SITE



Preliminary Strategic Sketch - 1:5000 @ A3

PROJECT

Marriott's Park, Taverham, Norfolk, NR8 6HL

TITLE

Public Access and Links to the wider area

DRAWING NUMBER

3709,EC/004/Rev1

SCALE

Not to scale

DATE

13/05/2019

DRAWN BY

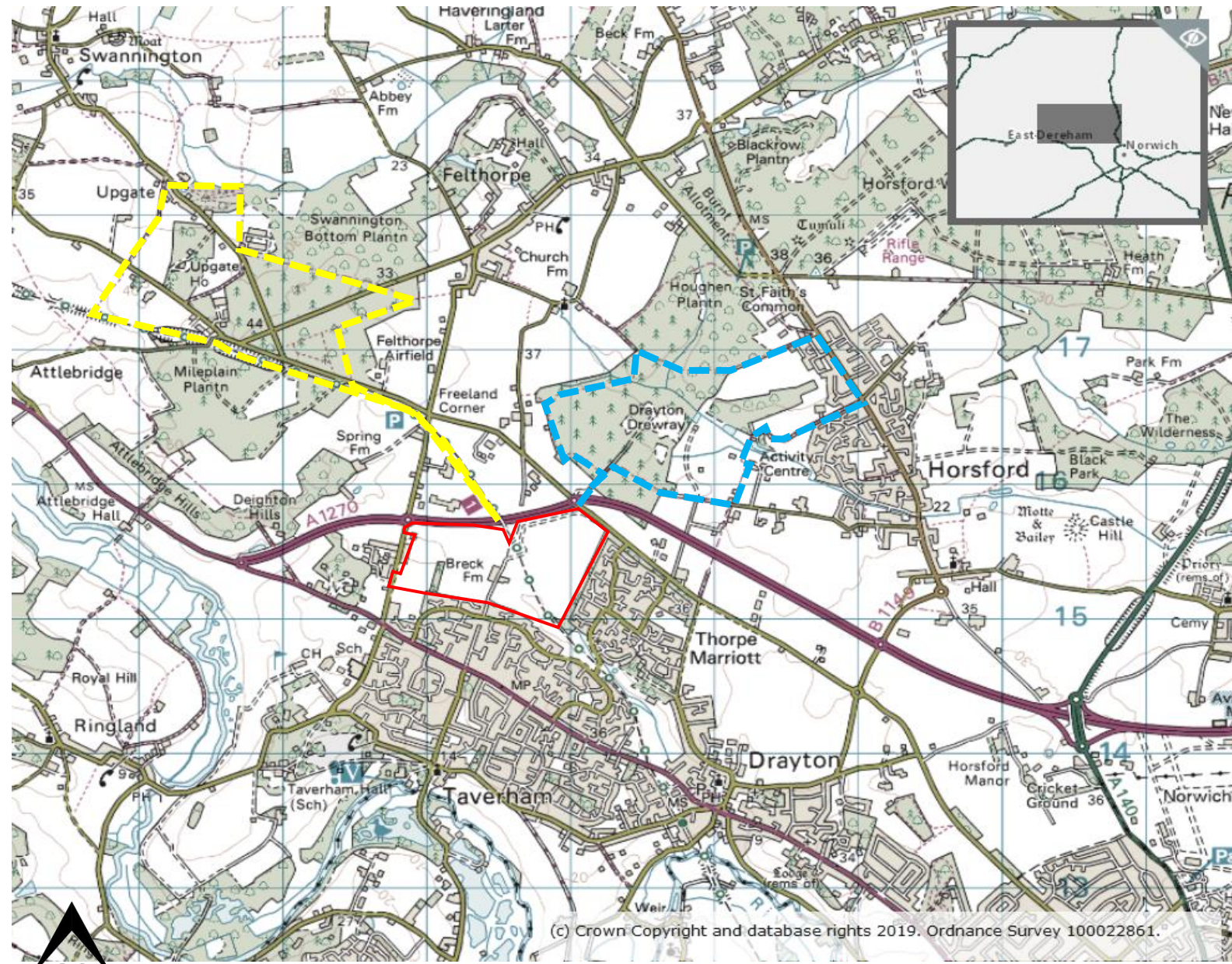
RF

CHECKED BY

KL

LEGEND

- Site boundary
- - - Walking route A (7km)
- - - Walking route B (7km)



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PROJECT

Marriott's Park, Taverham, Norfolk, NR8 6HL

TITLE

Public rights of way beyond the site boundary

DRAWING NUMBER

3709,EC/006/Rev0

SCALE

As marked

DATE

20/05/2019

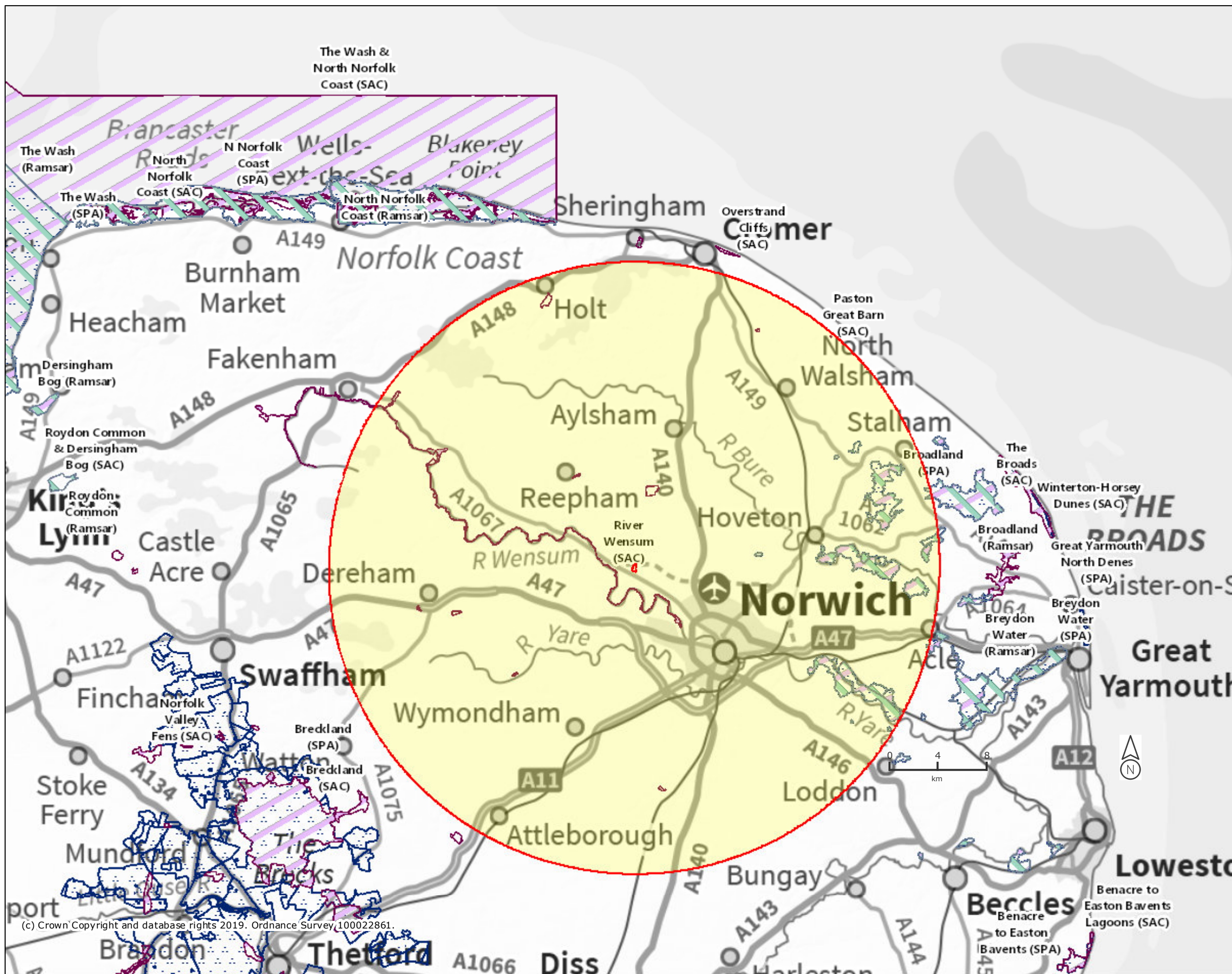
DRAWN BY

RF

CHECKED BY

KL

Appendix 4 – Magic Data



Legend

- Ramsar Sites (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Projection = OSGB36
 xmin = 524400
 ymin = 277300
 xmax = 705300
 ymax = 366300



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