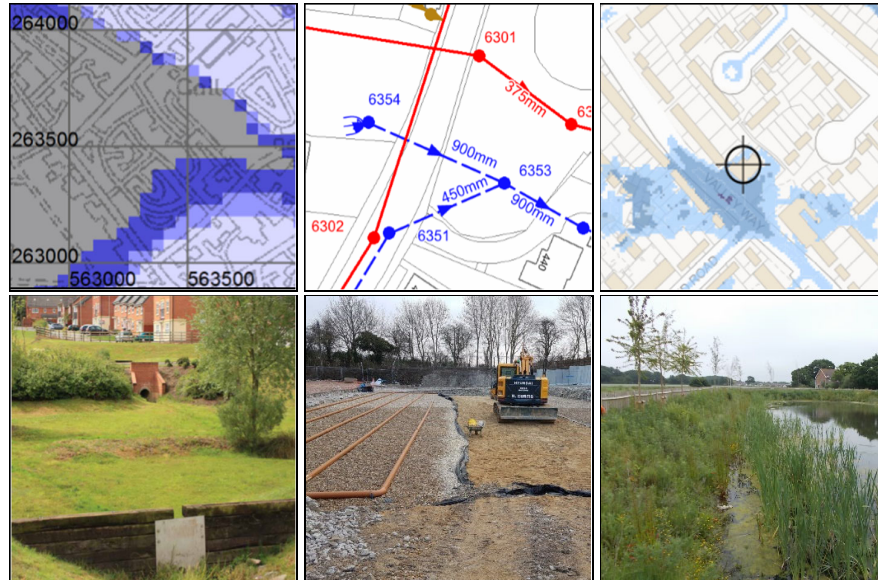




Nutrient Assessment & Budget

**Hilton House, Weston Parade
Southampton, Hants**

Reference: 25206

Issue: **Date:**

1 19/12/2025 *To NE 16/03/2022 methodology with
replacement NE calculator May 2024*

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1. Introduction

- 1.1 Instructions were received from BAD Studio to undertake an assessment of the nutrient impact for the development of 5 touring caravan pitches at Hilton House, Weston Parade, Southampton, Hants.
- 1.2 This assessment has been undertaken by A P Traves BSc CEng MStructE MCIHT.
- 1.3 The client's attention is drawn to the conditions and limitations contained in Appendix D.

2. Development Description & Location

- 2.1 The site comprises some 0.46 Ha of existing residential urban fabric at Hilton house, Weston Parade, Southampton, Hants. The site location is indicated on the BAD Studio location plan 2409-01 contained in Appendix A of this report.
- 2.2 It is proposed to develop 5 touring caravan pitches within the grounds. The proposed layout is indicated on BAD Studio site plan 2409-04 contained in Appendix A of this report.

3. Background to Nitrogen Nutrient Assessment

- 3.1 The background to the issue is set out in current Natural England Advice note version 5 of June 2020 -Achieving Nutrient Neutrality for New Development in The Solent Region (NEv5). Reference should be made to NEv5 for a more in depth understanding which is summarised in the following paragraphs. Reference should also be made to Natural England- Nutrient Neutrality Generic Methodology dated 1 February 2022 (NE-gen1). Whilst NE-gen1 provides update on the calculation approach NEv5 is still current as this contains the catchment specific guidance on mitigation location. NE- gen1 was issued to LPAs on 16 March 2022 and the calculator has been replaced a number of times to address errors/omissions and in January 2024 to take account of upgrade of public Wastewater Treatment Works (WwTW) defined by the Levelling Up and Regeneration Act 2023. And was replaced again in May 2024 to reflect further scheduling to the Levelling Up and Regeneration Act 2023.
- 3.2 The Solent water environment is internationally important and is protected under the Water Environment Regulations and the Conservation of Habitats and Species Regulations, as well as national protections. There are high levels of nitrogen and phosphorus nutrients in these waters and the evidence indicates these nutrients are causing eutrophication of the waters (excess mats of dense green algae which deplete oxygen as these subsequently decay)
- 3.3 The total nutrient content comes from a number of component parts:
 - i. Agricultural use of fertilisers, particularly in the latter half of the 20th century
 - ii. General coastal background content
 - iii. Nitrate within final discharge from sewage treatment works
 - iv. Diffuse urban rainfall runoff from urban surfaces
- 3.4 Since the late 1980's and early 1990's the agricultural sector has reduced the nitrogen content in applied fertiliser by around 35%. However, the Chalk aquifers which underly the region and which are the dominant source of river flows into The Solent contain a massive amount of legacy nitrogen mainly in the form of soluble nitrate, from decades of previous agricultural practice. It is anticipated that it will take decades from now for the nitrogen content in groundwater to gradually reduce.
- 3.5 Nitrate in treated sewage is the natural product of the breakdown of ammonia contained in human waste. Historic practice was that the permitted concentration of ammoniacal nitrogen in the treated discharge was limited so that the ammonia to nitrate conversion occurred at the treatment works and took up oxygen within the works and did not

subsequently take up oxygen from out of the waters into which discharge was made to protect the receiving waters from deoxygenation ,ie that the discharge made would have a low Biological Oxygen Demand (BOD).

- 3.6 It has been recognised by the Environment Agency, water companies and OFWAT for some time that improvement of the Total Nitrogen (TN) content of discharge needs to be addressed. The water industry works in 5 year spending cycles/programmes referred to as Asset Management Plans (AMPs) and these three parties agree between them how much investment (which comes from increases in sewage bills) can be made in any AMP and what will be delivered in terms of improvement for the investment permitted (affordable). Since the beginning of AMP4 in 2005 Southern Water have begun to systematically upgrade existing treatment works to provide 'nitrogen stripping'. This process has to be artificially 'forced' by careful and continuous control of the treatment process to create a low oxygen environment which 'debonds' the oxygen from the nitrate and stimulates the emission of gaseous nitrogen into the atmosphere (which is 78% nitrogen). This nitrogen release is thus stripped from the effluent that discharges into the receiving waters. It is not practicable to strip 100% of the nitrogen from the sewage, and the upgraded treatment works typically operate to a new TN permit level of around 10 mg/L compared to typical value of around 27 mg/L for traditional works without TN permit limits.
- 3.7 Treatment works upgrades are difficult and complex to plan and deliver in the context of three of the main constraints:
- There is little space at most works for the finished new infrastructure
 - The existing works has to continue to operate during the upgrade and there is little room for this and the working space needed to construct the new infrastructure.
 - The investment cashflow is regulated by OFWAT against bill increases and notwithstanding this there are a finite number of specialists to plan and deliver this so there can only be a limited rate at which the upgrades are delivered.
- The economies of scale and immediate proximity to The Solent has dictated that it is the large coastal treatment works which have been prioritised by Southern Water in AMPs4-7 from 2005-2024.
- 3.8 The introduction of WwTW upgrades through the Levelling Up and Regeneration Act 2023 appears to have been programmed to match the AMP cycle in that the initial tranche of upgrades have been scheduled in January 2024 which coincides with Price Review 2024 (PR24) in which OFWAT and the water industry agree the AMP8 2025-2030 works programme. The initial tranche of upgrades now required have to be delivered by 2030 which coincides with the end of the AMP8 period. It seems likely that the Secretary of State would in future review and update scheduling in the year preceding the next PR ie in 2028 for PR 2029 as the Levelling Up and Regeneration Act requires a minimum period of 7 years allowed for upgrades from scheduling which would coincide with the period of the impending AMP at that time ie AMP9 2030-2035.
- 3.9 The NE-gen1 methodology is aimed at planning permissions for proposed developments and does not address agricultural practice or the water industry AMP process. The NE-gen1 methodology is built off a single fundamental premise. This assumes that persons at work or using non-residential offices and commercial/retail premises must also live in the catchment. In the round this is a reasonable basis on which to look at the total sewage volume. However in zero rating commercial development from nitrogen loading it inherently means that residential developers fund the nitrogen nutrient mitigation of all non-residential commercial development in the region.
- 3.10 As set out in paragraph 3.4 there is a massive amount of largely agricultural legacy nitrogen in the Chalk aquifer below the region which forms the base flow to the rivers flowing into The Solent. The drinking water supplies in southern Hampshire are drawn from this groundwater and these rivers, and this typically contains 7-8 mg/L of nitrogen that does not stem from the proposed developments. The previous NEv2 methodology did not recognise

that this represents around 85% of the nitrogen returned to the water environment from upgraded WwTWs and around 30% from traditional WwTWs. NEv5 gives a 2 mg/L allowance ie about 20% on upgraded WwTW effluent and 7% on traditional WwTW discharges. Whilst this is only partial recognition it is better than the previous NEv2 that made no recognition at all. In effect residential developers will therefore also be funding the mitigation of the unrecognised legacy nitrogen predominantly from historic agricultural practices. The 2 mg/L value is still contained within the NE-gen1 assessment spreadsheet but is no longer as transparent as it was previously.

- 3.11 Natural England nitrogen assessment methodology NE-gen1 considers nitrogen for:
- 1) Land use with regard to nitrogen contained in surface water run-off and infiltration.
 - 2) Sanitation with regard to nitrogen content in the final treated discharge from the WwTW serving the development.

The assessment compares pre and post development quantities on nitrogen for the land use (1) and sanitation (2) to establish a final figure and then adds a 20% buffer to this.

- 3.12 Natural England advise the NE-gen1 methodology is advised for all types of development that would result in a net increase in population served by a wastewater system, including new houses, student accommodation, tourism attractions and tourist accommodation.

4. Derivation of Sewage Load

- 4.1 The NEv5 methodology used a blunt 2.4 average household occupancy and 110 litres per person per day (LPD) for housing as a default. Southampton CC adopted a bespoke bedroom related population matrix from 18 July 2022. The calculator however relates to structures with a known number of bedrooms and hence deemed occupancy. The population of a touring caravan may vary. The national default household size of 2.4 persons has therefore been attributed.

- 4.2 NE-gen1 now recognises that water consumption on sites varies:

- Building Regulations maximum 125 LHD
- Building Regulations higher standard 110 LHD
- Higher standard by water efficiency calculation

NE-gen1 directs that the level of proposed water usage is increased by 10 LPD *“to account for changes to less water efficient fittings through the lifetime of the development”*. This direction is contrary to the industry direction of travel, Southern Water’s own water supply policies which NE recognise in their February 2022 advice note regarding water neutrality within the Sussex North Water Supply Zone and associated Frequently Asked Questions document (December 2021) in which this demonstrates explicit awareness of Southern Water’s Target 100 *“to reduce water consumption in Southern Water’s whole water supply area in the long term (not just Sussex North), as set out in their Water Resources Management Plan.”* The evidence therefore points to a long term reduction in use NOT a long term increase.

- 4.3 There is a further fundamental error in that sewage load is less than not equal to water use. Water efficiency calculations include a 5 LPD for external use that is not returned to the sewer so does not form part of the sewage load. In water metered properties sewage bills are calculated at 95% of the water supply volume in recognition of this.
- 4.4 The Southampton CC position statement of 14 June 2022 identifies that SCC will apply a condition limiting water consumption to 100 LPD and directs that nutrient assessment shall be made with a value of 110 LPD.
- 4.5 It is not proposed to have a planning condition limiting the operating season for the proposed pitches ergo the assessment calculations are for a full year.

5. Wastewater Treatment Works

- 5.1 The site is remote from the public sewer and the applicant will not be installing any treatment plant to serve the touring caravans. Caravan owners will be required to retain waste in their caravan toilet cassette and to dispose of this elsewhere.
- 5.2 There is no certainty this will or won't subsequently be disposed of within the Solent nutrient catchment. It is reasonable to assume that the caravan occupants as tourists will frequent local attractions, shopping centres and bars/restaurants within the region. It is therefore reasonable to assume that on the balance of probabilities there will still be a net nutrient impact to the Solent nutrient catchment as a result of planning permission to operate 5 touring caravan pitches. It is uncertain to what regional attractions the pitch occupants might go. There are many naval/military and maritime attractions in Portsmouth and Gosport, likewise there are similar maritime/Titanic attractions in Southampton. There are a number of shopping/entertainment centres in Southampton, Hedge End, Whiteley, Fareham and Portsmouth close to the site. Most of these are served by four large Wastewater Treatment Works (WwTW) in the region
- | | |
|------------------|---------------------------|
| Millbrook WwTW | TN permit value 10.0 mg/L |
| Woolston WwTW | TN permit value 15.0 |
| Peel Common WwTW | TN permit value 9.0 |
| Budds Farm WwTW | TN permit value 9.7 |
| | Average 10.9 mg/L |

The average comes close to 10.0 mg/L TN and given also that the West Quay centre and Southampton city centre attractions area served by Millbrook WwTW and that this the closest significant entertainment centre Millbrook WwTW has been adopted as an appropriate proxy for calculation of impact.

6. Land Use Component

- 6.1 The site comprises 0.046 Ha of residential urban fabric. The proposed development is located within this fabric so there will inherently be no change in nitrogen from that land use component as a result of the proposed development.
- 6.2 The applicant does not propose to use SUDS to provide a reduction in the stage 3 post development figure from the base calculation load in surface water runoff to which 6.1 relates. This part of the calculator is therefore not applicable.

7. Nitrogen Assessment

- 7.1 The NE-gen 1 sewage loading, WwTW performance for TN and land use component are included in the calculations contained in Appendix C.
- 7.2 The calculations also include the 2 mg/L allowance in water supply from NEv5 discussed in paragraph 4.41. For the awareness of the LPA the actual nitrogen content removed from the environment in the water supply from the environment but not recognised in NEv5/NE-gen1 in most cases in the Solent area is very significantly greater than the NE methodology acknowledges.
- 7.3 The calculations indicate that inclusive of the 20% buffer there would be a net nitrogen increase of **+4.16 KgTN/yr** from the proposed development. **Note this is on the basis of an unrestricted operating season. If a seasonal operating condition were in place the calculated impact would reduce prorate.**

8. Mitigation

- 8.1 NEv5 Figure 1 subdivides the overall Solent catchment into 6 sub catchments. A copy of this Figure is contained in Appendix C.

- 8.2 The site lies in the Itchen subcatchment. However NEv5 paragraph 5.37 NEv5 paragraph 5.28 states the acceptable mitigation catchment locations for Millbrook WwTW are; River Test, River Itchen and Bartley Water.
- 8.3 Section 5 of NEv5 sets out various types of hypothetical mitigation. However most of these are impractical for modest numbers of dwellings in an urban context where served by the public sewer. These are briefly discussed below:
- 8.4 Notwithstanding this the site is served by Millbrook WwTW which has already been upgraded and is not scheduled for further upgrade from the Levelling Up and Regeneration Act 2023.
- 8.5 Installation of wetlands to treat foul and or surface water run-off from the site. Sites in urban catchments served by the public foul sewer network must connect to the public foul sewer unless this is too far away to be viable. In most urban contexts the sites are within viable distance of public sewer connection and application for an environment permit for private treated effluent discharge would be refused. Notwithstanding this treatment will not remove 100% of the nitrogen so whether by public treatment works or private treatment plant there will always be some residual nitrogen within the final treated foul water discharge.

The regulatory hierarchy for discharge of site surface water run-off requires that infiltration discharge (eg soakaways and permeable pavements) is provided where possible. Nitrogen treatment wetlands need to permanently retain water and are contrary to national drainage policy on permeable sites.

On non-permeable sites a proportion of the rainfall events that occur within a year are short showers that result in the ground being wetted but do not develop any run-off. The amount of annual run-off (Hydraulically Effective Rainfall, HER) is generally in the region of about 2/3 of the annual rainfall. The amount of annual surface water run-off for a site is therefore finite and limited by the impermeably surfaced area and site HER. Compared to foul water the nitrogen content is also much lower and NEv5 Appendix 2 indicates that 3mg/L is deemed representative. For crude general illustration purposes, assuming a positively drained area of say 200m² per dwelling and assuming an HER of say 500mm per annum with the prescribed nitrogen concentration of 3mg/L this would suggest the finite amount of nitrogen within the surface water run-off to be around 0.3 Kg per dwelling. The nitrogen removal efficiency of stormwater wetlands varies and NEv5 Appendix 4 indicates a median removal rate from studies to be 37%. It is therefore implicit from this that the total mitigation potential for the illustration would be around 0.1 KgTN/yr. The corresponding illustrative buffered TN discharge for treated foul water effluent from 1 dwelling would be of the order of 2.9 KgTN/yr for traditional WwTW and around 0.8 KgTN/yr for a dwelling served by WwTWs with nitrogen removal technology. It is generally not possible to mitigate more than 3-12% of the residual foul water impact by treating 100% of the site surface water run-off, so other mitigation will usually be required anyway.

Notwithstanding this the design of wetlands is a specialist activity and is not usually cost effective on a modest site scale. There is also a significant land take for the wetlands and there would be a requirement to set up and maintain a secured maintenance programme for operation of the wetland in perpetuity.

- 8.6 Some urban city authorities (eg Portsmouth CC) have a retrofit mitigation scheme whereby the increase in foul water effluent conveyed to the public WwTW from the site is offset by reducing the discharge from older existing housing stock by retrofitting modern water appliances. Southampton CC are operating such a scheme at a small scale Item 13 of the cabinet paper 14 June 2022 explicitly states *“the scale of the mitigation provided would be relatively limited, and so in the first instance, this should be used as mitigation for the Council’s own new development (eg the estates regeneration programme).* Confirmation would be required from SCC as to whether this application qualifies; if so how much

mitigation would be available; and the cost of the provision of that mitigation. There is no definitive programme of how much mitigation will be available from SCC retrofit and over what timescale. The potential to use such mitigation is presently indeterminate.

- 8.7 The most common approach is one of land use offset whereby the increase in nitrogen at the site is offset by a corresponding reduction in nitrogen elsewhere in the subcatchment eg by change of use from farm land to woodlands or community open space etc. Some sites can achieve mitigation within their own site when farmland of relatively high existing nitrogen discharge is developed for housing such that the reduction in the nitrogen from the change in land use is greater than the increase from the new foul water loading. For all other developments the mitigation land and development land are at different locations. There are three potential approaches to securing the necessary mitigation land:

- i. The applicant already controls a suitable area of private land.
- ii. Some LPAs already control such land and buy in to their scheme can be made.
- iii. Buy in to a third party scheme

It is a requirement that the change in use at the mitigation site is legally secured in perpetuity and that necessary maintenance to ensure the new low nitrogen usage is also secured. Whilst hypothetically a suitably sized piece of land could be privately procured at a suitable location and taken out of farming use to provide an offset reduction in nitrogen on that land in perpetuity, the urban south Hampshire location of the site, means this may be difficult to find as much nearby local land is similarly earmarked for potential future development.

- 8.8 In March 2020 Eastleigh Borough Council cabinet agreed an initial charging policy for nitrogen credits offered by an EBC scheme. EBC have since acquired 78.5 Ha of land to generate these credits and on 29 March 2021 EBC cabinet sanctioned a credit charging policy of £3,000 +VAT per Kg for the credits. Eastleigh Borough is located in the Itchen catchment, which NEv5 paragraph 5.28 states is interchangeable with the Test catchment in which the site discharge would be made. The EBC 29/3/2021 nitrogen credit charging policy paragraphs 9 and 15 confirm that developers outside the Borough may purchase credits *“as long as it can be demonstrated that the relevant LPA [SCC for this site] has received a valid planning application and ultimately that mitigation is secure in an appropriate planning agreement.”*

- 8.9 The anticipated costs for mitigation from EBC would be of the order £12,000 +VAT on this basis. Applications to the EBC scheme should be submitted to nutrientoffset@eastleigh.gov.uk

- 8.10 Ovington Park have a mitigation scheme at Roke Manor in the Test valley. Current information on the Roke Manor mitigation scheme may be obtained from ollie@ovingtonpark.co.uk.

- 8.11 In November 2023 the Government announced the creation of the Local Nutrient Mitigation Fund (LNMf) accessible to LPAs to *“enable LPAs to boost the supply of mitigation, by bring forward innovative mitigation schemes an providing mitigation credits. The funding will be recycled locally until nutrient mitigation is no longer needed, at which point it will be used for measures to help restore the relevant Habitats Sites.”* The ministers letter of 19 December 2023 confirm that **Fareham BC as lead for PfSH was awarded £9,600,000 from the first round of LNMf funding for use in provision of mitigation within the Solent and Itchen catchments. The PfSH meeting of 30 September 2024 (agenda item 12 refers) gives the first meaningful update on the roll out of mitigation from PfSH LNMf funding. This indicates:**

- 1.1-1.3 Stubbington agricultural reversion scheme is expected to have nutrient credits available from end of October 2024. The Stubbington scheme is unlikely to be suitably located to mitigate for the proposed development site but you should clarify this with PfSH.

- 1.4 water efficiency mitigation is referenced but no details is provided. Contact your own LPA about such availability and currency.
- 1.5 Winchester CC PTP upgrade mitigation credits scheme is expected to have credits available in the 2024 calendar year ie by now. We suspect this would only be suitable for use in the Itchen catchment. You should confirm this with WCC if relevant to you.
- 1.6 Eastleigh wetlands mitigation credits scheme-is still in development, so minded that these would need to be constructed before any credits are generated it is implicit that no credits will be forthcoming from this scheme in the near future.
- 2.1-2.4 It is intended to have an Inter Authority agreement (IAA) one benefit of which would be to remove the need for individual s106 agreements-The tone of paragraph 2.4 is towards rapid signatories to an IAA but no determinate date/programme is set down. You will need to ask your LPA about their current position on this where relevant. It is also unclear if the IAA would just cover LPA LNMF schemes (1.1-1.6) above or would also cover other schemes, for Example HIWWT credits which are already widely accepted by a number of LPAs. You should ask your LPA about this as may be relevant

Given the poor availability of some credits it would be very useful if PfSH would update their mitigation provider list more frequently and expand it to include emerging schemes, the anticipated number of total credits, the currently available unallocated credits remaining and the currently anticipated date credits in new schemes are expected to become available at.

- 8.14 The applicant proposes to provide a financial contribution towards a strategic project off-site mitigation.

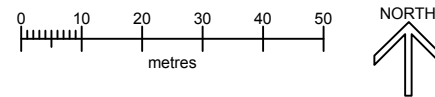
Appendix A

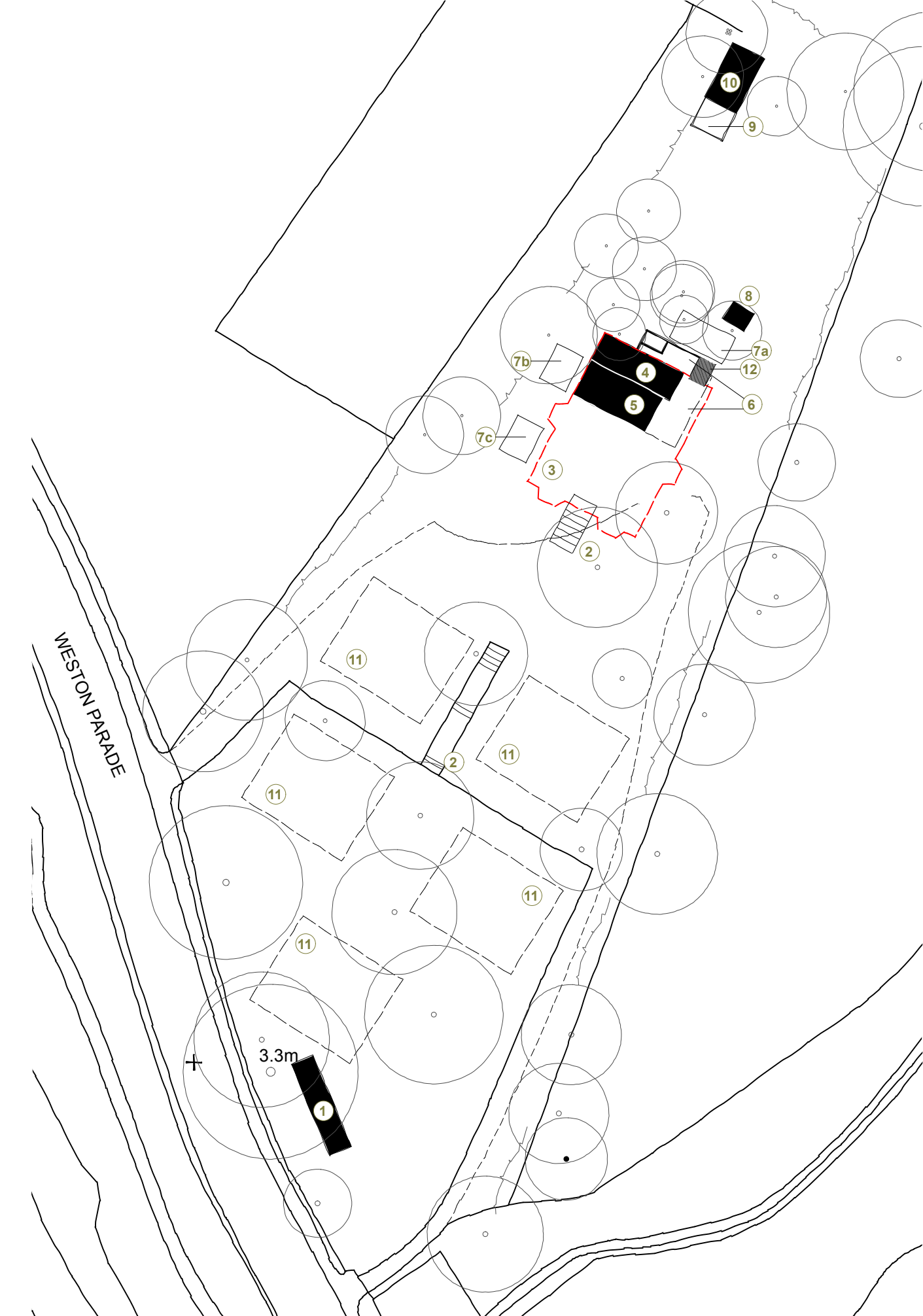
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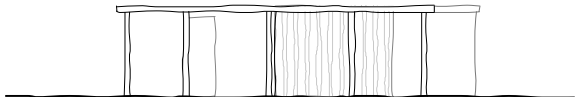




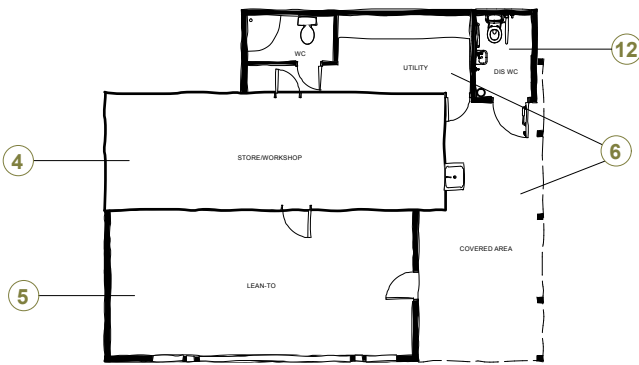
- KEY:
- Existing container used as workshop and tools/materials storage, granted in 2015 ref.15/00200/PLDC (NB. The Certificate of Lawfulness was granted; not on a time-limited basis) - to be retained and re-used as existing
 - Existing stone steps - to be retained as existing
 - Pre-existing concrete base of demolished Hilton House - to be retained as existing
 - Existing storage container used as workshop and tools/materials storage (on pre-existing concrete base of demolished Hilton House) - to be retained and re-used as existing
 - Existing single storey timber frame lean-to extension to storage container (on pre-existing concrete base of demolished Hilton House) - to be retained as existing and re-purposed for ancillary accommodation for caravan pitch users as reception area (meet and greet, refuge, medical attention area)
 - Existing canopy covered area with timber partitions and posts used for wood storage and utility and toilet/shower facility (connected to pre-existing drainage) - to be retained as existing and re-purposed for ancillary accommodation for caravan pitch users as toilet/utility facility
 - Existing 3no polytunnel structures (7a, 7b, 7c) used for wood store and growing/cultivating - to be retained and re-used as existing
 - Existing timber shed used tools/materials storage - to be retained and re-used as existing
 - Existing remains of previous building - to be retained as existing
 - Existing timber frame outbuilding used as workshop and tools/materials storage (on pre-existing concrete base of previous building) - to be retained and re-used as existing
 - Total 5no. caravan pitches, 10x12m each, with minimum 6m apart and 3m from any boundary, granted certification no.196/121 issued by The Camping and Caravanning Club Ltd, under Paragraph 5 of the First Schedule of the Caravan Sites and Control of Development Act1960 as approval the use of land as a camping and caravan site for RECREATIONAL PURPOSES by the members of The Camping and Caravanning Club until 28 February 2026 without a licence, providing conditions (a) to (h) overleaf are met - refer to The Certificate for details.
 - Proposed accessible disabled toilet for caravan pitch users
- Existing trees indicative - all to be retained



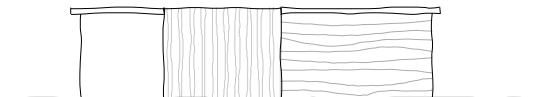
FRONT ELEVATION (SOUTH) 1:200



SIDE ELEVATION (EAST) 1:200



FLOOR PLAN 1:200



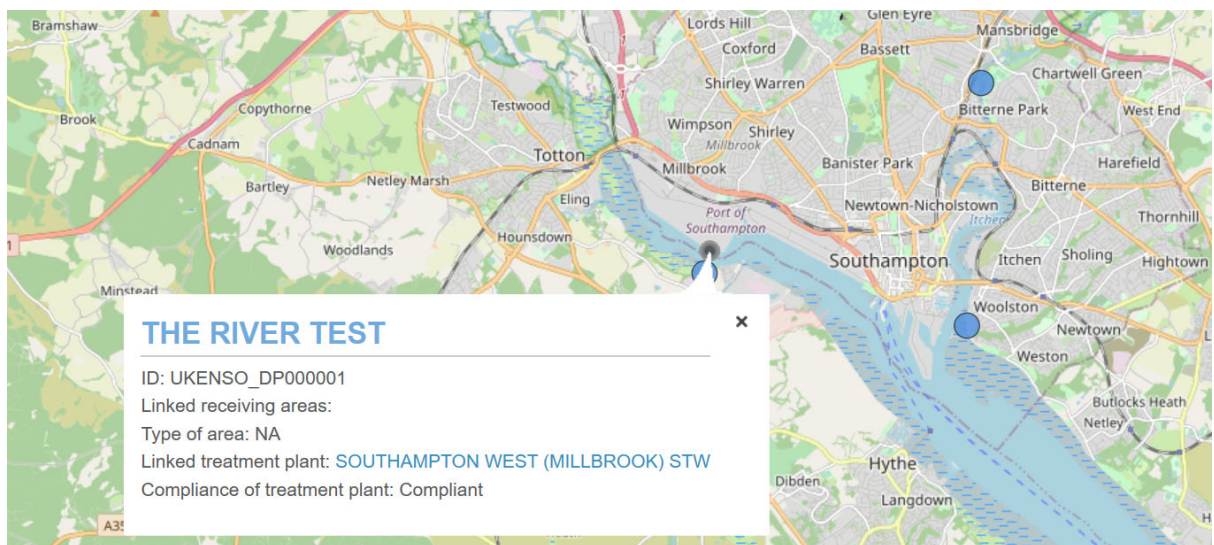
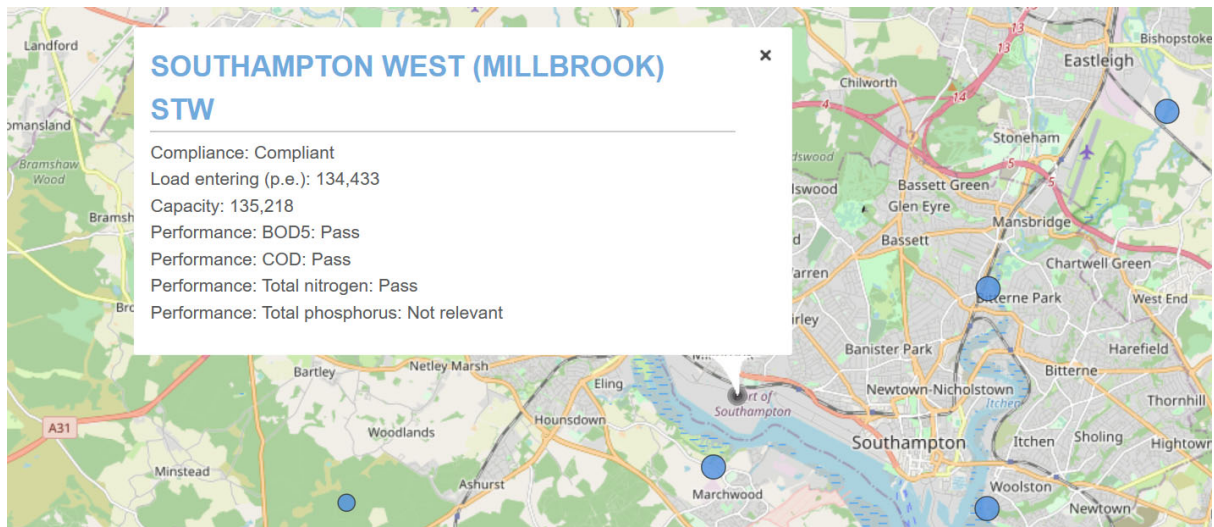
SIDE ELEVATION (WEST) 1:200



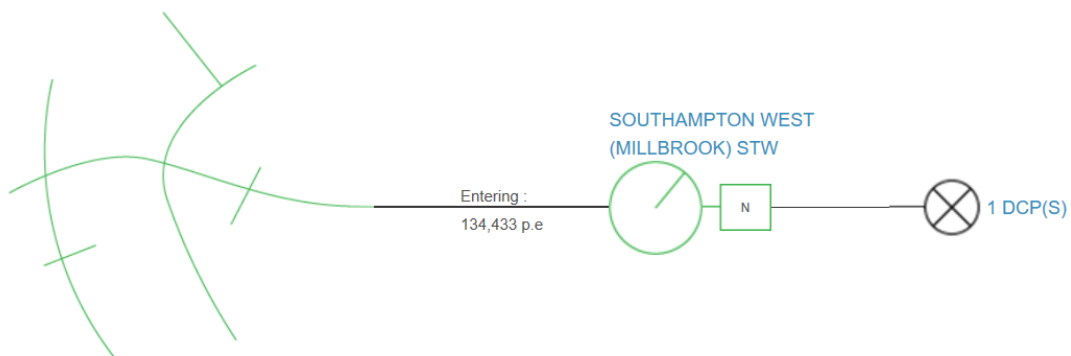
REAR ELEVATION (NORTH) 1:200

- Proposed retained as existing - storage container used as workshop and tools/materials storage (on pre-existing concrete base of demolished Hilton House)
- Proposed retained as existing single storey timber frame lean-to extension to storage container (on pre-existing concrete base of demolished Hilton House) and re-purposed for ancillary accommodation for caravan pitch users as reception area (meet and greet, refuge, medical attention area)
- Proposed retained as existing canopy covered area with timber partitions and posts used for wood storage and utility and toilet/shower facility (connected to pre-existing drainage) and re-purposed for ancillary accommodation for caravan pitch users as toilet/shower/utility facility
- Proposed accessible disabled toilet for caravan pitch users

Appendix B



Agglomerations : 1



Appendix C

Water infrastructure information	
Description of required information	Data entry column - user inputs required
Date of first occupancy (dd/mm/yyyy):	01/04/2026
Average occupancy rate (people/dwelling or people/unit):	2.40
Water usage (litres/person/day):	110
Development proposal (dwellings/units):	5
Include deductible acceptable loading?	Yes
Wastewater treatment works:	Millbrook WwTW
Current wastewater treatment works N permit (mg TN/litre):	8.00
Not applicable	Not applicable
Not applicable	Not applicable
Final calculation of nutrient load from wastewater	
Description of values generated	Values generated
Wastewater nutrient loading	
Additional population (people):	12.00
Wastewater by development (litres/day):	1320.00
Annual wastewater TN load (kg TN/yr):	3.47
Not applicable	
Not applicable	Not applicable
Not applicable	
Not applicable	Not applicable

Current land use information			
Description of required information	Data entry column - user inputs required		
Operational catchment:	Itchen		
Soil drainage type:	Freely draining		
Annual average rainfall (mm):	750.1 - 800		
Within nitrate vulnerable zone (NVZ):	Yes		
Current land uses			
Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)	Notes on data
Residential urban land	0.46	6.65	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
		0.00	Not applicable
Totals:	0.46	6.65	

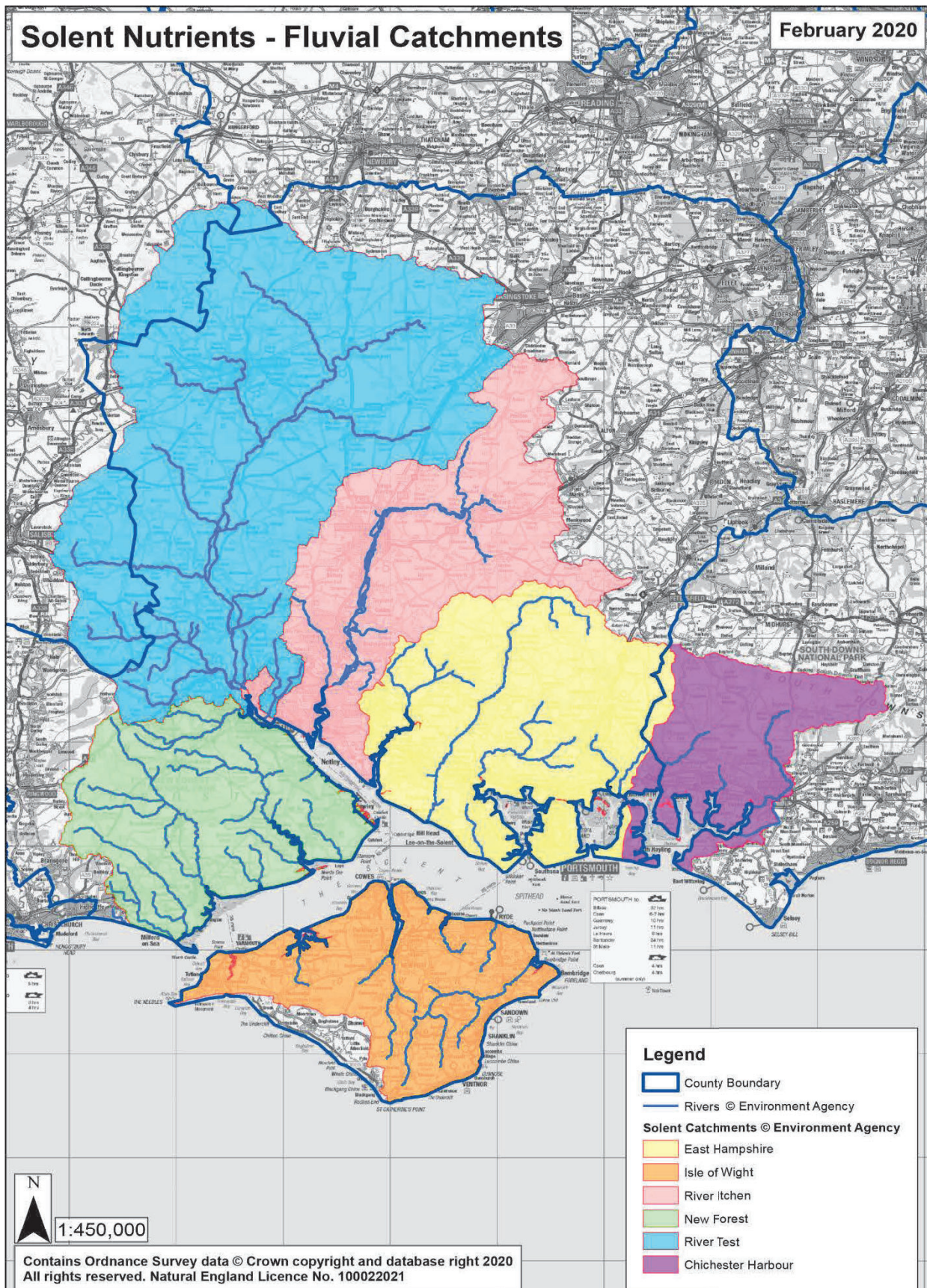
Future land uses		
New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual nitrogen nutrient export (kg TN/yr)
Residential urban land	0.46	6.65
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	0.46	6.65

[illegible]

APPLICANT DOES NOT SEEK ANY DISCOUNT TO THE FUTURE LAND USE IMPACT (STAGE 3)

Total nutrient budget calculations	
Description of values generated	Values generated
Wastewater TN load (kg TN/year):	3.47
Net land use TN change (kg TN/year):	0.00
TN budget:	3.47
TN budget + 20% buffer:	4.16
Annual nutrient budget	
The total annual nitrogen load to mitigate is (kg TN/yr):	4.16
Not applicable	
Not applicable	Not applicable
Not applicable	
Not applicable	Not applicable

Figure 1 Solent Catchment Area Contains public sector information licensed under the Open Government Licence v3.0



Appendix D

CONDITIONS AND LIMITATIONS OF NITROGEN NUTRIENT ASSESSMENT

May 2020

Aqua Callidus Consulting Ltd is constituted as a limited liability company in accordance with the Companies Act 1989 (with registered number 11390910 and with its registered office at Kintyre House, 70 High Street, Fareham, Hants, PO16 7BB).



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