



Himley Village

Water Neutrality Statement

For Countryside Properties

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CONTENTS

HIMLEY VILLAGE, BICESTER.....	1
1. INTRODUCTION.....	1
1.1 Purpose of Report.....	1
1.2 Planning Condition.....	1
1.3 Project Description.....	1
REGULATIONS, POLICY AND GUIDANCE.....	2
2. NATIONAL PLANNING POLICY.....	2
2.1 National Planning Policy Framework NPPF.....	2
2.2 Code for Sustainable Homes.....	2
3. LOCAL PLANNING POLICY.....	2
3.1 Cherwell District Council Local Plan.....	2
3.2 Eco Town PPS Guidance.....	2
3.3 North West Bicester Supplementary Planning Document (SPD).....	2
WATER NEUTRALITY.....	3
4. THE NEED FOR WATER NEUTRALITY.....	3
4.1 What is Water Neutrality?.....	3
4.2 The Cherwell District.....	3
4.3 Thames Water.....	3
4.4 Water Cycle Study.....	3
5. WATER USAGE.....	3
5.1 Water Usage Analysis.....	3
6. WATER NEUTRALITY MEASURES.....	4
6.1 Low Flow Fittings.....	4
6.2 Water Butts.....	4
6.3 Ecology.....	4
6.4 Plumbed Rainwater or Greywater Harvesting.....	4
6.5 Water Meters.....	4
6.6 Education and Awareness.....	4
CONCLUSION.....	5
7. WATER NEUTRALITY SUMMARY.....	5

Himley Village, Bicester

Hydrock has been appointed by Countryside Properties to provide planning stage advisory services in relation to the proposed Himley Village development in Bicester, Oxfordshire.

1. INTRODUCTION

1.1 Purpose of Report

This report has been produced to discharge planning condition 36 of the of the Outline Permission 14/02121/OUT.

The report details the need for water neutrality at the Himley Village development and outlines the varying measures to be implemented to aspire to this.

1.2 Planning Condition

Planning Condition 36 states:

"Prior to the commencement of the development, details of the strategy to work towards water neutrality, in accordance with the Eco Towns PPS shall be submitted to and approved in writing by the Local Planning Authority. Each reserved matters application shall demonstrate how it contributes to and is in accordance with the approved strategy.

Reason: The site is located in an area of water stress and to comply with Government guidance contained within the Eco Town PPS and the National Planning Policy Framework."

1.3 Project Description

The proposed Himley Village development consists of 500 dwellings and forms part of the wider Himley Village masterplan.

The wider masterplan will provide up to 1,500 homes, schools, and community facilities. The site itself is classified as an Eco Town and will seek to provide a zero-carbon and water neutral development on the outskirts of Bicester.

The site falls within the remit of Cherwell District Council (CDC).

Regulations, Policy and Guidance

This section of the report highlights the relevant regulations, policy and guidance that are applicable to the Himley Village development.

2. NATIONAL PLANNING POLICY

2.1 National Planning Policy Framework NPPF

The National Planning Policy Framework (NPPF) was first published on 27 March 2012 to set out government planning policy for England, removing all regional level planning policy at this time in favour of ‘a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.’

All Local and Neighbourhood Plans must therefore align with the policies of the NPPF.

The NPPF states clearly that the purpose of planning is to help deliver sustainable development and defines three mutually dependent pillars that must be equally considered in order to achieve this:

- Economic
- Social
- Environmental

A revised NPPF was published in July 2018, focusing on the following key areas:

- Promoting high-quality design for new homes and places.
- Offering stronger protection for the environment.
- Constructing the right number of homes in Focusing on greater responsibility and accountability of councils and developers for housing delivery.

The revised NPPF was updated again on 19 February 2019 but this update included only minor changes to the text to provide additional clarity in some areas.

2.2 Code for Sustainable Homes

The Code for Sustainable Homes provides a water consumption requirement that aims to reduce the consumption of potable water in the home from all sources through the use of

water efficient fittings, appliances and water recycling systems. The water consumption requirement (litres/person/day) is level dependant and is as follows:

- Level 1 and 2 - Less than 120 l/p/d
- Level 3 and 4 - Less than 105 l/p/d
- Level 5 and 6 - less than 80 l/p/d

3. LOCAL PLANNING POLICY

3.1 Cherwell District Council Local Plan

3.1.1 Policy ESD 3: Sustainable Construction

Cherwell District is in an area of water stress and as such the Council will seek a higher level of water efficiency than required in the Building Regulations by achieving less than 110 l/p/d

3.1.2 Policy ESD8: Water Resources

The Council will seek to maintain water quality, ensure adequate water resources and promote sustainability in water use.

3.1.3 Policy Bicester 1: NW Bicester Eco-Town

Housing

Homes to be design and equipped to meet the Level 5 water consumption requirement of the Code for Sustainable Homes.

Infrastructure Needs

Utilities and infrastructure which allow for water neutrality on the site.

3.2 Eco Town PPS Guidance

3.2.1 ET 17: Water

Eco-towns should be ambitious in terms of water efficiency across the whole development, and should contribute, where existing water quality leaves scope for further improvement, towards improving water quality in their localities.

In areas of serious water stress, Eco-towns should aspire to water neutrality, i.e., achieving development without increasing overall water use across a wider area.

3.3 North West Bicester Supplementary Planning Document (SPD)

The SPD states that developments should include where possible water neutrality measures as set out in a Water Cycle Study for the area masterplan.

Water Neutrality

This section outlines the need for water neutrality and the steps to be taken aspire to this.

4. THE NEED FOR WATER NEUTRALITY

4.1 What is Water Neutrality?

The definition of water neutrality as detailed in Annex B of the Eco Town PPS Guidance Document is as follows:

Water Neutrality is the concept where the total water used after a new development is more than the total water used before the development. This requires meeting the demand through Improving efficiency of the use of the existing water resources. Water neutrality needs to be assessed within a defined area, normally the water company's water resource zone.

Water neutrality is a demanding level of ambition which is only likely to be achieved through a combination of measures. A key component is to make the new development water efficient, through utilising the most water efficient products and where appropriate looking at water reuse options. Other measures involve the existing building stock and would need to be explored in partnership with the water companies. These may include extending the extent of metering, introducing variable tariffs to encourage water efficiency, retrofitting existing buildings with water efficient products and reducing demand from non-households.

4.2 The Cherwell District

The Cherwell District is under water stress with the water resources for the area being limited and its needs having to be met from outside the Cherwell catchment area.

Cherwell's Environment Strategy for a Changing Climate (2008) highlights the need to conserve water and to be resilient to the impacts of climate change.

So as a result, developments, in particular eco towns, within the Cherwell District are expected to aspire to water neutrality.

4.3 Thames Water

Thames Water is the statutory water supplier for the district and they have predicted the potential for supply demand deficits which will require additional resource development in the future.

To combat potential supply demand deficits and to ensure the growth in water demand is manageable in line with the growth forecasts assumed by Thames Water in their water resource management plan developments are expected to aspire to water neutrality.

4.4 Water Cycle Study

The Water Cycle study produced by Hyder Consulting Limited and submitted as part of the NW Bicester Masterplan has been used to inform the water neutrality measures for the Himley Village development.

The water cycle study considers the development location, local water environment, available resources, infrastructure and demand in order to provide a holistic view of all the potential measures that could be implemented to aid in the reduction of water consumption.

5. WATER USAGE

5.1 Water Usage Analysis

Building regulations requires internal potable water consumption to be less than 125 l/p/d but standard practice is to typically aim for less than 105 l/p/d, which is in line with Level 3/4 of the now revoked Code for Sustainable Homes. However, to comply with the outline permission Water Cycle Study, Himley Village water consumption needs to meet Level 5 of the Code for Sustainable Homes therefore is required to use less than 80 l/p/d.

If the development were to consume 105 l/p/d assuming 3 people per house hold across the 500 dwellings then the development would consume approximately 157,500 litres per day.

In contrast, the development will actually consume 80 l/p/d in line with policy requirements. Therefore, using the same assumptions as before, the development will consume approximately 120,000 litres per day.

Being required to meet the water consumption rate, 80 l/p/d, results in the development reducing its overall water usage by 24% compared to standard practice. This is equivalent to approximately 37,500 litres per day site wide and 75 litres per day per dwelling. This is a significant step towards achieving water neutrality.

6. WATER NEUTRALITY MEASURES

To ensure that a water consumption rate of 80 l/p/d is achieved and the development is aspiring to water neutrality the following measures will be implemented.

6.1 Low Flow Fittings

Water efficient fitting will be used throughout the development and they include:

- Dual flush WCs (4l and 2.6l flush);
- Aerated Low flow shower heads (9 l/min)
- Aerated low flow taps to basins (2 l/min)
- 120 l capacity baths (rather than standard 180l)
- Water-efficient white goods, including dishwashers.

6.2 Water Butts

The development will incorporate the wide spread use of water butts with a minimum of one water butt per dwelling. The water butts will provide a source of non-potable water for irrigation of gardens and other external uses. By providing each dwelling with its own non-potable water supply the consumption of potable water will be reduced.

6.3 Ecology

The planting strategy across the site is to include drought resistant types such as wild flowers, birch and beech trees to ensure they are suitable for the future climate and reduce water consumption.

6.4 Plumbed Rainwater or Greywater Harvesting

The collection, treatment and storage of rainwater, used shower, bath and tap water for use instead of potable water in toilets and washing machines would help reduced the consumption of potable water. However, in terms of the Himley Village development it is not viable due to the difficulty in applying the system on single dwelling basis.

6.5 Water Meters

The development will have compulsory metering due to its new build nature and being located in an area of serious water stress. There is potential that the water meters will be smart meters to engage the users with their consumption and encourage wise use of water.

Smart meters have enhanced functionality allowing them to transmit clear information to the user and utility on demand. In terms of water conservation, smart meters allow more sophisticated tariffs, such as season or time of day, to be implemented and they enable consumption data to be presented directly to the user, to allow them to modify their water-using behaviour.

6.6 Education and Awareness

Although a building may be designed to be efficient, actual water used will depend on the behaviour and habits of the occupiers. For the development to be effective in achieving water neutrality, this must be coupled with information about how to use the installed devices correctly and how to avoid wasting water.

To educate and raise awareness of water neutrality resources will be provided as part of the Home Buyers Pack home owners receive upon moving into their new property.

Conclusion

This report has provided an overview of the water neutrality measures to be implemented across the Himley Village development to aid in the discharge of the planning condition 36.

7. WATER NEUTRALITY SUMMARY

The development understands the need for water neutrality to help address the serious water stress issue being faced by the Cherwell District. With this in mind the design team has worked to incorporate not only water efficient fittings but also non potable water supplies through the use of water butts, drought resistant plants, smart water meters and education resources into the development. These measures all help to achieve the reduced water consumption rate of 80 l/p/d for the site.

By achieving a water consumption rate of 80 l/p/d the development will successfully reduce its water usage by 24% compared to a standard practice development with a water consumption rate of 105 l/p/d. The reduction of water consumption by approximately 75 litres per dwelling per day highlights the developments aspiration for water neutrality.