Summary of technical reports

Strategic site 1: Former Western Park Golf Course

November 2024

This note provides a summary of the technical work that has been carried out to date in relation to Strategic Site 1: Former Western Park Golf Course allocated under Policy SL02 of the emerging Leicester Local Plan 2020-2036.

Land that forms the site (within Leicester City Council's administrative boundary) is proposed to be allocated for approximately 420 dwellings, 9.74 hectares of employment land (specifically class E(g), B2 & B8 uses)) and 7 permanent gypsy & traveller pitches.

The application site has been supported by the following technical reports:

- Access Appraisal note (BWB, October 2020)
- Air Quality & Odour Technical Note (BWB, June 2020)
- Arboricultural Survey (BWB, June 2020)
- Archaeology & Heritage Statement (BWB, August 2020)
- BNG Metrics Report (Arcadis, October 2021)
- Technical Site Constraints Ecology Stage 1 Report (Arcadis, February 2018)
- Flood Risk Assessment (BWB, August 2020)
- Foul Drainage Technical Note (BWB, December 2020)
- Geo Environmental Assessment Report (BWB, June 2020)
- Landscape Character Visual Assessment report and figures (Land Studio, April 2021)
- Sustainable Drainage Statement (BWB, August 2020)
- Utility Services Due Diligence Assessment (BWB, December 2020)

Summaries of the above documents including conclusions, suggested mitigations and council's analysis of each report are outlined below. A Summary Risk Register has also been produced by BWB which summarises the mitigations suggested by the land promoter in any reports prepared by BWB.

Please note that the Council are landowner of land adjoining this site in Blaby, and to ensure that the development would be coordinated, the Council's technical documents include land within Blaby. This is to ensure a robust analysis has been undertaken. However, this does not preclude allocation of the land within Blaby.

The above reports informed the preparation of the Indicative Land Use Masterplan (September 2022) and Land promotion document (January 2023).

Access Appraisal note (October 2020)

An Access Appraisal Note was compiled in October 2020 by BWB.

Analysis and findings

The report analyses the main access options for the site taking account of different transport options and finds that:

- The existing highway networks around the site and therefore the main access points are on Ratby Lane, Scudamore Road and Ryder Road.
- The site benefits from good pedestrian and cycle connections to and from the site via the highways access points.
- Two Public Rights of Ways (PRoW) run through the site.
- The existing bus connectivity is shown to be sustainable with potential for connections through the site.

The report situates three access points on Ratby Lane (for residential and employment access), Scudamore Road (employment access) and Ryder Road (residential access). These are proposed to improve existing highways for the proposed development (widening of road by 2m, visibility splays etc).

The impact of the proposed development has been considered within the local Pan Regional Transport Model. It presents that access on Scudamore Road could take the forecast traffic. However, the Ratby Lane access could experience some congestion.

Summary and mitigations

The study finds that the site benefits from safe and suitable access for all transport modes. The study recommends that a Transport Assessment will need to be submitted as part of the planning application and that either bus service 13 or 14 (or both) could be extended to provide access through the site.

The council finds that this study is satisfactory to help establish access arrangements of the site. The policy will be amended to take account of:

- The need for a Transport Assessment that addresses the issues in this note.
- The need for any access points to be enlarged to address increasing amounts of traffic.

Air Quality & Odour Technical Note (June 2020)

Air Quality: Identified constraints

The predominant source of pollutants in the vicinity of the Site are road traffic emissions from:

- M1 motorway (approx. 50m west of the Site)
- Primary access roads to Optimus Point logistics park (adjacent to western boundary of the Site).

Air Quality Management

Blaby District Council (BDC) AQMA Number Three (site partially within this AQMA).

Leicester AQMA (Approx. 750m east of the Site).

Local Air Quality Monitoring

Nitrogen Dioxide (NO₂)

Monitored annual mean NO₂ concentrations in the vicinity of the Site were all below the annual mean objective for the past five years of monitoring data.

Particulate Matter (PM₁₀ and PM_{2.5})

LCC and BDC do not undertake any monitoring of PM_{10} or $PM_{2.5}$ in the vicinity of the Site.

Background Pollutant Concentrations

Background concentrations across the Site are below the relevant annual mean objectives for NO_2 , PM_{10} and $PM_{2.5}$.

<u>Preliminary Road Traffic Emissions Exposure Assessment</u>

A detailed road traffic emissions modelling exercise was undertaken to predict concentrations of NO_2 , PM_{10} and $PM_{2.5}$ across the Site and investigate the suitability of the Site for the proposed uses.

Primary Constraints – Odour

The Predominant sources of odour in the vicinity of the Site are the:

- Brewery odour from brewing processes
- Bakery odour from bakery processes

Both uses are adjacent to the northern boundary of the site.

Mitigation/ Further Assessment required to support an application.

Air Ouality

Overall, the Site is appropriate for the proposed uses with regard to air quality.

However, the technical note recommends that the following information is needed to support any future application:

- A detailed Road Traffic Impact Assessment: to determine the impact of development-generated traffic on local air quality at existing sensitive receptors and the AQMA.
- Modelling: to predict pollutant concentrations across the Site in future occupation years.
- A qualitative construction phase dust assessment: to identify dust mitigation measures proportionate to the potential dust risk associated with construction phase activities.

Odour

It is unlikely that odour will significantly influence the Site.

However, the technical note recommends that that there may be a need for a more detailed assessment of:

- the current identified odour sources
- any new operations in the area that may change the odour environment from the present.

The Council has reviewed the Air Quality & Odour Technical Note (June 2020) and accepts its findings and recommendations. Mitigations will be put in the policy to require:

- a detailed Road Traffic Impact Assessment that included modelling: to predict pollutant concentrations across the Site in future occupation years.
- a qualitative construction phase dust assessment.
- Further detailed assessment of the current identified odour sources and any new operations in the area that may change the odour environment from the present.

Arboricultural Study (June 2020)

An Arboricultural Survey was produced in June 2020 by BWB. The survey was undertaken on the 11th and 12th June 2020 and included all trees on the site over 75mm. The survey categorises trees by tree groups in line with British Standard (BS 5837:2012).

Findings

It is expected that further Arboricultural Impact Assessments and Tree Protection/Removal Plans will need to be produced at a later date. The report does not cover Remedial tree works, foundation design and material specification.

The report finds that one Tree Preservation Order was identified for the site. Furthermore, the survey identifies 13 individual trees, 95 tree groups, six woodland groups and three hedgerows of different classifications. There is significant amount of valuable canopy cover and a diverse range of species and ages, but no ancient woodland.

Summary and recommendations

The following recommendations have been made following the analysis:

- Category A Trees and woodlands should be retained with impacts kept to a minimum.
- Priority Woodland habitat should be retained.
- Need to retain mature canopy cover and connections with Priority Habitat groups across the site will ensure that the impacts to habitats and wildlife corridors are limited
- Consideration to be given to a 'buffer zone' between large woodland groups and development.

- Further inspection and management needed for veteran trees with structural, age related defects.
- Trees and tree groups that provide a barrier to noise or pollution should be considered in the design for screening.
- Removal of trees under category B should be kept to a minimum
- Tree removal must be mitigated by high quality replacement planting of suitable tree species and could include management and improvement of retained woodland groups and individual trees.

The council sees that the mitigations proposed in the survey are suitable and will require further work to be carried out at planning application stage. The policy will be amended to include reference to:

- Preparation of an Arboricultural Impact Assessment and Tree Protection/Removal Plans.
- Retention of category A Trees and woodlands
- Category B trees to be retained where possible
- Provision of buffers will be expected from large tree groups where possible.

Archaeology & Heritage Statement (August 2020)

A joint Archaeology & Heritage Statement was prepared by BWB in September 2020, and builds on data from the Cultural Heritage Report produced by Arcadis. The study identified 22 heritage assets recorded within the study area, this comprises of 15 identified in the site. The data was collected using walkover surveys, setting assessments and comparisons with historic OS maps/LiDAR data. Historic Environment Record data has been fed into this and consultations undertaken with the city archaeologist.

Findings

The study finds that there are no Scheduled Monuments, Conservation Areas, Archaeological Alert Areas, Listed Buildings, Locally Listed Buildings or Registered Parks and Gardens within the site or 100m study area. Three archaeological events have been recorded on site, including a Roman Road (Mancetter Roman Road), Grange Estate and a Medieval Forest (Frith Park).

Overall, this reveals evidence for multiple phases of settlement and land use, notably from the Bronze Age and Roman period. This is of medium risk, which find that mitigations are possible.

Summary and recommendations

The technical study recommends incorporation of a trial trenching scheme to determine the existence of unknown archaeological features, followed by a watching brief during invasive stages of development.

The council accepts this study and recommendations overall. The policy can be amended to request a 'Written Scheme of Investigation' as per current heritage policy HE02 (or HE01 as

part of Main Modification 19, see EXAM 8), which would be expected to consider these mitigations.

Ecology Stage 1 Report (February 2018)

Arcadis produced an Ecology Stage 1 report in February 2018, which is an assessment of technical constraints. The study undertook a desk-based review of ecological information, an ecological walkover survey and great crested newt survey undertaken which influence the report suggested mitigations.

Findings

The desk based review identifies that:

- the majority of the site is designated as a Local wildlife Site
- has a mix of priority habitats
- a metapopulation of great crested newts
- adjacent to Kirby Frith Local Nature Reserve; and
- is overall a large site with diversity of habitats.

A number of protected species are recorded on site and will be taken into account within stage 2 of the report.

Summary and recommendations

The findings suggest that significant mitigations needed for effects on ecology would need to be designed and implemented. The report suggests that some mitigations have been built into the emerging masterplan already, including an aim to maintain great crested newts populations and retention of priority woodland habitats.

It is recommended that:

- Some green space surrounding the ponds is retained and the value of retained habitats is enhanced through appropriate management and planting.
- A continuing band of green space will facilitate the site movements in particular with breeding ponds.
- There is potential for enhanced connections to Kirby Frith Local Nature Reserve and for part of the LWS status to be retained, if habitats are retained and protected.
- Measures will be needed to be implemented to improve connections to the site and wider network.
- Enhancement and inclusion of appropriate long term management of woodland and grassland, great crested newts and other features would be deemed suitable.

A number of surveys have been recommended to be completed, including a comprehensive extended Phase 1 habitat survey and targeted protected and notable species surveys. The following surveys have also been recommended:

- Invasive plant species survey.
- Reptile survey.
- Breeding bird survey.

- Bat activity surveys.
- Bat roost inspection surveys and/or emergence/re-entry surveys of any potential roots identified during the protected species walkover survey.
- Badger survey.

Biodiversity enhancements on site and ecological connectivity have been suggested to be included within any mitigations measures for the development of this site. These include opportunities for ecological gains, through enhancing retained habitats, incorporating features for ecology within the development design and improving habitat connectivity.

The Council have reviewed and support the findings of this report. The council suggest that the policy is amended to:

- Request a requirement for further Ecology reports
- Provide up to date habitat surveys for notable habitats, in line with national guidance
- Build into any masterplan, mitigation measures associated with enhancing ecological connectivity on site

BNG Metrics Report (October 2021)

Further to this stage 1 report, Arcadis have produced a biodiversity metrics report was compiled in October 2021. The purpose of the report is to demonstrate steps taken to demonstrate the extent of biodiversity net gain that is feasible based on sketch masterplans, which has been informed by habitat surveys. This takes account of work previously done and the site constraints described above.

The masterplan this is based on includes areas of residential and employment use, a road network, proposed informal greenspace, proposed parks and gardens and Sustainable Urban Drainage (SUDs) features. The number of biodiversity units provided by each habitat currently was calculated using Biodiversity Metric 2.0. This approach also considers the post development conditions.

Summary/recommendations

The report finds that the aim of future proposals should be to create high value habitats. Both block habitats and linear features will need to be created to ensure a net gain in biodiversity units. Both habitat creation and enhancement measures are recommended to be provided both on and off site. Furthermore, the study recommends that a detailed landscape design and ecological management plan will be required to ensure that enhancements are given on the site and outside of the site.

The council are content with the findings of the BNG Metrics report at this stage and will request preparation of a detailed landscape design and ecological management plan as part of the policy.

Flood Risk Assessment (August 2020)

A Flood Risk Assessment was prepared by BWB in August 2020. The report has been informed by a range of evidence including Planning flooding maps, Strategic Flood Risk

Assessment, Preliminary Flood Risk Assessment, Local Flood Risk Management Strategy and Surface Water Management Plan.

Findings

The study assesses the risk of flooding from a range of sources including fluvial, pluvial runoff, groundwater, sewers and effects of development on wider catchment. The majority of these are thought to be of low risk with the exception of fluvial flood risk and impacts of development on the wider catchment which is of medium risk.

Suggested mitigations

The mitigations required are in relation to:

- Development levels development should be raised a minimum of 300mm of the top
 of the bank and ground levels should be profiled to encourage pluvial runoff and
 overland flows away from the built development and towards the nearest drainage
 point.
- Easements development should not encroach within 8 metres of the watercourse. The 800m diameter combined rising main will require a minimum 15m easement. The design should be around the main sewer main.
- Safe access and egress should be achievable from all access points.
- Surface water drainage surface water attenuation and drainage as part of development proposals.
- Foul water drainage Sewer modelling will be required to determine site capacity

Summary/recommendations

Overall, the report demonstrates that the site is not at significant overall flood risk, if flood risk strategies are implemented to address any issues associated with the findings. The site is shown to be entirely located within Flood Zone 1 (Low Probability).

The site is thought to be at a medium risk of flooding from fluvial sources and any development would need to be set back an appropriate easement.

The study recommends that:

- Pluvial flow routes should be maintained where possible
- Levels and set back from watercourses should be considered
- Easement from the watercourse should be maintained
- Ensure that foul water discharged to the sewer on Kirby Road

The council have reviewed the Flood Risk Assessment and are content with the overall findings of the study. These mitigations have been taken account of in Climate Change and Flood Risk policy 'CCFR06', further mention to this can be made as part of the policy.

Foul Drainage Technical Note (December 2020)

This Technical note considers site and level constraints associated with the foul drainage strategy. It details how a connection could be made to the public sewer network. A topographical survey of the existing site has informed the technical note.

Drainage Strategy

The proposal is to drain used water from the development separately to surface water. However, there is a requirement to coordinate the two through detailed design to provide the most efficient solution. Therefore, this assessment should be read in accordance with the Sustainable Drainage Statement.

Abnormal costs

The technical note provides a high-level review of some of the abnormal costs that are expected in order to provide a foul drainage system across the site. These are in relation to:

- Road Crossings
- Watercourse Crossings
- 3rd Party Land, Pump Requirements
- Utilities
- Offsite Connection
- Tree removal

The list is not exhaustive but is considered to be the outcome of a thorough review based on best available information.

Summary/Recommendations

The technical note and supporting appendices demonstrate that:

 The foul drainage strategy for the site, while posing significant constraints, is achievable.

This report was produced to promote the strategic development site through an emerging new City of Leicester Local Plan. The level of detail included is commensurate and subject to the nature of the proposals.

Any future planning application will need to review the:

- assumptions used to inform this assessment; and
- conceptual drainage plan should be updated and coordinated with the surface water strategy on provision of a masterplan.

In addition, Severn Trent Water should be continually updated on development progress to ensure adequate capacity is available to suit the proposed programme.

The Council has reviewed the Foul Drainage Technical Note (December 2020) and accepts its findings and recommendations. Mitigations will be included in the policy to review:

- the assumptions used to inform this assessment; and
- update the conceptual drainage plan in coordination with the surface water strategy on provision of a masterplan.

Geo Environmental Assessment (June 2020)

A Geo-Environmental Assessment Report was produced by BWB in June 2020. This uses data from a Phase 1 Geoenvironmental Desk Study for this site which was produced by Arcadis in

January 2018. The report objectives provide an assessment of the sub surface, potential development constraints and possible cost abnormals.

Findings

The assessment identifies that the majority of the site is underlain by glacial tills, Alluvium, two streams and a borehole. Five historical landfill sites are recorded within 1km of the site and an IPPC permit related to the melting and casting of lead processes to the south of the site. A preliminary UXO assessment has identified two highly explosive bombs strikes have been recorded on the site.

Five potential contamination sources have been identified on the site and two potential sources near to the site. The proposed development is to have low risk to controlled waters.

Summary & Recommendations

- A detailed UXO risk assessment should be obtained to understand potential implications of the development.
- Deeper foundations, localised earthworks and a higher design class of concrete may be required on some of the site (Edwalton Member). Ground investigations and Chemical analysis could address this.
- It could be required that some gas protection measures from alluvium and off site landfill sites, ground gas monitoring could be beneficial.
- An earthworks model which achieves the cut/fill balance would minimise the costs.

The council is content with the findings of this study and will include the requirement of UXO risk assessment at planning application stage. The Local Plan has a policy on Design Principles (DQP01) which will ensure that development of this strategic site will respond positively to the site and its local and wider context including townscape and streetscape; key views, natural and landscape features; that it will integrate well into its surroundings; and that it will contribute positively to its context in terms of scale, height, amount, massing, urban form, layout, siting, appearance, façade design, and roofscape.

Landscape Character Visual Assessment report and figures (April 2021)

Land Studio produced a Landscape Character Visual Assessment in April 2021, which discusses the landscape and visual matters associated with the site. This also includes figures to show the Regional Character Areas and Designations, Topography and Viewpoint Locations and Access.

The report has been carried out using Guidelines for Landscape and Visual Impact Assessment — Third Edition (GLVIA3) published by Environmental Management & Association. The report considers adopted and emerging Local Plan policies and evidence base in both Leicester and Blaby's respective areas.

The study considers landscape designations within 2km of the site. However, listed buildings and scheduled monuments are a relative distance from the site and therefore not

considered as a landscape receptor. The landscape receptors identified as part of the report are:

- East Midlands Regional Landscape Character Area 5a Village Farmlands,
- Blaby District Landscape and Settlement Character Area 12 Rothley Brook Fringe,
- Kirby Frith Green Wedge,
- Kirby Frith Local Nature Reserve,
- Western Golf Course Local Wildlife Site, and
- The Site itself

The report assesses the receptors against the value, quality, susceptibility and Sensitivity to produce an assessment of individual risks.

Summary & Recommendations

Overall, the findings suggest that the site has several landscape elements which are valued and sensitive to change, due to the ecological value and positive contribution to the character of the site. The landscape baseline therefore had a medium sensitivity to change. Due to the moderate value of the landscape, this is considered reasonably tolerant of change with sensitive consideration of future development plans.

Within this, the visual amenity of the site has also been considered, which includes an assessment of the distance from the site, description of the views and rationale behind the Public Rights of Ways. The average sensitivity of these receptors is medium/high.

The council have accepted the findings of the report and states that further appraisals of the landscape should be made available at planning application stage, which can be further built into the design of the Masterplan.

Sustainable Drainage Statement (August 2020)

The Sustainable Drainage Statement (SDS) sets out the principles of drainage design for the development and summarises the reasoning behind the chosen design. It includes consideration of national and local guidance, justification of specific flow rates, volumes of attenuated storage, as well as the appropriate level of treatment to be provided to surface water runoff.

Summary & Recommendations

This statement and supporting appendices demonstrate that the drainage design for the development will comply with the relevant local and national standards, specifically the hierarchy of discharge, runoff rate and volume criterion.

The SDS has been produced to promote the strategic development site through an emerging new City of Leicester Local Plan. The level of detail included is commensurate and subject to the nature of the proposals.

Surface Water Drainage

A catchment-based approach has been applied and the site has been divided into 9 catchments based on the existing topography. This approach aims to treat and attenuate the surface water runoff as close to its source as possible.

For this assessment, it has been assumed that storm water runoff from each catchment will be stored within a series of above ground detention basins. The water will then discharge at the equivalent greenfield rate up to the 1 in 100-year storm with an allowance for climate change via a vortex flow control into the receiving surface water network.

Future planning application will need to:

- develop this conceptual drainage design into a more detailed drainage strategy alongside the masterplan.
- undertake site specific infiltration testing to BRE365 standards in due course to confirm whether infiltration is viable in this location.

In addition, the following will be required:

- Further confirmation of levels of all ditches on site in due course.
- Further survey of the areas of trees to confirm where piped connections can pass through tree cover.

The Council has reviewed the Sustainable Drainage Statement and accepts its findings and recommendations. Mitigations will be included in the policy to:

 Develop a detailed drainage design as part of any application for development of the site, taking into account the findings and recommendations of the Sustainable Drainage Statement (August 2020)

Utility Services Due Diligence Assessment (December 2020)

The report provides an overview and outline of the following:

- Existing utility services that are located within and around the proximity of the proposed new development.
- Diversions, if any, that are likely to be required to accommodate the proposed development works; and
- The extent of utility works necessary to service the proposed development together with indicative budget costs.

This report is based on a desktop utilities search (a type D survey, as set out in the British Standards Institute PAS 128:2014 – Specification for underground utility detection, verification and location).

Recommendation: A more enhanced survey such as a type B survey to PAS 128:2014 should be carried out prior to construction.

Statutory services that will impact the proposed site in terms of the proposed diversions and connections works:

Western Power Distribution (WPD):

There **is** existing Low Voltage (LV) but **not** High Voltage (HV) cables within the site boundary. **Recommendation**: the Low Voltage underground cables are stripped out.

Severn Trent Water:

There **IS** existing water infrastructure within the site boundary.

Recommendation: the proposed scheme shall coordinate with the constraints of these services as far as practicable to avoid costly diversion works.

Cadent Gas:

There **IS NOT** existing gas infrastructure within the site boundary.

A Low Pressure service is routed on the Former Western Park Golf Course site access road adjacent Scudamore Road, serving the existing site.

BT Openreach:

There **ARE** existing communications infrastructure within the site boundary.

Recommendation: that the BT infrastructure is stripped out.

BT infrastructure is routed on Scudamore Road, adjacent the Former Western Park Golf Course site access road.

Virgin Media

Existing infrastructure **IS** located within the site boundary.

Recommendation: that the Virgin Media infrastructure is stripped out.

Virgin Media infrastructure is routed on Scudamore Road, adjacent the Former Western Park Golf Course site access road.

Existing utility network equipment within the proposed site boundary has associated legal rights, wayleaves and easements. Further details are provided in the report.

There are several services located on Scudamore Road, adjacent the Former Western Park Golf Course site access road. Should this entrance be redeveloped, costly diversionary works may arise.

Projected Loads

An assessment of electricity, gas and water loads has been undertaken, and reasonable assumptions, based on design guides and experiences from similar projects carried out in the past, have been made.

N.B. The projected future loads included in the preliminary calculations for the above are generic. These loads can be further reduced by further consideration, design and investment.

Financial Implications - connections

The report contains financial costs for connecting to utility services. However, these have been obtained in the absence of a Masterplan.

Recommendation: Once a proposed masterplan is available applications should be made to revise the budget quotes.

Financial Implications - diversions

Recommendation: The proposed scheme should coordinate with the constraints of the existing on-site services as far as practicable to avoid costly diversion works.

The Council has reviewed the Utilities Services Due Diligence Assessment and accepts its findings. Mitigations will be included in the policy to:

• Coordinate with the constraints of the existing onsite electricity supply services, the existing onsite services as far as practicable to avoid costly diversion works.

Land use Masterplan & Land promotion document

Both a land use masterplan and land promotion document were submitted to the Local Planning Authority to support the allocation of the site. All the land uses on site are largely indicative and are subject to change, but the general principle of these uses and the amount of land has been agreed by the Council.

The documents include 1.5Ha that was being reserved for a Household Waste Recycling Centre. However, this is proposed to be removed as part of Main Modifications and will be updated as necessary by the land promoter. The masterplan includes indicative land uses in Blaby but is dependent on site allocation within Blaby's Local Plan.

The land promotion document demonstrates that there are no technical or infrastructure constraints that would impact on the delivery of the site. The constraints identified can be addressed at planning application stage and has been informed by the technical studies above being completed.

The council is content with the work undertaken so far on these two documents and will continue to work with the land promoters to develop these masterplans to ensure a well designed and sustainable development. The council is looking to include a form of the agreed masterplan as part of the policy that is applicable to the site within Leicester.

