

SOUTHAMPTON NITROGEN MITIGATION POSITION STATEMENT

1. Summary

- 1.1 In-order to comply with the provisions of the Habitat Regulations to ensure that development does not adversely affect the integrity of a European designation, new development which leads to a net increase in residential or hotel units must be subject to an appropriate assessment to demonstrate how mitigation measures will be implemented to achieve nitrogen neutrality.
- 1.2 The mitigation measures must be implemented and effective at the point of occupation of the development. They must also be legally secured for the duration of the development's effects (based on Natural England's published advice, generally taken to be 80 to 125 years).
- 1.3 The requirement applies to any proposal for:
 - Class C use (dwellings, houses in multiple occupation, hotels, residential institutions including student accommodation) and also sui generis houses in multiple occupation.
 - Planning applications (full or outline / reserved matters) and prior approvals.
 - New development or changes of use.
- 1.4 The requirement for mitigation measures is based on the net increase in the number of dwelling units (or equivalent).
- 1.5 In-order for the council to conduct an appropriate assessment, the applicant must submit a nitrogen budget and provide the necessary information regarding the efficacy of mitigation measures.

Note

- 1.6 This Position Statement is informed by and should be read in conjunction with Natural England's published advice (see below). It is also informed by additional work undertaken by the council. The Statement has been prepared in consultation with Natural England and with the Partnership for South Hampshire. The Statement will be updated if required as Natural England's Advice is updated or as other information becomes available.

2. Introduction

- 2.1 Southampton is a highly sustainable location for appropriate major growth (in accordance with the city's development plan). This maximises the use of sustainable modes of travel (reducing carbon emissions), protects surrounding areas of countryside, and promotes social inclusion and a dynamic city economy. This growth should be delivered whilst protecting the surrounding biodiversity designations. Southampton City Council will continue to work with the Partnership for South Hampshire (PFSH), the Government, Natural England, the Environment Agency, Southern Water, neighbouring councils and others to ensure this is achieved.

- 2.2 The Solent Maritime Special Area of Conservation, the Solent and Southampton Water Special Protection Area and Ramsar Site and the Solent and Dorset Coast SPA (the “Solent international designations”) are protected by the Habitats Regulations¹. (The Solent is also protected by the Water Environment Regulations² and by national designations such as Sites of Special Scientific Interest).
- 2.3 In summary, the Habitat Regulations state that before deciding to grant planning permission for a project which is likely to have a significant effect on a European designation (either alone or in combination with other plans/projects), the council must make an appropriate assessment of the project and ascertain that it will not adversely affect the integrity of the European designation having regard to the manner in which it is proposed to be carried out and any conditions to which the permission will be subject.
- 2.4 Case law establishes that this test must be applied using the ‘precautionary principle’, such that there is no reasonable scientific doubt as to the conclusion, including regarding the efficacy of any proposed mitigation measures.
- 2.5 Having carried out an appropriate assessment, the council must consult Natural England as the appropriate nature conservation body and have regard to any representations it makes before reaching a decision. Whilst the council must place considerable weight on the opinion of Natural England, it is entitled to form a different opinion where it has good reason to do so.
- 2.6 Southampton’s adopted development plan includes the amended Core Strategy (2015). In summary, policy CS22 states that the Council will ensure that development does not adversely affect the integrity of international designations, and the necessary mitigation measures are provided.

3. Natural England’s Advice

- 3.1 Natural England have advised that there are high levels of nutrients in the Solent. These are arising from inputs from agricultural sources, and from the waste water from housing and other developments. These are causing eutrophication, resulting in dense mats of green algae and other effects which are impacting on the Solent’s protected habitats and bird species. Some of the interest features in the Solent designations are in an unfavourable condition due to existing levels of nutrients and are therefore at risk from additional nutrient inputs.
- 3.2 Therefore, Natural England advise that further development is likely to have a significant effect on the Solent international designations. In accordance with the precautionary principle, and in-order to provide the level of certainty required by the Habitat Regulations, relevant new development should achieve nutrient neutrality.
- 3.3 Natural England have published their latest advice on nutrients and a nutrient budget calculator in March 2022. The calculator should be used in association with the council’s occupancy rate calculator (see below). These can be found on the Council’s Sustainability Checklist, current link: <https://www.southampton.gov.uk/planning/planning-permission/sustainability-checklist/>

¹ Conservation of Habitats and Species Regulations 2017 (as amended)

² Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

- 3.4 The advice sets out the location and type of development affected, the methodology for calculating the nutrient budget, and appropriate mitigation measures. The key points are reflected in this position statement. Nitrogen is the principal nutrient from within the city which drives eutrophication, and so the focus is on achieving nitrogen neutrality.
- 3.5 The effect of the Habitat Regulation provisions in respect of nitrates apply to any proposal that will result in a net gain of residential units (this includes dwellings, houses in multiple occupation [small and large], and residential institutions including student accommodation), or a net increase in hotel space. (In other words, the requirement for mitigation measures is based on the net increase in nitrogen discharge from the proposed development). An appropriate assessment will be required for all planning applications (full and outline / reserved matters) and prior approvals, whether for new development or changes of use of existing buildings.
- 3.6 The remainder of this Statement sets out:
- How to calculate the nitrogen budget.
 - The mitigation measures that could be used to achieve nitrogen neutrality.
 - Implementation mechanisms.

4. Calculating the Nitrogen Budget

- 4.1 In-order for the Council to conduct an appropriate assessment, the applicant must submit a nitrogen budget and provide the necessary information regarding the efficacy of mitigation measures.
- 4.2 Developers should calculate the nitrogen budget for their proposal. The council's approach is adapted from Natural England's starting point in one respect, to take account of the size of dwellings (see below). Developers should therefore use the council's occupancy rate calculator. This occupancy rate should then be inputted into Natural England's calculator. This includes all the relevant factors, including the application of an overall precautionary buffer of 20%, to calculate the nitrogen budget.
- 4.3 Other relevant developments (e.g. hotels and residential institutions including purpose built student accommodation) should calculate the nitrogen budget based on the same overall approach and using well-evidenced occupancy rates / water use data relevant to the proposal.
- 4.4 A development's nitrogen discharges arise from two sources, both of which are reflected in the calculator:
1. Waste water discharges
- 4.5 The calculator takes into account the projected number of people living in a dwelling (the occupancy rate) and the water use per person (based on water efficiency standards) in-order to calculate total water use. The nitrogen limit at the relevant waste water treatment works is then applied, in-order to calculate the nitrogen discharge.
- 4.6 The starting point for Natural England's advice is to apply a 'flat rate' occupancy rate of 2.4 persons per dwelling based on national data. However, the advice recognises that councils

may apply a different occupancy rate based on local data and dwelling types, where there is robust evidence. For the determination of specific planning applications, the council will apply an occupancy rate for specific sizes of dwellings (based on the number of bedrooms), as set out in Table 1. Therefore, developers should use the council’s occupancy rate calculator and input the result into Natural England’s calculator. 1 and 2 bed dwellings have occupancy rates which are lower than the ‘flat rate’ used by Natural England, whereas 3 or more bed dwellings have higher occupancy rates. This provides a more accurate calculation for the specific development proposed. The council’s occupancy rate calculator should be used in all cases. The evidence for the council’s figures is set out in Appendix 1.

Table 1: Occupancy Rate by Size of Dwelling

Size of Dwelling	Occupancy Rate (Persons per dwelling)
1 bed	1.41
2 bed	2.13
3 bed	2.74
4 bed	3.43
5 bed	4.09
Average of above	2.4

- 4.7 Natural England’s calculator then applies the average water use based on the relevant water efficiency standard and adding an additional 10 litres per person per day (as a precautionary approach). The council will condition new dwellings to achieve a water use of 100 litres per person per day, and so the water use figure to apply in the calculator is 110 litres per person per day.
- 4.8 The occupancy rate is then multiplied by the water use per person to calculate the overall household’s water use. Based on the council’s calculator, which uses more specific occupancy rates, a household’s water use (and hence the dwelling’s nitrogen budget) is calculated to be lower for 1 and 2 bed dwellings and higher for 3 or more bed dwellings (compared to Natural England’s approach).

2. Surface water discharges

- 4.9 This section follows the Natural England calculator, with no variation. The calculator takes into account changes in the areas dedicated to different land uses within the site, as these result in different levels of nitrogen discharge. These include for example 3 types of urban area (‘residential’³, ‘commercial/industrial’ and ‘open urban’), as well as green spaces. Residential urban use results in the highest level of discharge, and green spaces the lowest level of discharge. Changes between land uses will affect the net change in nitrogen discharge.
- 4.10 Where the redevelopment of a previously developed urban site involves the provision of a new area of appropriately managed green space of approximately 0.1 hectares⁴ or more

³ Urban Residential includes gardens, roadside verges, small areas of green space (less than 0.1 hectares), driveways and roads

⁴ Green spaces of less than 0.1 hectares are calculated within the ‘urban residential’ category

within the new development, the net effect will be a reduction in the amount of nitrogen being discharged from the site as surface water run-off.

- 4.11 Green roofs will only potentially count as green space for the purposes of nitrogen reduction where they meet the size criteria above. Wetlands may achieve further reductions in nitrogen discharge. In both cases, appropriate specialists will need to establish a bespoke design and robustly evidenced calculation to achieve and demonstrate the reduction in nitrogen discharge.
- 4.12 The green space or wetland needs to be appropriately managed to ensure nitrogen reduction (e.g. no fertiliser, collection of dog waste, etc.), and this needs to be legally secured for the duration of the development.
- 4.13 The provision of open space within a development will also need to accord with the development plan's overall approach, for example regarding the density of development and provision of green infrastructure.
- 4.14 The calculator will identify the total nitrogen budget generated by the proposal, and hence the level of mitigation required to achieve nitrogen neutrality (if the budget shows a net increase in nitrogen discharge).

Waste Water Treatment Work Upgrades

- 4.15 If waste water treatment work upgrades are undertaken to meet higher nitrogen limits, the consequent reduction in nitrogen discharges will be taken into account in stage 1 above. In May 2021, the Environment Agency confirmed that it will be undertaking a review of waste water treatment work consents where they do not currently have nitrogen permits, including the Portswood treatment works within Southampton.

5. Mitigation Measures

- 5.1 There are various options for mitigating nitrogen discharges from new development, and in each case the efficacy of the mitigation and its long-term provision will need to be evidenced and secured before planning permission can be granted. Bespoke site-specific mitigation proposals will be considered on a case-by-case basis.
- 5.2 The mitigation measures must be implemented and effective at the point of occupation of the development. They must also be secured for the duration of the development's effects (based on Natural England's published advice, generally taken to be 80 to 125 years).
- 5.3 Given the nature of the mitigation measures, a range are likely to be implemented outside of the city. However, where possible, the Council will encourage the implementation of measures within the city and/or measures which contribute to a range of benefits for the city's residents and environment (for example, water efficiency, biodiversity net gain, suitable alternative natural greenspace, and carbon reductions).

Nitrogen Credits

- 5.4 Developers can acquire sufficient nitrogen credits to mitigate their development. These credits can be purchased from landowners who have implemented measures which reduce the nitrogen discharge from their land. This will create a net neutral effect on the Solent international designations. These measures can include for example ceasing agricultural production on the land, or woodland planting / wetland creation. (They can also create wider environmental benefits, for example for biodiversity net gain, carbon reduction or the provision of suitable alternative natural greenspace).
- 5.5 To effectively mitigate the effects of development in Southampton, nitrogen credits must be purchased from schemes which:
- Provide mitigation within the River Test, River Itchen or Bartley Water catchments;
 - Will provide the necessary level of mitigation (following consideration of Natural England's advice); and
 - Provide the legal certainty that the mitigation will remain in place for the duration of the development's effects (generally 80 to 125 years) (see Implementation section below).
- 5.6 A list of currently available mitigation schemes is available on the PFSH website. [Potential mitigation schemes available to developers - Partnership for South Hampshire \(push.gov.uk\)](#) It is also anticipated that Defra will introduce a pilot trading scheme for nitrogen credits in 2022.

Off Site Water Efficiency Measures

- 5.7 The council can implement a number of measures to achieve nitrogen reduction itself. At present the council as a housing provider has an existing programme of retrofitting water efficiency measures in its own housing stock, for example through repairs and improvements. Although these measures are being carried out anyway regardless of the resulting nitrogen reduction, they are not being carried out in order to meet other Habitat Regulations obligations. Therefore, the council is considering whether future measures implemented under this existing programme can be taken into account as nitrogen mitigation in accordance with the approach set out below.
- 5.8 If they can be counted, the council will count them towards mitigating its own development schemes in the first instance. Water efficiency measures which are implemented from the date that implementation of this Position Statement commenced can be counted. This could build up a bank of nitrogen credits to be counted towards and used as mitigation for the council's future development schemes.
- 5.9 The council is also considering the expansion of its water efficiency programme (i.e. an additional programme) to be funded by developer contributions, which would provide the mitigation for those specified wider developments.
- 5.10 The Environment Agency consents for the Millbrook and Woolston waste water treatment works, which serve the majority of the city, have limits on the amount of nitrogen per water volume discharged (mg per litre). Therefore, where water efficiency measures are retrofitted to existing dwellings which are served by either of these waste water treatment works, the

reduction in waste water volume leads to a reduction in nitrogen discharged, and the measures can count as mitigation.

- 5.11 The Portswood waste water treatment works does not currently have a nitrogen limit and so water efficiency measures retrofitted to dwellings served by this works will not count as mitigation.
- 5.12 Based on the Council's current water efficiency programme, the retrofitting of showers and dual flush WCs in 2.1 existing applicable dwellings generates a sufficient reduction in waste water nitrogen discharges to support 1 new dwelling. This calculation is set out in Appendix 2. A future bank of nitrate credits will need to be calculated based on the specifics of future water efficiency programmes.
- 5.13 Retrofits in Council housing stock can be counted as mitigation as the Council can ensure the measures are retained in place.
- 5.14 Where housing associations are implementing the same measures, these may also be counted towards their own development schemes provided an appropriate legal agreement is in place to ensure that these measures are secured and retained in accordance with the principles in this position statement.

Other

- 5.15 The council may investigate the use of other potential mitigation measures within the city in due course. These may include for example measures to intercept nitrogen from run off / watercourses, the provision of wetlands, woodland, oyster beds, management of open space and public realm, water recycling, working with the Port, or on site waste water treatment works for very large developments (if these can achieve better nitrogen limits).

6. Implementation

- 6.1 The effect of the Habitat Regulation provisions in respect of nitrogen apply to any proposal that will result in a net gain of residential units (this includes dwellings, houses in multiple occupation [small and large], and residential institutions including student accommodation), or a net increase in hotel space. An appropriate assessment will be required for all planning applications (full, outline and reserved matters) and prior approvals, whether for new development or changes of use of existing buildings.
- 6.2 In-order to meet the requisite certainty required by the Habitat Regulations, the appropriate assessment must conclude that the mitigation measures will achieve nitrogen neutrality (taking account of Natural England's advice and this position statement), and any required mitigation measures must be:
 - Implemented and effective prior to the first occupation of the development;
 - Counted solely to that specific development (i.e. not double counted); and
 - Secured and monitored over the duration of the development's impact (generally taken to be 80 to 125 years).
- 6.3 In-order to achieve this certainty, the following approaches will be taken.

- 6.4 Where the mitigation measures are 'on site', or the measures are integral to the development scheme proposed, and the nitrogen budget has been calculated on this basis, planning conditions will be used to secure these measures. This will include:
- Water efficiency measures (the council will apply conditions to ensure water efficiency of 100 litres per person per day, consistent with Southern Water's 'Target 100' initiative. Adding the 10 litres per person per day precautionary buffer advised by Natural England means the calculator will be based on 110 litres per person per day); and
 - The quantity, type and management of open space provision.
- 6.5 Where the mitigation measures are secured from a 3rd party, for example the purchase of nitrogen credits from landowners, an appropriate legal agreement will be used, in conjunction with planning conditions where required. This will ensure the correct accounting of nitrogen credits to that scheme, the appropriate management and monitoring of the land for the requisite period, and the ability to enforce these provisions, to ensure they are secured over the duration of the development's impact. There is no farmland in the city and therefore another local planning authority will also be party to the legal agreement, in addition to Southampton City Council, the developer and the mitigation land provider. Legal agreements can be secured pursuant to section 33 of the Local Government (Miscellaneous Provisions) Act 1986 or section 106 of the Town and Country Planning Act 1990 depending on the nature of the mitigation and the location of any mitigation land.
- 6.6 Grampian conditions will be used where needed to ensure measures are secured prior to the first occupation of the development. Prior to the grant of planning permission, sufficient information will be required to ensure the measures will provide the necessary mitigation. At the discharge of the condition information will be required to confirm the implementation of the necessary mitigation. For larger development a phased approach to implementation can be taken. The measures required for each phase must be implemented prior to first occupation of that phase of development.
- 6.7 Where the measures are secured from the council rather than a 3rd party, for example by the retrofitting of water efficiency measures in the council's housing stock, appropriate evidence will be required. The council will set up a reporting system to ensure that sufficient applicable water efficiency measures have already been retrofitted prior to first occupation, are available (i.e. have not already been credited to another development), and are secured and monitored over the duration of the development's impact. This reporting system will inform the appropriate assessment for individual developments. The same approach will be taken for other public sector bodies such as housing associations (for which a legal agreement will also be required).

Appendix 1: Occupancy Rates

In-order to calculate the nitrogen discharges from waste water, the average water use per dwelling must be calculated. This depends on the number of people living in a dwelling (the occupancy rate).

Natural England's Advice recommends as a starting point using the national average occupancy rate established by data from the Office for National Statistics (ONS) of 2.4 people per dwelling.

However, Natural England's Advice confirms that Councils can use bespoke calculations for the occupancy rate, provided there is evidence to provide sufficient certainty.

The council's occupancy rate calculator employs a bespoke calculation based on the size of dwellings, which will better reflect the nature of a specific development. It is based on ONS Census data of dwelling occupancy rates in Southampton. (The 2011 Census is used and adjusted to the latest 2020 data. The 2021 Census results will shortly be available, and the calculation updated).

The council's calculation is set out as follows.

Table 1 sets out the 2011 Census data on household size by size of dwelling.

Table 1: Southampton: Household size by size of dwelling

	Dwelling Size					
	1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms	5 or more bedrooms	Total
Household size						
1 person	14,690	9,672	7,363	963	553	33,241
2 people	4,702	11,607	12,183	2,034	503	31,029
3 people	834	4,431	7,421	1,532	420	14,638
4 people	221	2,239	6,298	2,387	560	11,705
5 people	42	586	2,298	1,067	853	4,846
6 or more people	39	121	943	693	999	2,795
Total	20,528	28,656	36,506	8,676	3,888	98,254

Source: 2011 Census

From Table 1, the occupancy rate (number of people per dwelling) can be calculated for different sizes of dwellings, as set out in Table 2.

On this basis, based on the 2011 Census, the average occupancy rate across all dwellings is 2.31. More recent 2020 population estimates suggest the occupancy rate could be between 2.35 and 2.42⁵. For now, a standard uplift proportional to the increase from 2.31 to Natural England's 2.4 occupancy rate (i.e. a 3.9% uplift) is applied. This is also set out in Table 2.

⁵ ONS Mid Year Estimate and HCC Small Area Population Forecasts respectively

Table 2: Southampton: Size of dwelling and Occupancy Rate

	Occupancy Rate (Average number of people in household)					
	1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms	5 or more bedrooms	Average
2011 Census	1.36	2.05	2.64	3.30	3.94	2.31
Adjusted to 2020	1.41	2.13	2.74	3.43	4.09	2.40

The Adjusted Occupancy Rates are then applied to the council's occupancy rate calculator accordingly.

A council must apply a consistent approach within its area, either a 'flat rate' or a 'sliding scale'. In Southampton, the council has chosen a 'sliding scale'. This must be applied to all developments within Southampton to ensure that the effects of smaller and larger schemes balance out in a way which will not result in an adverse effect on European designations.