

Nitrates Statement & Nutrient Budget Calculation

AT

**Cabbagefield Row, Swanmore Road, Leigh Park,
Havant, Hampshire, PO9 4EX**

August 2021

Syntegra Group Ltd

Table of Contents

1.0	Scope	3
2.0	Background.....	3
3.0	Methodology	4
4.0	Proposed Development	4
5.0	Mitigation Option 1: On site Mitigation.....	4
6.0	Mitigation Option 2: Off Site / Contributions	5
7.0	Other Mitigation Measures	5

1.0 Scope

This report contains the details of a Nitrates Statement carried out by Syntegra Consultancy Limited ("Syntegra Ltd") for Cabbagefield Row, Swanmore Road, Leigh Park, Havant, Hampshire, PO9 4EX, henceforth referred to as "the site" in this report.

This report has been prepared for Portsmouth City Council and must not be relied upon by any other party without the explicit written permission of Syntegra Ltd. All parties to this report do not intend any of the terms of the Contracts (Right of Third Parties Act 1999) to apply to this report.

Please note this report does not purport to provide definitive legal advice.

All rights reserved. No part of this report may be copied, edited, transmitted, reproduced, hired, lent, sold or disclosed without the prior written consent of Syntegra Ltd. Any action taken or omitted to be taken in reliance upon the content of this report is not permitted and may be unlawful. Copyright © Syntegra Ltd 2021.

2.0 Background

Havant Council is within a designated Nitrates Vulnerable Zone and the receptors are of high sensitivity: national and internationally designated sites: The Solent.

Given the evidence of nitrogen and phosphorus loading in high concentrations in the Solent, the Habitats Directive requires sources of the contamination to be addressed and mitigated.

One source is the increase in wastewater from new housing.

Havant have undertaken much consultation with Natural England to arrive at a guidance and way forward to enable sustainable development.

The aim is "nutrient neutrality" through strategic mitigation and offsetting in order to ensure the required developments can be constructed and operated appropriately within the requirements of the Habitats Directive.

Havant published their Position Statement and Mitigation Plan for Nutrient Neutral Development in August 2020.

The subject application requires mitigation based on the Natural England and Havant strategy.

3.0 Methodology

The Position Statement and Mitigation Plan for Nutrient Neutral Development outlines two main Mitigation Options for developments to achieve their “Nutrient Neutrality”:

- On-Site Mitigation
- Off-site Mitigation

4.0 Proposed Development

The scheme responds to the site being a strategic allocation site for housing development within the Havant Site Allocations document and the emerging Local Plan.

The scheme comprises:

Outline planning application for the development of 150 dwellings, biodiversity enhancements including biodiversity buffers and species-specific enhancements, SUDS, community orchard, associated landscaping, parking and access.

The development area of the site is 4.2ha. The total application boundary is 7.2ha, but the non-developable area to the north is to be retained for habitat enhancement purposes.

Hence it is considered appropriate to use the 4.2ha in the Nutrient Budget Calculation.

5.0 Mitigation Option 1: On site Mitigation

The site is not currently categorised as Agricultural Land (following Natural England’s categories).

It is therefore not feasible for the scheme to mitigate on site.

Off-site mitigation is the only option.

Note:

The site is not of the size or suitable setting for wetlands or reed beds. The ecology survey and impact assessments confirm the type of habitats that are to be retained and enhanced, appropriate to the site and adjacent habitats.

The scheme does however incorporate very bespoke SUDS (Sustainable Drainage Systems: note the “urban” was removed in the early 2000’s).

The scheme incorporates oversized SUDS as per the FRA&SUDS report. One of the potential SUDS specifications is for the rain downpipes to drain directly to planters with storage.

This will provide an interception to the overall surface water volume generated and natural filtration to capture any nutrients within the soil stratum of the planters.

The scheme also incorporates permeable paving; this again will provide interception and natural filtration.

These are confirmed “Source Control” measures and therefore suitable small scale mitigation measures suitable for the proposed urban setting.

6.0 Mitigation Option 2: Off Site / Contributions

Given the scheme and site setting, a Nutrient Balance was undertaken using the Natural England Calculation spreadsheet.

The 4 Steps of the Natural England calculation have been undertaken.

Refer to Appendix A for the Calculation Output.

Based on the current layout and outline stage of the scheme designs, the likely Total Nutrient loading requiring mitigation is c. 161.3kg per year.

The council has a mitigation charge currently of £1,241/kg.

The mitigation will be secured as is relevant for the discharge to Budds Farm / Warblington Farm Mitigation Scheme as per the Havant Position Statement and Mitigation Plan for Nutrient Neutral Development.

The contribution can be secured by a Section 106 / Grampian Condition and additional mitigation measures can be secured during reserved matters / planning conditions and developed further in detailed design.

7.0 Other Mitigation Measures

In addition to SUDS, the scheme is committed to minimising the use of and waste of potable water. The scheme is committed to the 110litres pppd target and will incorporate the required range of water saving technologies and infrastructure where appropriate. Water Butts will be incorporated wherever feasible to reduce the need for potable water.

All measures will be secured through Building Regulations (current and enhanced), the SAP commitments and relevant technical planning conditions.

No additional assessment is required based on the site and scheme specific assessment.

Appendix A

Nitrogen Budget Calculation

Planning Application Reference No.	
Site Name:	Cabbage Row, Swanmore Road, PO9 4EX
Additional Information:	
Outline planning application for the development of 150 dwellings, biodiversity enhancements including biodiversity buffers and species-specific enhancements, SUDS, community orchard, associated landscaping, parking and access.	
Date:	03 August 2021

Stage 1	Calculate total Nitrogen in kg per year derived from the development that would exit the Wastewater Treatment Works (WwTW) into Solent catchments after treatment	
Step 1	Calculate additional population	
	Enter the number of units proposed	150
	Net population increase per housing unit	2.40
	Total net population increase generated by the development	360.00
Step 2	Calculate wastewater volume generated by the development	
	Water use in litres per person per day	110
	Total wastewater volume generated by the development (litres per day)	39,600
Step 3	Confirm receiving WwTW and permit limit	
	Select the wastewater treatment works the development will connect to	Budds Farm
	Wastewater treatment works' permit limit (mg per litre)	9.7
	Wastewater treatment works' discharge level (mg per litre)	8.7
Step 4	Calculate total nitrogen in kg per year discharged by the WwTW	
	Deduct acceptable Nitrogen loading in wastewater (mg per litre)	6.7
	Total Nitrogen discharged by WwTW (mg per day)	266,508.0
	Total Nitrogen discharged by WwTW (kg per day)	0.2665
	Total Nitrogen discharged by WwTW (kg per year)	97.3

Stage 2	Calculate existing (pre-development) nitrogen from current land use of the development site	
Step 1	Total area of development site	
	Enter the total area of the development site (hectares)	4.20
Step 2	Identify current land uses of the development site	
	Enter area currently used for urban development (hectares)	0.00
	Enter area currently used for open space / greenfield (hectares)	4.20
	Enter area currently used for woodland (hectares)	0.00
	Enter area currently used for community food growing / catchment average (hectares)	0.00
	Enter area currently used for cereals (hectares)	0.00
	Enter area currently used for dairy (hectares)	0.00
	Enter area currently used for general cropping (hectares)	0.00
	Enter area currently used for horticulture (hectares)	0.00
	Enter area currently used for pig farming (hectares)	0.00
	Enter area currently used for lowland grazing (hectares)	0.00
	Enter area currently used for mixed farming (hectares)	0.00
	Enter area currently used for poultry farming (hectares)	0.00
	Check to help ensure that sum total of land uses in Step 2 equals site area in Step 1	4.2
Step 3	Calculate nitrogen load from current land usage	
	Total Nitrogen load from current land usage (kg per year)	21.0

Nitrogen Budget Calculation

Stage 3	Calculate nitrogen load for the non-built land uses proposed for the development site	
Step 1	Identify proposed land uses of the development site	
	Enter the total urban area to be created (hectares)	4.00
	Enter the total designated open space / SANG area to be created (hectares)	0.10
	Enter the total nature reserve area to be created (hectares)	0.00
	Enter the total woodland area to be created (hectares)	0.10
	Enter the total community orchard area to be created (hectares)	0.00
	Enter the total community food growing / allotment area to be created (hectares)	0.00
	<i>Check to help ensure that sum total of proposed land uses equals site area in Stage 2</i>	4.20
Step 2	Calculate total Nitrogen load from proposed land uses	
	<i>Total Nitrogen load from future land uses (kg per year)</i>	58.18

Stage 4	Calculate the net change in Nitrogen load from the proposed development	
Step 1	Identify Nitrogen load from wastewater (Stage 1)	
	<i>Nitrogen leaving wastewater treatment works (kg per year)</i>	97.28
Step 2	Calculate net change in Nitrogen load from land use changes	
	<i>Total Nitrogen load from future land use (kg per year)</i>	37.18
Step 3	Calculate total Nitrogen budget for the development site	
	<i>Nitrogen budget for the site (kg per year)</i>	134.45
Step 4	Calculate precautionary buffer if Nitrogen budget exceeds zero	
	<i>Precautionary Nitrogen buffer (kg per year)</i>	26.89

Total Nitrogen budget for the proposed development (kg per year)	161.3
Development will generate additional Nitrogen - Mitigation is required Please liaise with your Local Planning Authority for advice on next steps	