now part of

Land West of Park Farm, Thornbury

Waste Management Strategy

On behalf of **Barwood Development Securities Ltd & North West Thornbury Landowner Consortium**

Project Ref: 39209/3012 | Rev: V1.1 | Date: December 2019

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Report Title: **Waste Management Strategy**

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For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
1	22.01.2020	Team comments – for planning	MRM	KS	NT

Note to Reader

This Waste Management Strategy (WMS) has been produced in support of outline planning permission at Land West of Park Farm, Thornbury. A WMS has previously been submitted to South Gloucestershire Council.

This WMS has been revised to cover the following additions:

1. **Updated reference to policy and guidance.**
2. **Updated development proposals to include less proposed residential development to allow provision of a new primary school.**
3. **Updated construction waste estimations.**
4. **Updated household, commercial and education waste arisings.**

Amendments to the WMS are highlighted in bold and underlined text for clarity, whilst the remaining text remains as previously submitted.

Contents

Figures

Tables

Appendices

1 Introduction

1.1 Background

1.1.1 Barwood Development Securities Ltd & North West Thornbury Landowner Consortium (the Applicants) are submitting an outline planning application for a residential development on Land West of Park Farm, Thornbury, South Gloucestershire. The development will comprise up to **595** dwellings, **land for a one-form entry primary school**, and a neighbourhood hub (with potential for retail and community uses) on land to the north west of Thornbury. The proposed development is within the South Gloucestershire Council (SGC) boundary.

1.1.2 Peter Brett Associates, now part of Stantec (PBA) has been appointed by Barwood Development Securities Ltd & North West Thornbury Landowner Consortium to prepare this Waste Management Strategy to support an outline planning application for the proposed development.

1.2 Purpose of the Report

1.2.1 This Waste Management Strategy (herein 'the Strategy') considers both the construction and operational phases of the proposed development and will form a key part of the wider sustainability strategy.

1.2.2 The Strategy will identify national and local policy requirements, as well as identifying expected waste arisings from both the construction and operational phases.

1.2.3 It will define responsibilities for waste management on the site, as well as providing advice on how best to manage waste streams to help ensure sustainability and waste management goals are met.

1.2.4 Due to the outline nature of the application, many of the details of the development are unknown. Therefore, this Strategy will set out the high-level principles for how waste will be managed within the site, and provide an indication of quantities and types of waste expected. Detail on specific quantities and collection regimes will be covered during Reserved Matters phase.

1.3 Site Location and Description

1.3.1 The site is located in South Gloucestershire to the north west of Thornbury, which is approximately 19km north of Bristol city centre.

1.3.2 Thornbury is a market town with access to the A38, a north-south corridor connecting to Bristol to the south and Gloucester to the north.

1.3.3 The site is presently agricultural fields, adjacent to a housing development currently under construction to the east, Park Farm. The site is south of Oldbury Lane and is bound on the western and southern sides by further agricultural fields.

1.3.4 The site's location in the context of the local and strategic highway network is illustrated in **Appendix A**.

1.4 Development Proposal – Outline Application

1.4.1 The application for Land West of Park Farm, Thornbury (the proposed development) is for outline planning permission for all matters reserved except **vehicular** access. The proposals would comprise the following:

- *Erection of up to **595** residential dwellings (Use Classes C3);*
- **Land for a Primary School (Use Class D1);**
- *Up to 700m² for a Community Hub (Use Classes A1, A2, D1);*
- *A network of open spaces including parkland, footpaths, allotments, landscaping and areas for informal recreation;*
- *New roads, a sustainable transport corridor (including a bus link), parking areas, accesses and paths; and*
- *The installation of services and drainage infrastructure.*

1.4.2 A Location Plan for the Application Site is presented in **Appendix A**.

2 Policy and Legislative Background

2.1 Introduction

2.1.1 This section provides a review of relevant policy and guidance in relation to waste to allow it to be appropriately considered within the Strategy.

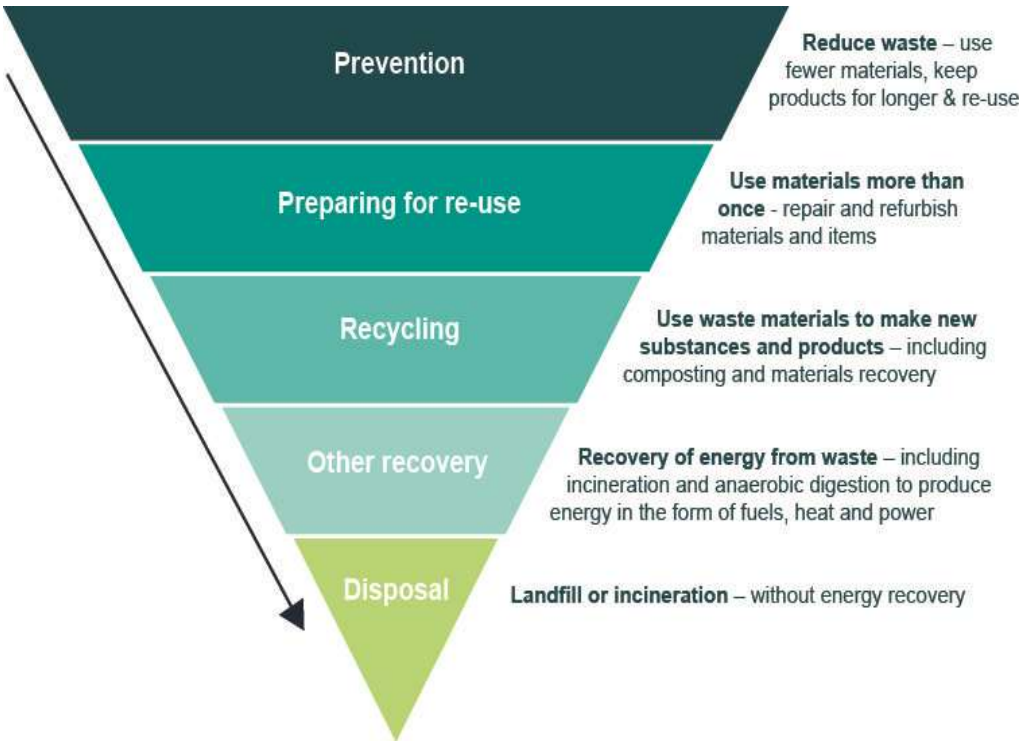
2.2 European and National Policy

2.2.1 The European Revised Waste Framework Directive (2008/98/EC) sets the framework for UK Waste Policy. The Waste Hierarchy (**Figure 2.1**) runs throughout this policy and ranks waste management options according to what is best for the environment.

2.2.1 **The Waste (England and Wales) (Amendment) Regulations 2014** place a duty on waste producers and all handlers of waste to manage waste in accordance with a hierarchy of options where this achieves the best overall environmental outcome. Therefore, as a producer, the operator/residents of this development must endeavour to reduce, sort and separate waste – for example, by separating the recyclable from the non-recyclable waste - before placing out the residual waste for disposal (or potentially energy recovery).

2.2.2 These regulations also aim to improve the quality and quantity of material being collected for recycling. **They do this** by placing a duty on waste collectors, to enable recyclable material (particularly glass, paper, plastics and metal), to be collected separately, where it is necessary to support the recovery of high-quality recyclables, and where this is technically, environmentally or economically practicable (TEEP). Although this duty is specifically on the collectors of waste, it is important for any new development to consider the logistical impacts of separating out these materials.

Figure 2.1: The Waste Hierarchy, Defra 2011



2.2.3 **Our Waste, Our Resources: A Strategy for England (2018) assists the Government's commitment set out in the 25 Year Environment Plan, to leave the environment in a better condition for the next generation. This Strategy reaffirms the UK's commitment to the waste hierarchy and introduces the circular economy concept in relation to waste. The circular economy model encourages the recycling of resources through recovering and regenerating products and materials to keep resources in use for longer.**

2.2.4 **This Strategy highlights the Government's ambitious plans in relation to food waste. Households produce approximately 7 million tonnes of food waste is produced annually, of which 5 million tonnes is categorised as edible. *'Reducing greenhouse gas emissions from landfill by ensuring that every householder and appropriate businesses have a weekly separate food waste collection'.***

2.3 Local Policy and Guidance

South Gloucestershire Core Strategy 2006-2027

2.3.1 **The Core Strategy** document was adopted in December 2013, and provides overarching strategic planning policy within South Gloucestershire up until 2027.

2.3.2 High Quality Design - Policy CS1 (10) states that development proposals will need to, '*ensure sufficient space provision is designed in for the sorting and storage of recyclable waste materials in a convenient location, the composting of household waste (where practicable), and the collection of these and other waste materials.'*

2.3.3 Sufficient space should be designed into new developments, in a convenient location, (e.g. at the front of residential dwellings) for the sorting and storage of recycled materials – supporting objectives of a reduction in waste to landfill.

South Gloucestershire - SPD – Waste Collection Guidance 2015

2.3.8 The SPD seeks to embed full consideration of, and support for waste management at the earliest stage of the planning process. It goes into further detail than the core strategy, and much of the detail will be taken forward and outlined within Section 4 of this Strategy.

2.3.9 Services currently being provided to householders are as follows;

- weekly food collection;
- fortnightly dry recycling collection – cardboard, plastic, glass, cans, textiles etc;
- fortnightly residual waste; and
- fortnightly garden waste (opt-in chargeable service).

South Gloucestershire Waste Strategy 2015-2020

2.3.10 Since 2000 waste services have been provided in partnership with Suez (formerly SITA). In this time services have evolved with an increasing focus on waste minimisation, prevention and reuse.

2.3.11 Stated targets to be achieved by 2020 are:

- 50% recycling for household waste.
- 70% recycling for construction waste.

- 75% recovery for all waste.

2.3.12 The SG Waste Strategy sets out to:

- Reduce waste arisings.
- Reduce landfill to <10%.
- Work towards a behaviour change in the reduction of food waste levels – SG is a signatory to Courtauld 2025.

3 Construction Waste Strategy

3.1 Introduction

3.1.1 During the construction process and the occupation of the development, the waste strategy will seek to follow the principles of the waste hierarchy – "eliminate, reduce, reuse and recycle" – to minimise waste sent to landfill and to ensure that the environmental, social and economic risks from waste are minimised and, where possible, turned into opportunities.

3.1.2 This Strategy sets the principles for how waste will be managed in the construction phase and provides estimates for the likely composition and quantity of waste arisings and a target for sustainable waste disposal (i.e. diversion from landfill). However, The Principal Contractor will be charged with responsibility for the management and coordination of all waste streams during each stage of the construction of the houses. In order to facilitate this, it is recognised as best practice for a Site Waste Management Plan (SWMP) to be prepared.

3.1.3 The legal requirement to prepare a SWMP was removed in 2013, however, preparation of a SWMP is still considered important to ensure that building materials are managed efficiently; waste is disposed of legally, fly tipping is reduced; and materials reuse, recovery and recycling is maximised.

3.1.4 It is proposed that an SWMP, incorporating the principles within this Strategy, is produced at Reserved Matters, when more detail about the development and construction phasing is known.

3.2 Waste Management Principles

3.2.1 This section of this Strategy for the proposed development introduces the principles of best practice waste management. These principles will be refined during the detailed design phase and will be incorporated within the SWMP.

3.2.2 Overall, the hierarchy of waste management will be adopted, in accordance with national policy requirements. The waste management methods in order of preference are as follows:

- **Waste Prevention** – through best practice design and procurement mechanisms.
- **Preparation for reuse** – re-use of materials in their current state and form (for example reuse of soils), either on or off site.
- **Material recycling** – by using waste materials found on site and recycling / recovering them into an alternative form that can be used for any construction purposes (for example crushing concrete for road construction material). By recycling on site, carbon emissions associated with the proposed development are reduced, rather than materials being taken away from the proposed development site.
- **Other recovery** – energy recovery from biodegradable or combustible materials
- **Disposal** – the least preferred option where the waste stream would be subject to a final disposal route such as landfill.

3.3 Waste from Clearance Works

3.3.1 The existing land use is agricultural land and there are no existing buildings requiring demolition and removal. Demolition waste is therefore not considered further within this Strategy.

3.3.2 Waste arisings related to the earthworks are outside the scope of this Strategy. Earthworks will be addressed, as required in separate Materials Management Plans (following CL:AIRE Code of Practice[1] or Similar) at the Reserved Matters stage.

3.4 Waste from Construction

3.4.1 Estimated waste arisings during the construction phase are seen in **Table 3.1**

Table 3.1: Construction waste estimations[2] across development

	Tonnes (t)		
Material	**Residential**	**Education**	**Total**
Bricks	655	33	688
Tiles and Ceramics	46	3	49
Concrete	926	21	947
Inert	2,513	83	2,596
Insulation Materials	39	3	42
Metals	115	9	124
Packaging materials	227	12	239
Plasterboard / Gypsum	267	14	282
Binders	10	0	10
Plastic (excluding packaging waste)	156	4	160
Timber	716	24	739
Floorcovering (soft)	4	1	5
Electrical and electronic equipment	3	0	3
Furniture	1	0	1
Canteen / Office / Ad hoc waste	73	8	80
Liquids	4	0	4
Oils	1	0	1
Bituminous mixtures	51	22	74
Hazardous waste	57	7	64
Other waste	219	13	232

[1] Provides a clear, consistent and efficient process which enables the reuse of excavated materials on site or their movement between sites. https://www.claire.co.uk/projects-and-initiatives/dow-cop

[2] SMARTWaste BRE Waste Benchmark Data – August 2017

	Tonnes (t)		
Material	**Residential**	**Education**	**Total**
Mixed construction and/or demolition waste	**2,318**	**89**	**2,408**
Total	**8,403**	**344**	**8,747**

3.4.2 Given the outline nature of this application, specific details on the floor areas are not known. Therefore, the following assumptions have been made to feed into our calculations:

- Residential – construction waste estimates[3] – assuming an average floor area[4] of 92.3 m^2 per unit, giving a total floor area of **54,919** m^2.
- **Education – construction waste estimates – assuming 2,311 m^2 of educational floor space. Calculated using Government area guidelines of an averaged sized primary school nationally (210 pupils)[5].**

3.4.3 The estimated waste arising from the construction of buildings at the proposed development has been calculated using established national Smart Waste benchmarks based on the Building Research Establishment's (BRE) Smart Waste Benchmark Data (BRE, 2017)[6].

3.4.4 By quantifying the waste predicted to be generated, it is possible to estimate quantities of waste that can be reused and recycled and set benchmarks to reduce or eliminate volumes of waste entering landfill.

[3] DEFRA - Predicting construction waste

[4] Savills - Property size research

[5] Department of Education – Schools, Pupils and their Characteristics (January 2018), reception to Year 6 (7 classes), assuming a class size of 30 (revised up from 27.1 to account for slightly higher class sizes at new primary schools).

[6] SMARTWaste BRE Waste Benchmark Data – August 2017

4 Operational Waste Strategy

4.1 Introduction

4.1.1 This section identifies the general principles for how waste will be managed in the operational phase of the proposed development. These principles have been developed based on local policy guidance for waste for new developments, and in consultation with SG[7].

4.1.2 The proposed development is set to contain residential dwellings, **a primary school,** and a community hub. The operational waste volumes and storage requirements are estimated on this basis and will assist at the detailed design stage.

4.1.3 At Reserved Matters, a Waste Storage and Servicing Statement will be developed in consultation with South Gloucestershire Council.

4.2 Household Waste

Household waste arisings

4.2.1 Estimated residential waste arisings once the development is fully operational are seen in **Table 4.1**.

Table 4.1: Household waste arisings

2016/17 DEFRA Submissions	South Gloucestershire Council
Total Household Waste (t)	126,020
Total Household Waste per Household (kg)	1,039
Number of additional units	**595**
Total Additional Household Waste (t)	**618**
% Increase in total	0.5%

4.2.2 An average household in South Gloucestershire produces 1,039 kg of waste per annum. This includes all waste that is collected from the household and waste taken to Household Waste Recycling Centres. The proposed development will consist of up to **595** additional households, thus is expected to generate an additional estimated **618** tonnes of household waste per annum. This represents an overall increase of ~0.5 % of the waste collected and disposed of by South Gloucestershire Council.

4.2.3 From the data in **Table 4.1**, the tonnage of household waste and recycling expected from the proposed development is approximately **618** tonnes per annum. Recycling rates for household waste within South Gloucestershire Council are currently ~49%[8].

[7] Mark Garrett, South Gloucestershire, Waste Officer

[8] Waste and Recycling Statistics (Department for Environment, Food and Rural Affairs), Local Authority Collected and Household Waste Statistics 2016/2017 England, SGC household - Household Total Waste (Tonnes).

Household waste strategy

4.2.4 The household waste for the residential elements of the proposed development will be managed in accordance with South Gloucestershire's 'Waste Collection Guidance for new developments (SPD)', adopted in 2015.

4.2.5 Guidance is provided to developers to ensure that space for waste management is integral to the design of buildings, and to ensure vehicle access is suitable for the councils' collection fleet. These principles are outlined below.

4.2.6 Waste storage within a development should;

- not be stored on the highway or public open space;
- be on a hard standing with a gradient not exceeding 1:20;
- be away from windows and ventilators;
- be accessible and large enough to accommodate all containers;
- be low level;
- where possible be in the rear garden provided there is a suitable route to the collection point; and
- allow space for a composter for each plot with a garden.

4.2.7 Additional guidelines are also provided for the provision of storage and access provision at flats.

4.2.8 Further design considerations include the requirement for collection vehicles to be able to approach within 10m of a collection point. Consideration must be given to parked cars and the impact they have on access and obstruction to collection points.

4.2.9 A typical household will be provided with any requested combination of the standard containers detailed in **Table 4.2**.

Table 4.2: South Gloucestershire container provision

	Volume	Height	Width	Depth
Residual waste wheeled bin (black)	140 litres	106cm	49cm	55cm
Food waste kitchen caddy	7 litres	29cm	23cm	23cm
Food waste bin	23 litres	46cm	41cm	33cm
Recyclable waste wheeled bin	240 litres	110cm	58cm	74cm
Green garden waste wheeled bin (opt-in chargeable services)	240 litres	110cm	58cm	74cm

4.2.10 The design of waste storage would come forward as part of future reserved matter applications.

4.3 Commercial Waste

Commercial waste arisings

4.3.1 The **Primary School and** Community Hub will generate commercial waste. **Table 4.1** illustrates indicative volumes of waste to account for, from commercial premises as provided in local guidance. With no further detail, the assumption is made on the basis of a worst-case scenario, with the entire Community Hub being used as a retail space.

Table 4.1: Typical waste capacity by commercial premises[9]

Development	**Floor Space (m^2)**	Litres of waste per 1,000 m^2 gross floor space	**Weekly waste vols (litres)**
Community Hub	**700**	5,000	**3,500**

Educational waste arisings

4.3.2 Estimations for operational waste generated once the primary school is completed has had to be calculated based on a number of assumptions. With limited detail, as to the expected size of the primary school at this stage, a national average[10] size has been assumed. Calculations are therefore based on a school of 210 pupils.

4.3.3 Recycle Now provides estimates that a primary school will produce on average 45 kg of waste annually per pupil. Across an average primary school this translates to operational waste of circa 9.5 tonnes of waste annually.

Commercial waste storage

4.3.4 Waste generated from the **proposed primary school and** community hub will be classified as commercial waste. Storage, collection and disposal of this waste will need to follow recognised good practice.

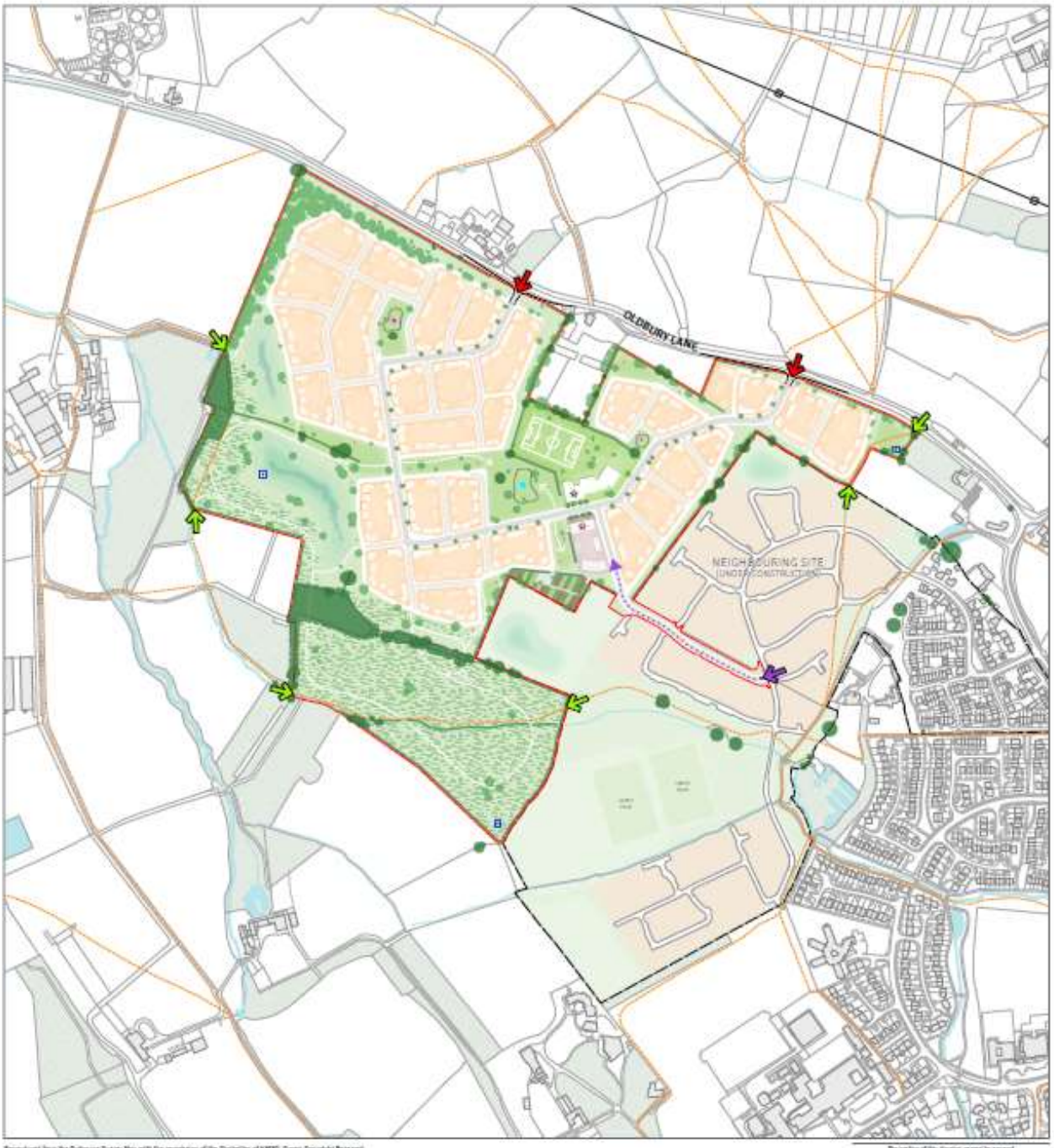
4.3.5 There is a duty placed on waste generators to segregate waste streams as far as is practically possible in order to maximise recycling rates.

4.3.6 All commercial waste must be stored securely off the public highway. Commercial waste contracts will need to be put in place to responsibly manage all waste streams, at the same time as ensuring all the correct licences are evident.

[9] ADEPT

[10] Department of Education – Schools, Pupils and their Characteristics (January 2018), reception to Year 6 (7 classes), assuming a class size of 30 (revised up from 27.1 to account for slightly higher class sizes at new primary schools).

Appendix A Outline Application Site Masterplan



- Site Boundary
- Residential
- Mixed-Use
- Public Open Space
- 1FE School
- Drainage
- Natural / Semi-Natural Open Space
- Primary Vehicle Access Point
- Retained Pedestrian Access (PROW)
- Pedestrian, Cycle and Bus Access Point (Sustainable Transport Link)
- Sustainable Transport Connection
- Existing Trees
- Proposed Trees
- Hedgerows
- Destination Park
- Neighbourhood Greens
- Opportunities for Natural Play
- PROW
- Allotments
- Potential Wildlife Pond Location
- School Building
- Indicative Location of Retail / Community Hub

The scaling of this drawing cannot be assumed

N

0 100 200m

PROJECT
NW Thornbury

DRAWING TITLE
Illustrative Masterplan

BARTON WILLMORE

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