

Nutrient Neutrality Assessment and Mitigation Strategy (NNAMS) for 1 dwelling on land within curtilage of Rowan Tree Cottage, Sutton Mandeville, Wiltshire SP3 5NG

Planning Reference TBC, Wiltshire Council



Client	N Hoey
Nutrient Catchment SAC	Hampshire Avon
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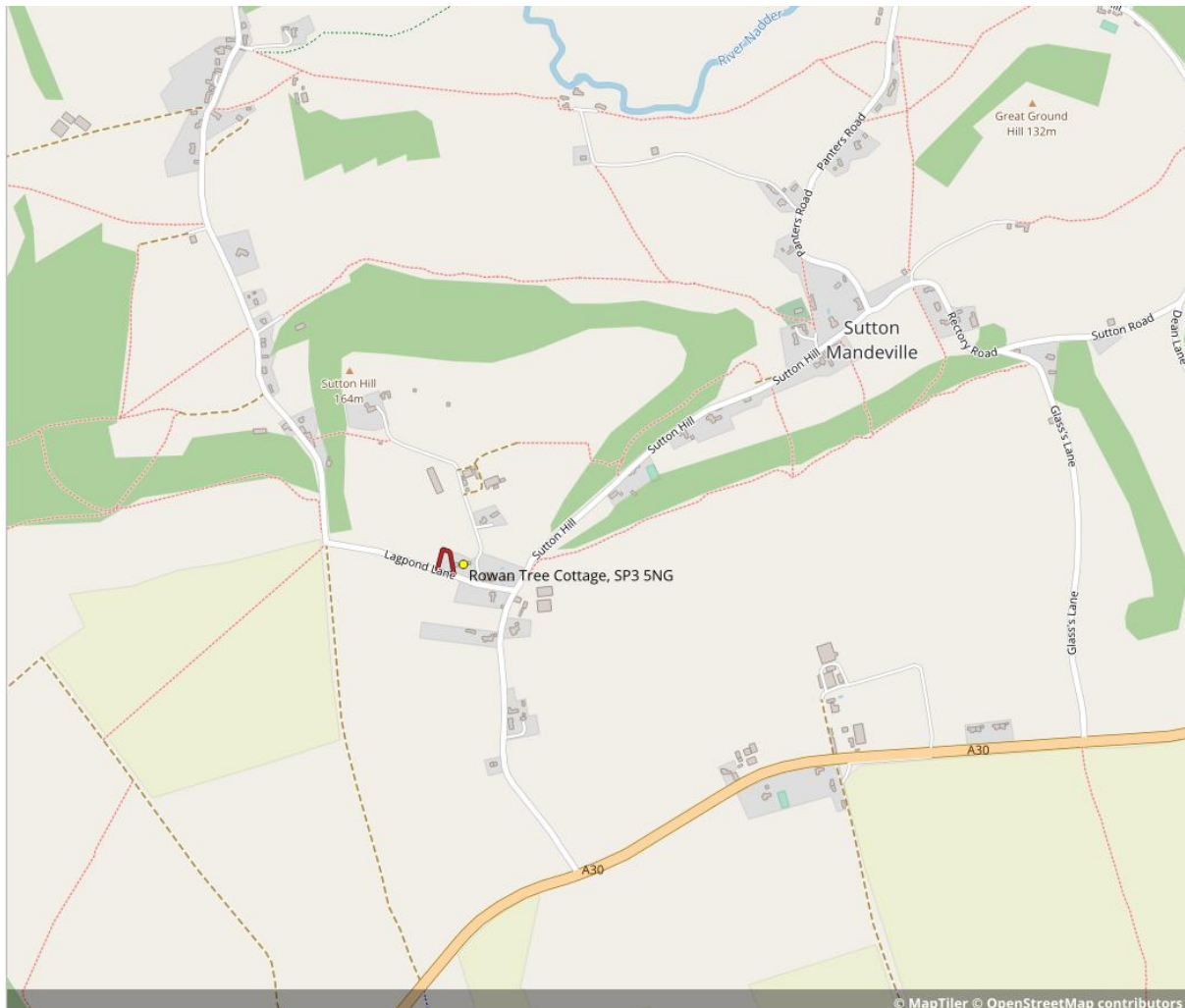
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1.0 Background

- 1.1. This Nutrient Strategy has been prepared to provide information to Wiltshire Council in support of a planning application in preparation for the erection of a single new dwelling within the current plot of Rowan Tree Cottage, SP3 5NG.

FIGURE 1 SITE LOCATION



- 1.2. The information within this Nutrient Strategy is provided to meet requirements under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).
- 1.3. In January 2024, Defra issued a policy paper¹ notifying the designation of catchments sensitive to nutrient pollution. This includes the catchment of the Special Area of Conservation (SAC) for the Hampshire Avon, identified as being in unfavourable condition on account of phosphorus pollution². The implication of this is that many developments in the catchment of the Hampshire Avon cannot be granted planning

¹January 2024, DEFRA. The Designation of Sensitive Catchment Areas Notice 2024

²<https://www.gov.uk/government/publications/notice-of-designation-of-sensitive-catchment-areas-2024/notice-of-designation-of-sensitive-catchment-areas-2024>

permission unless it can be shown that the additional nutrients are mitigated by nutrient pollution reductions elsewhere in the catchment.

- 1.4. A nutrient budget calculation is therefore required to ensure that Wiltshire Council has sufficient information to conduct an appropriate assessment to consider the impacts of the application. A proposed mitigation strategy is also required.
- 1.5. This strategy takes full account of all information provided by Wiltshire Council on the Council's dedicated nutrient neutrality website³. It also draws on Hampshire Avon SAC nutrient budget calculator (v_03_01_6) and guidance resources on the Government website "Tools and resources for calculating nutrient neutrality"⁴, updated most recently in March 2026.

2.0 Nutrient Budget calculation

- 2.1. Box 1 below sets out the parameters and assumptions used to assess the additional nutrient loading that will be generated by the proposed scheme.

TABLE 1 ASSUMPTIONS RELEVANT TO THE ASSESSMENT OF ADDITIONAL NUTRIENT LOADING

- o Location - o Operational Catchment: The discharge point of treated wastewater from the development enters the Hampshire Avon Nutrient Sensitive Catchment. See Catchment Map in Appendix 1. - o Wastewater treatment: Wastewater from the development will be treated via a Package Treatment Plant (PTP) located within the red line boundary of the development. The PTP will perform at a discharge level of 0.6mg/l TP. See Appendix 3 for PTP details and performance certificate. - o Additional dwellings - o The development comprises an increase of 1 dwelling. - o Occupancy: - o The nutrient budget calculator's default assumption on occupation rates is used i.e. 2.4 persons per dwelling. - o Total wastewater per person: - o The nutrient budget calculator's default assumption i.e. 120 litres per person per day is used. This is in line with Wiltshire Council's policy requirement for new dwellings to be designed to achieve a performance of 110 l/person/day and Natural England's advice to allow an additional 10 l/person/day buffer. - o Rainfall band of development location: The relevant rainfall band is 900-950mm. See Rainfall Map in Appendix 1. - o NVZ status of development location: Within NVZ. See NVZ Map in Appendix 1. - o Soil Drainage at location: Freely Draining. See Soils Map in Appendix 1. - o Current Land use: The red line area (c. 0.085Ha) of the proposed development comprises 0.075 Ha of Greenspace (garden) and 0.01Ha of Residential Development

³ <https://www.wiltshire.gov.uk/article/6209/Phosphorus-and-nitrogen-mitigation>

⁴ <https://www.gov.uk/government/collections/tools-and-resources-for-calculating-nutrient-neutrality>

(Sheds, portacabin, hard standing and gravel) associated with the adjacent existing dwelling (Rowan Tree Cottage). See Current Land Use Map in Appendix 1.

- o **Future Land use:** once developed, the land use will retain 0.065 Ha of Greenspace (garden) with the remaining 0.02Ha comprising Residential Development (the new dwelling and associated parking area). See Future Land Use Map in Appendix 1.

- 2.2. The above assumptions have been entered into the relevant Nutrient Budget Calculator for the Hampshire Avon SAC⁵
- 2.3. The first stage of the calculation calculates the nutrient budgets arising from wastewater. As the treatment will be via a PTP, then unlike treatment via a Wessex Water sewage works, there is no difference in loading from the development in the periods pre-April 2030 and post-April 2030. The development results in a 0.06kg per year increase in TP released from the development.
- 2.4. To address the overall net nutrient budget for the development, it is important to also consider how rates of nutrients leaching from the ground will change in response to a changed land use. The Current and Future land use stages of the calculation assess the total nutrient losses to the water environment that is currently taking place and compares this to the losses that will occur once the development is built. For this development, the slight loss of green space and increase in residential development area leads to a net increase in TP of 0.02kg per year.
- 2.5. Finally, the calculator generates a net nutrient loading for the scheme to take account of loading from treated wastewater, the impacts of any change of use of the land arising from the development and then increases any net positive loads by 20%, to buffer for uncertainties within the calculation assumptions.
- 2.6. The results of this process are set out in Figure 2, below. The full Nutrient Budget calculator (Appendix 2) is attached separately.

⁵ <https://www.gov.uk/government/publications/river-avon-sac-nutrient-neutrality-calculator>

FIGURE 2 FINAL NUTRIENT BUDGET OUTPUT, INCLUDING 20% BUFFER

Total nutrient budget calculations	
Description of values generated	Values generated
Wastewater TP load (kg TP/year):	0.06
Net land use TP change (kg TP/year):	0.02
TP budget:	0.08
TP budget + 20% buffer:	0.09
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	0.09

- 2.7. The calculations show that the proposed development will generate **0.09kg** of total phosphorus (TP) per year.

3.0 Mitigation strategy

- 3.1. To mitigate the impacts calculated in the Nutrient Budget, nutrient mitigation credits will be purchased from either Wiltshire Council's Nutrient Credit scheme or a nutrient mitigation scheme that has been approved by Natural England and ratified by Wiltshire Council.
- 3.2. The applicant will ensure that valid credits equivalent to the Nutrient Budget calculation are purchased and legally secured prior to occupation of any part of the development.
- 3.3. To further ensure this mitigation is sufficient, the applicant agrees to the following planning conditions:
- **Water efficiency condition** The development hereby approved shall be designed to ensure it does not exceed 110 litres per person per day water consumption levels (which includes external water usage) and a water efficiency assessment should be submitted. Before the development is brought into use, a water efficiency report certifying that this standard has been achieved shall be submitted to the local planning authority for its written approval.
 - **PTP Condition** The proposed package treatment plant and drainage field shall be installed, maintained and operated in accordance with the submitted specification and details hereby approved. Any subsequent replacements shall have an equivalent or improved performance specification. The package treatment plant and drainage field shall be installed, connected and available for use before the development is occupied and they shall be maintained and operated thereafter for the lifetime of the development.

4.0 Shadow Habitats Regulations Assessment (sHRA) Conclusion

- 4.1. This section provides the necessary evidence for Wiltshire Council to adopt in their formal Appropriate Assessment.

Likely Significant Effects

- 4.2. A nutrient budget calculated in line with the latest Wiltshire Council and Natural England guidance shows that the proposed development will generate a nutrient surplus of 0.09kg TP per year.
- 4.3. Without mitigation, the development would result in a likely significant effect on the Hampshire Avon SAC through increased nutrient loading.

Mitigation

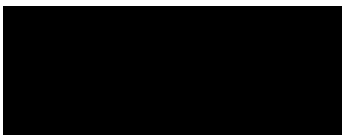
- 4.4. To mitigate this impact, consent can be granted with a Grampian condition precluding the start of development until valid nutrient mitigation has been secured in line with the Mitigation strategy.

Conclusion

- 4.5. With appropriate planning conditions in place, Wiltshire Council can conclude in its Appropriate Assessment that increased nutrient loads from the proposed development will not adversely affect the integrity of the Hampshire Avon SAC, either alone or in combination with other plans and projects.

5.0 Report Authorisation

- 5.1. This NNAMS report has been prepared in accordance with the conditions set out in Appendix 4.



David Baxter

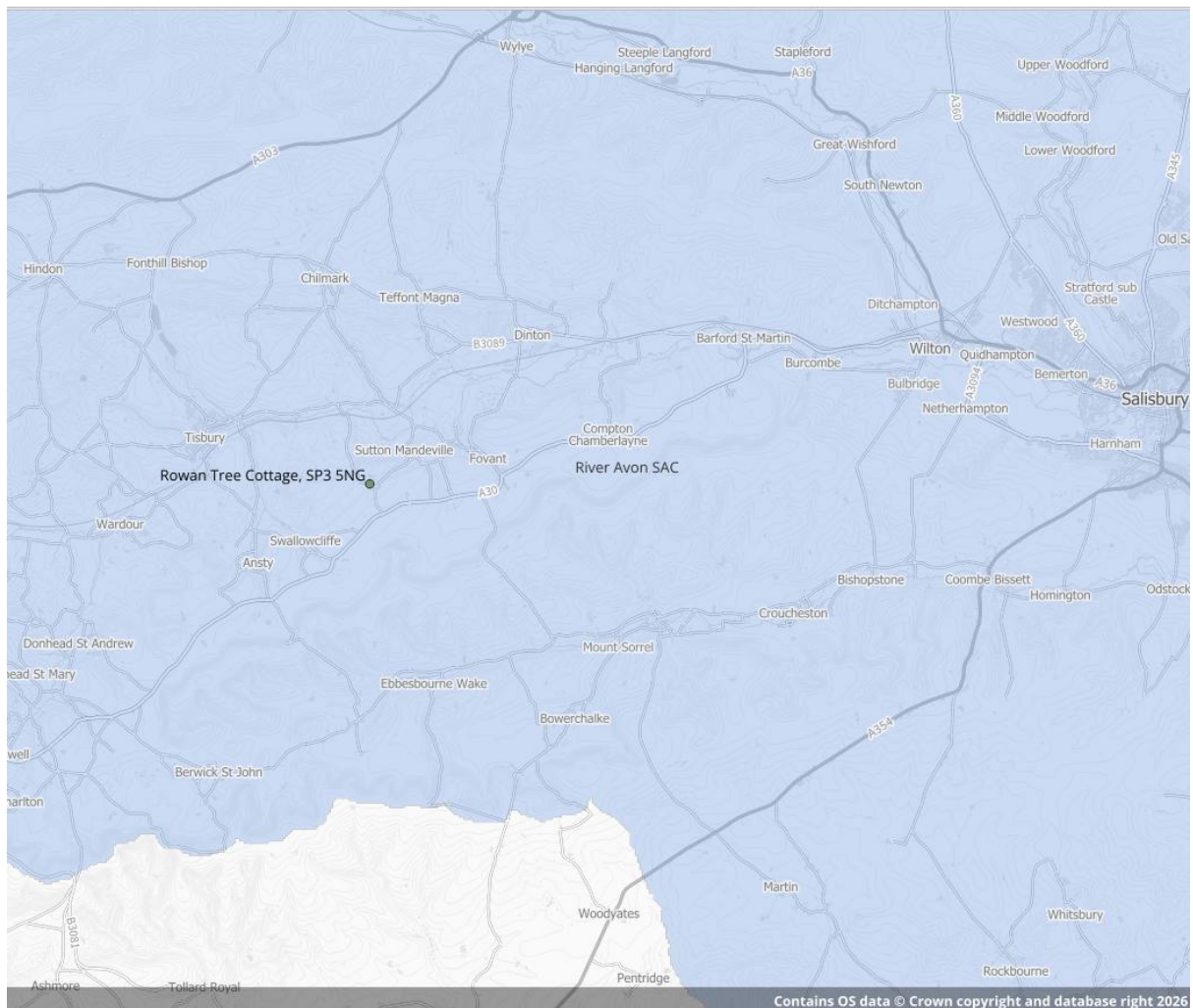
Director

David Baxter Environmental Ltd

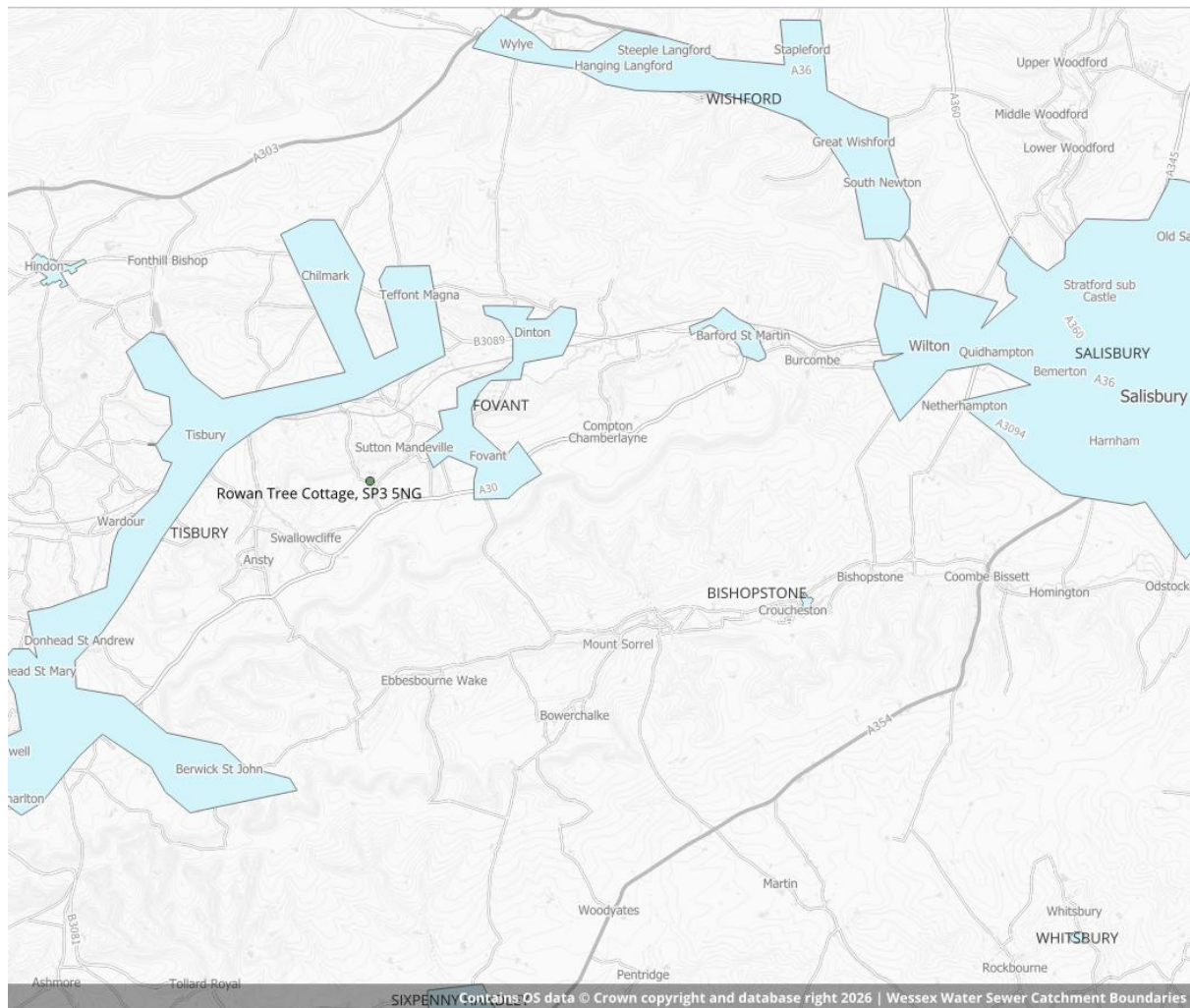
Appendices

Appendix 1 Development Context Maps

Location within Hampshire Avon SAC catchment



Location outside any Wessex Wastewater Treatment Works catchment



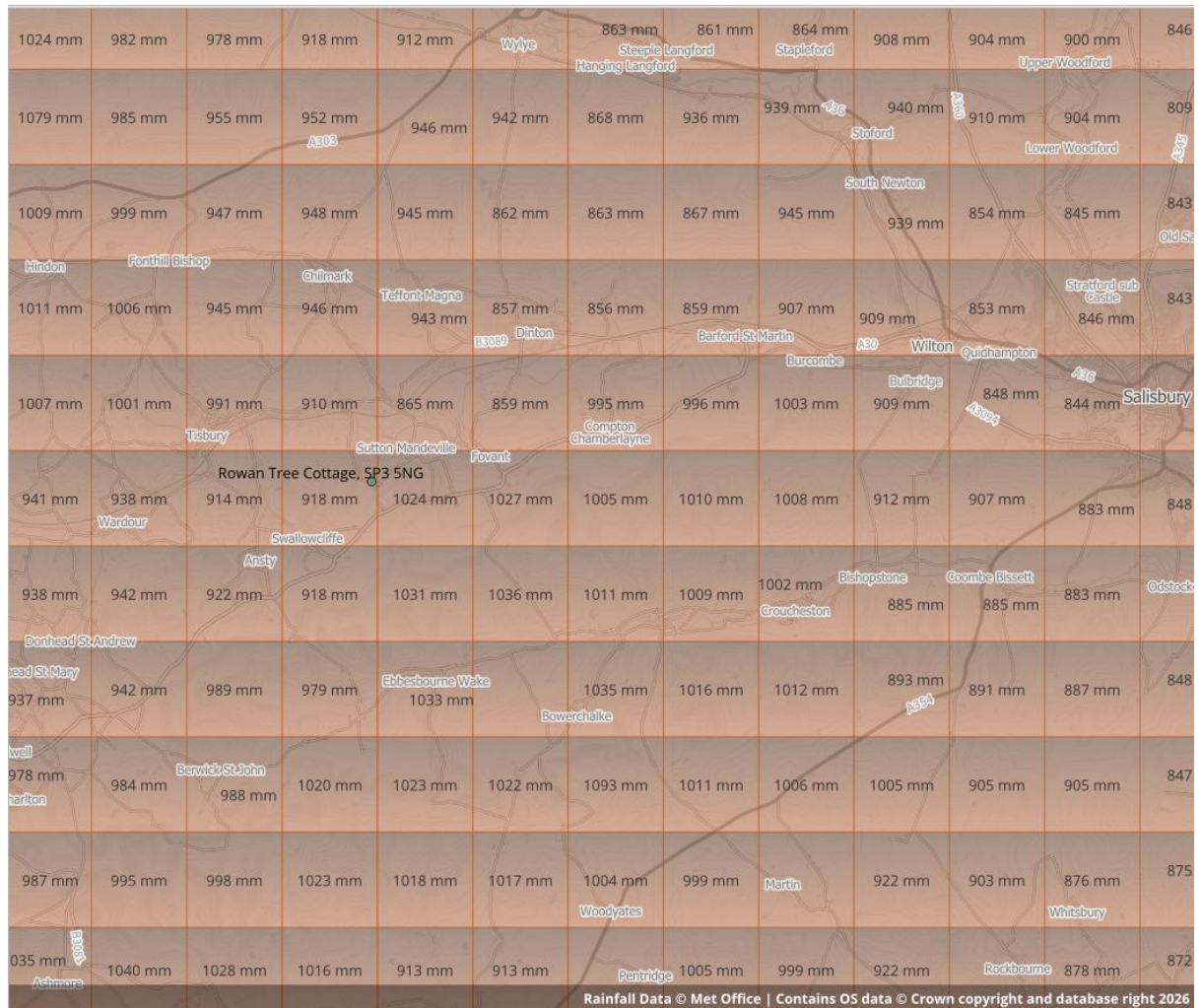
Current Land Use – (Greenspace = 0.075Ha, Outbuildings = 0.01Ha)



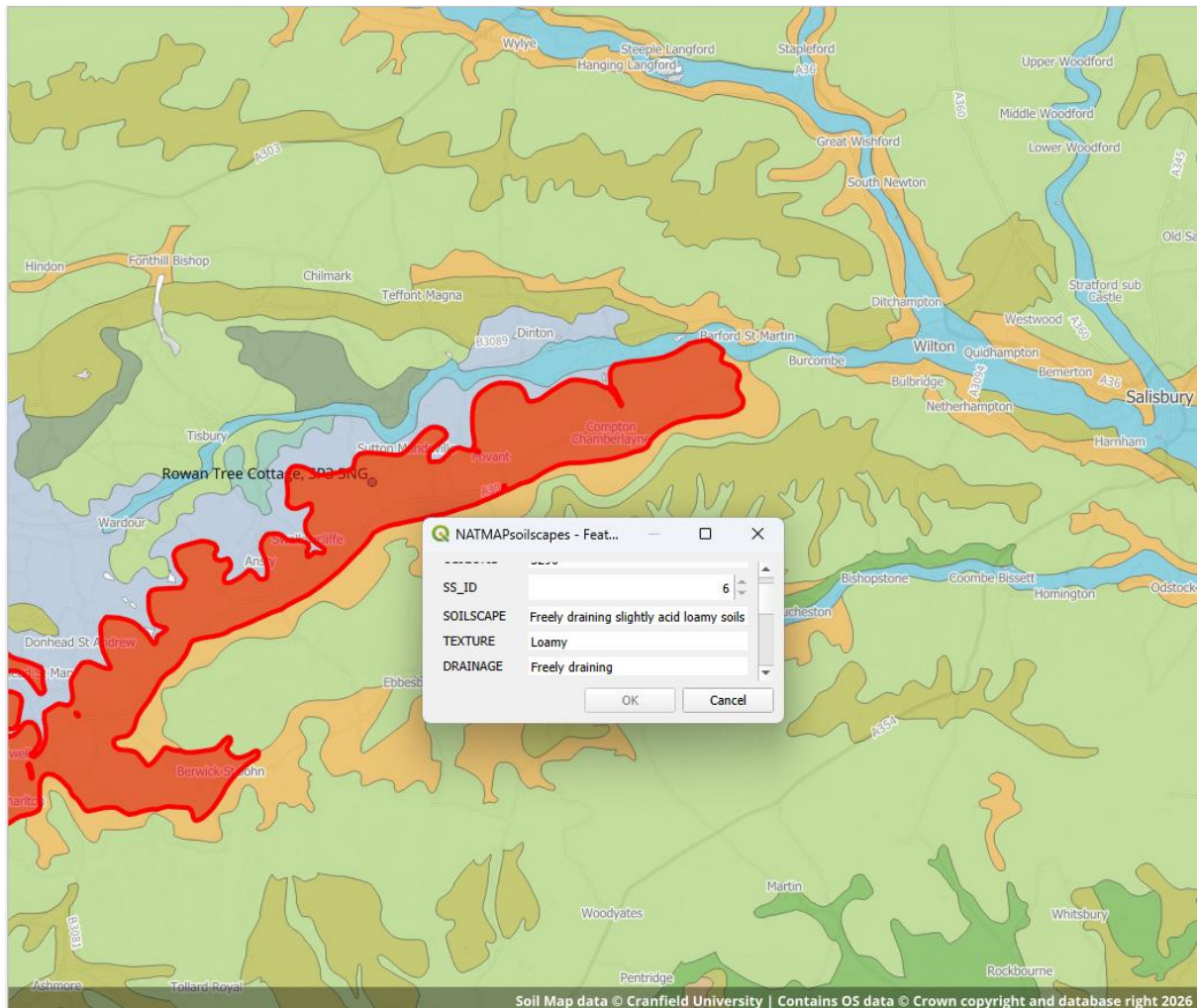
Future Land Use – (Greenspace= 0.065Ha, Buildings & Parking= 0.02 Ha)



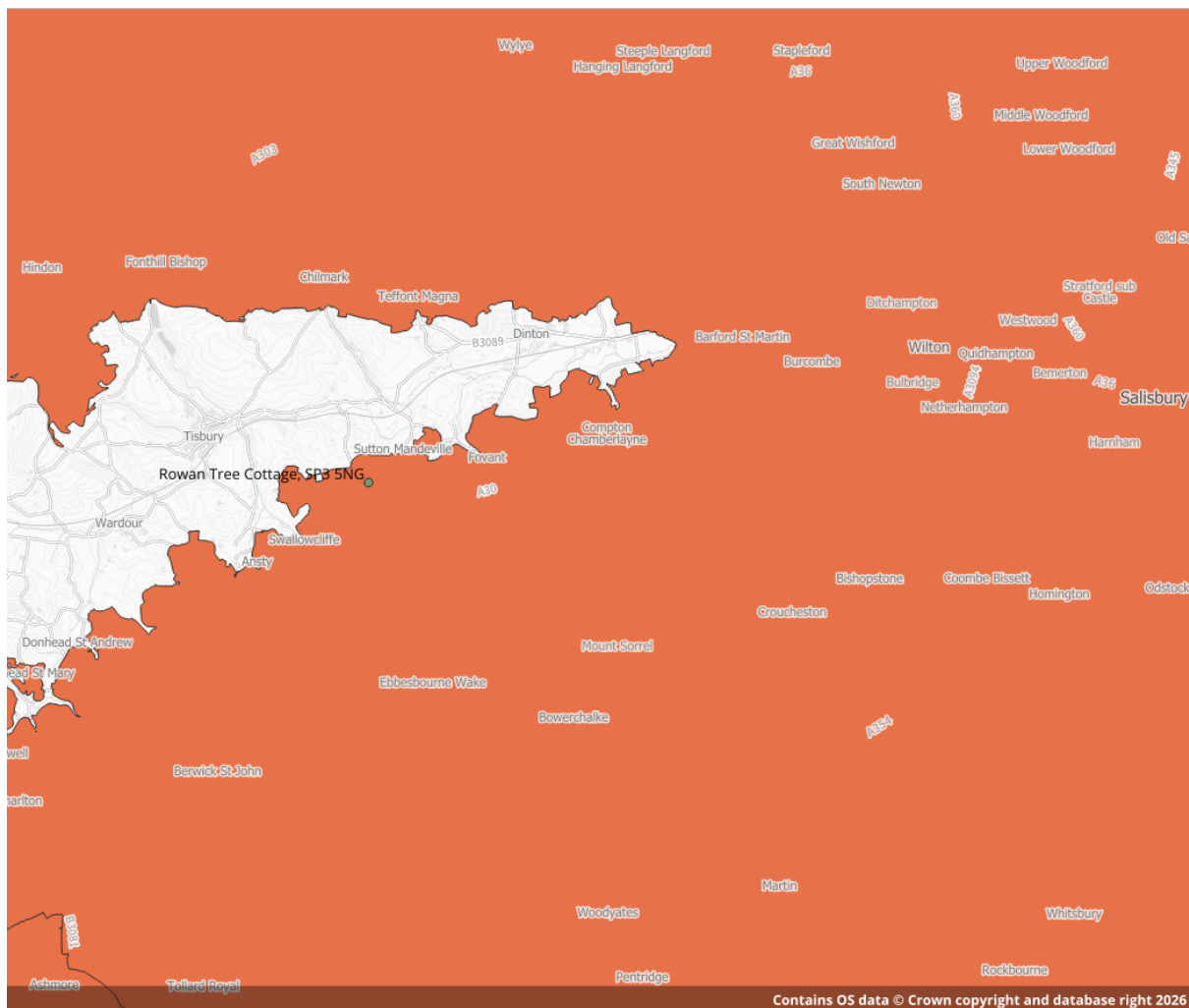
Rainfall – 918mm



Soilscares – Freely Draining



NVZ Designation – Yes (South Wessex Groundwater NVZ)



Appendix 2 Nutrient Budget Calculator (attached separately)

Appendix 3 Evidence to justify use of bespoke assumptions

PTP Description and Performance Certificate

The development will instal a Fuji Clean CRX Package Treatment Plant (PTP). This PTP is widely used in rural areas with nutrient neutrality constraints. In line with Natural England recommendations, the PTP does not use chemical dosing to achieve its performance discharge of 0.6 mg/l TP.

Installation and maintenance will be conducted by local accredited construction engineers, MJ Abbot Ltd (<https://www.mjabbott.co.uk/>).

Details of the system were accessed from British Water “List of Certified Small Wastewater Treatment Systems Up to 50PT” on 5 October 2026.

- <https://www.britishwater.co.uk/page/Accreditation-Certificationcertified-small-wastewater-treatment-systems-for-up-to-50-pt>

The link to its performance certificate is below, followed by a screenshot of the certificate itself.

- www.britishwater.co.uk/resource/resmgr/pia_certificates/haigh_group_ltd_457b03_crx_i.pdf

Certificate

Nr. 457.1C2

CRX II

Primary settlement zone with electro-coagulation unit and submerged fixed bed biofilm reactor

Fuji Clean Co., Ltd.

4-1-4 Imaike, Chikusa, Nagoya, Aichi 464-8613, Japan

EN 12566-3:2005+A2:2013, Annex B: Treatment efficiency test

Small wastewater treatment systems for up to 50 PT – Part 3: Packaged and/or site assembled domestic wastewater treatment plants

Detailed results and information on the test are provided in test report PIA2024-457B03.



Extract of performance details (EN 12566-3, Annex B: Treatment efficiency test)

Organic daily load (influent, nominal)	0.21 kg BOD ₅ /d		
Hydraulic daily load (nominal)	0.65 m ³ /d		
Treatment efficiency (nominal)		Efficiency	Effluent
	COD	95.8 %	32 mg/l
	BOD ₅	98.3 %	5 mg/l
	TN ₅	71.8 %	18 mg/l
	NH ₄ -N	73.8 %	12.0 mg/l
	P _{tot}	93.5 %	0.6 mg/l
	SS	97.8 %	8 mg/l
Electrical consumption (nominal)			1.75 kWh/d *
			1.41 kWh/d **
Number of desludging (complete test – 38 + 4 weeks)			0
Number of maintenance operations during the test (without start-up phase)			2

* inclusive of transformer 240 V-110 V

** exclusive of transformer 240 V-110 V

Tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
Hergenrather Weg 30
52074 Aachen, Germany

This certificate is for information purposes only and replaces neither the related test report nor the declaration of performance or the CE marking. The results relate only to the tested object.

PIA – Sustainable Certification



November 2024, Dipl.-Ing. Gabriel Schatzki
Head of department "Wastewater Testing"



Notified Body
No.: 1739



Certified according to
ISO 9001:2015

Appendix 4: Conditions and Limitations of Nutrient Assessment

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Third-Party Data & Information: Unless explicitly stated otherwise, this nutrient budget calculation and assessment rely on site-specific information provided by the Client, architectural layouts provided by the Client's agents, manufacturer performance data, and public datasets published by Defra and its arm's length bodies, the Meteorological Office, Cranfield University, statutory water companies, and local authorities. No liability is accepted for inaccuracies, errors, or omissions within third-party data or manufacturer performance specifications.

Desktop Assessment: Unless stated otherwise within the report body, this assessment has been conducted as a desktop evaluation using spatial mapping on QGIS software, regulatory datasets, and client-supplied plans. No physical site visit or soil core sampling has been undertaken unless specifically contracted.

Regulatory Changes & Catchment Policy: Guidance, calculators, and policies relating to Nutrient Neutrality and Habitats Regulations Assessments are subject to ongoing revision by Defra, Natural England, and Local Planning Authorities. This report reflects the regulatory frameworks, calculator tools, and catchment guidance active at the date of publication. David Baxter Environmental Ltd accepts no liability for delays or adjustments required due to subsequent statutory policy or tool changes post-submission.

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