IN THE MATTER OF

THE TOWN AND COUNTRY PLANNING ACT 1990

AND IN THE MATTER OF

THE HABITATS REGULATIONS

AND IN THE MATTER OF

NATURAL ENGLAND'S DRAFT METHODOLOGY TO CALCULATE NITROGEN NEUTRALITY IN THE SOLENT.

OPINION

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1. I am asked to advise the South Coast Development Consortium[1] on the validity and application of a document produced by Natural England, entitled: 'Methodology to calculate the nitrogen budget for development in the Solent and achieve nitrogen neutrality' (Working draft August 2018) ['the Draft Methodology']. In short, I am instructed that for developments on which they are being consulted and whose waste water would be treated by a waste water treatment works with an outflow into the Solent SPA, Natural England is 'raising comment' in relation to the planning application that there will be uncertainty of impact on European sites unless there is a net neutrality in Nitrogen shown as calculated under the Draft Methodology. The Draft Methodology refers at para. 1, to the 'Integrated Water Management Study for South Hampshire', commissioned by the Partnership for Urban South Hampshire ('PUSH'), a report produced by Amec, dated 25th May 2018 ['the IWMS'], a copy of which has been provided to me. I also have had provided to me a report entitled 'Solent Harbours Nitrogen Management Investigation', dated 18th March 2015, commissioned by NE from ADAS and referenced in the Draft

[1] Comprising: Bargate Homes, Barratt David Wilson Homes, Bellway Homes, Bryan Jezeph Consultancy, CBRS Estates Limited, Foreman Homes, Hampshire Homes, Paul Airy Planning Associates Limited, Persimmon Homes, Reside Developments, Taylor Wimpey and Turley.

Methodology [‘the ADAS report’]. It is marked ‘NE pre-publication copy’. I assume it is the final version. I am not aware of any public consultation or peer review of the Draft Methodology or the evidential documents underpinning it.

2. The Draft Methodology concerns itself with ‘the Solent’, which I have assumed to be the Solent Maritime SAC and the overlapping Solent and Southampton Water SPA and the Chichester and Langston Harbours SPA, whereas the IWMS covers a wider range of European sites, including freshwater bodies under the Water Framework Directive [‘the WFD’]. In my Instructions, I have particularly been directed to the Peel Common WWTW and Budds Farm WWTW and the authorities within PUSH whose development is treated by those WWTWs, ie Eastleigh, Test Valley, Fareham, Gosport and Winchester for Peel Common; and Winchester, Portsmouth City, Havant and East Hampshire for Budds Farm. Specifically, I have not looked at the Isle of Wight. Much of this opinion, however, is of wider application in the Solent area, in particular in respect of the New Forest to the west and Chichester to the east.

3. Paragraph 1 of the Draft methodology observes: ‘*There are high levels of nitrogen and phosphorus input into the water environment in the Solent with evidence that these nutrients are causing eutrophication at internationally designated sites.’*

4. Paragraph 2 observes: ‘*There is uncertainty about the efficacy of catchment measures to deliver the required reductions in nitrogen levels, and/or whether the upgrades to waste water treatment works will be sufficient to accommodate the quantity of new housing proposed. The IWMS recommended that new housing developments could be brought forward albeit in a phased manner up to 2020; targeted to those areas with sufficient capacity. Beyond 2020; we are not yet able to demonstrate with certainty that there will be no adverse impact on European nature conservation designations.’*

5. Paragraph 3 observes: ‘*In light of this uncertainty, Natural England advises that a nitrogen budget – the principle nutrient that tends to drive eutrophication in the marine environment – is calculated for larger developments. This will show that development either avoids harm to European protected sites or provides the level*

of mitigation required to ensure that there is no adverse effect. For confidence that the development will be deliverable, Natural England recommends that the proposals achieve nitrogen neutrality by securing the required mitigation.'

6. The rest of the document is essentially a toolkit to establish 'Nitrogen neutrality' and suggestions for mitigation to achieve it.

7. The reference to 'certainty' reflects the European case law in such ECJ judgements as *Sweetman v An Bord Pleanala* (C-258/11) [2014] PTSR 1092 and *Orleans v Vlaams Gewest* (C-387/15) [2017] Env. LR 12, and more recently emphasised in *People Over Wind* [2018] PTSR 1668, the so-called 'Dutch Nitrogen cases' (C-293/17 and C-294/17) and *Holohan v An Bord Pleanala* (C-461), although these last cases came out after the publication date of the Draft Methodology.

8. The effect of these cases is that any development scheme which relies on mitigation to show no adverse impact on the integrity of the European sites would have to be subject to an 'appropriate assessment' and that, within that assessment, the efficacy of those mitigation measures would have to be sufficiently certain to discharge the burden of all reasonable scientific doubt. I should also observe that this is not limited to 'larger developments', as the assessment must be alone 'and in combination' and any additive nitrogen through waste water treatment (or, arguably, otherwise) would need to be considered. This will involve looking at the individual proposal, the WWTW to which it drains and the European site into which the WWTW has its outflow.

9. I consider the general position first and then consider the Draft Methodology itself.

The general positon and the IWMS:

10. The first task is to establish which WWTW will take the foul drainage from the development proposed. As noted above, it appears from the information available to me that development in Eastleigh, Test Valley, Gosport and parts of Winchester may drain into Peel Common WWTW and development in Winchester, Portsmouth, Havant and East Hampshire may drain into Budds Farm. Other authorities, or parts

of authorities in PUSH and their relationship with WWTW are set out at Appx B to the IWMS.

11. The next stage is to consider into which European protected waters in the Solent does the relevant WWTW have its outfall.

12. According to Appx B of the IWMS, Peel Common has an outflow into Portsmouth Harbour, which is covered by the Portsmouth Harbour SPA. In addition, my Instructions are that the location of the long sea outfall from Peel Common means that the Solent & Southampton Water SPA/Ramsar, Solent Maritime SAC, and Solent and Dorset Coast pSPA are all relevant European protected water bodies to consider.

13. Similarly, according to Appx B of the IWMS, Budds Farm discharges into Langstone Harbour – that is, Chichester & Langston Harbours SPA and Solent Maritime SAC - but its long sea outfall means that Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA, Solent and Isle of Wight Lagoons SAC, and Portsmouth Harbour SPA/Ramsar need to be considered.

14. The next stage is to consider the environmental condition of the relevant European interests and their vulnerability to Nitrogen increases. Appx B of the IWMS records, for example that for Portsmouth Harbour it is ‘very certain there is a problem’ with eutrophication, but ‘recovered to Good status but borderline (uncertain there is a eutrophic problem)’ for Langstone Harbour, and ‘certain there is no problem’ for Southampton Water.

15. Considering the matter in a little more detail, it may be necessary, depending on where the outfall is, to consider parts of the SPA/SAC. For example, the ADAS report considers macroalgal cover, nitrogen loadings, WFD status and SPA/SAC conditions. It notes at pp. 16-17, Good and Moderate scores under the WFD for dissolved inorganic nitrogen and opportunistic macroalgae varying across the waterbodies under consideration, and at pp. 18-19 also considers them against ‘conditions required for Good Environmental Standard for the purposes of the WFD. At p. 22, Table 6 shows three waterbodies as having Good WFD status for macroalgae. Similarly, at p. 21, Table 5 shows a range of management units in

'favourable' and 'favourable recovering status'. It is not clear from that document what role nitrogen loadings have to play in those scorings.

16. It is clear, however, that the statement in para 1 of the Draft Methodology 'there are high levels of nitrogen…in the Solent with evidence that these nutrients are causing eutrophication at internationally designated sites', while not wrong, is too sweeping to justify a 'one size fits all' approach to require Nitrogen neutrality.

17. The next stage is to consider whether it can be concluded that the WWTW in question does not have the potential to harm the integrity of the European protected waters in question. This may be because of distance, or the nature of the waters in question, or it may be because of the operation of the WWTW itself and the permitted capacity it operates under.

18. For example, I have been provided with extracts from the East Hampshire District Council's HRA for its Local Plan. East Hampshire drains into Budds Farm. At Chapters 7, 8 and 9 it considers a number of European sites, but it is able to conclude that water quality is not a potential impact for Solent and Isle of Wight Lagoons SAC ('too far away' – se 8.4.5), and Solent and Dorset Coast pSPA ('open waters' not affected - see 9.4.2-9.4.3 – a point echoed in the ADAS report at 3.2 on p. 14 that physical factors inhibit macroalgae more than nutrient levels).

19. As to permit levels, each WWTW is assigned a total Nitrogen limit per litre. It is also assigned a permitted daily flow. Combined these give a maximum permissible daily discharge of Nitrogen. These levels are themselves set to achieve the requirements of the WFD and Habitats Regulations. In all cases (other than two on the Isle of Wight), the IWMS records the WWTW, were operating below their consented flow, in many cases significantly below.

20. Notably, the same HRA referred to above considers the 'Solent' European sites (Chichester and Langstone Harbours SPA and Ramsar, the Portsmouth Harbour SPA and Ramsar and the Solent Maritime SAC) at Chapter 7. It records that Budds Farm has its outflow in Langstone Harbour, but is operating well within permitted capacity and the IWMS does not expect exceedance before 2036. This accords with Appx B of the IWMS which has a table identifying that capacity at Budds Farm is

reached in 2036, after which a 'standstill' in Nitrogen will be required with the new permit. Peel Common by contrast is said to reach capacity in 2025, and so whether mitigation is required before 2036 is said to be subject to a 'review in 2022'.

21. It is clear from this, that the IWMS itself would not justify a 'Nitrogen neutral' approach to *current* applications draining into Peel Common or Budds Farm. Moreover, the projected housing numbers on which the calculation of future capacity is based are set out in Appx E of the IWMS. The origin of these varies with the local authority in question, and the status of their respective adopted and emerging plans, but houses within the current trajectory are houses already taken into account. Thus housing within the housing figures projected to 2036 and which use Budds Farm's projected loading will need no mitigation. Housing that uses Peel Common will not need mitigation - on the IWMS basis – if it is within the housing projections to 2025.

22. It is then worth considering the projections more closely (at least for housing projections post 2025). As noted, Appx E to the IWMS contains the housing trajectories provided by the participating local authorities. It then attributes them to each WWTW in question in 5 year tranches from 2016 to 2036. It then adds employment growth by square metre – a factor which the Draft Methodology says is double counting. It then calculates a cubic metre/day flow from that 'planned growth' for each of the WWTW and then checks that against the permitted levels to see when, if at all, the consented flow is predicted to be exceeded. As noted Budds Farm is not expected to be exceeded before 2036; Peel Common is not expected to be exceeded before 2025.

23. There are arguably three flaws with the IWMS projected demand, however[2]. The first is, as noted, the double counting of employment space, not an approach endorsed by NE in its draft methodology. The second is that the dwelling numbers are all assumed to contain 5 people. This is at odds with the national average household size of 2.3 used within the Draft Methodology. Appx E appears to consider a 'sensitivity test' of 2.5 persons per dwelling, which is still more than the

[2] In addition, I note that the calculation of water usage is 120 l/d pp, whereas the Draft Methodology assumes 110 l/d pp. This may be justified on a precautionary approach for past developments, but there should be expected to be consistency for future growth.

2.3 average, but the results do not seem to be taken forward. For these two reasons, there is a very significant over-estimation in the projected extra demand per WWTW.

24. The third flaw is that all of this demand is assumed to be new people – ie a total increase in population of total housing projections 2016-2036 x 5 persons per house. Those Instructing me have calculated that to be an assumed 511,172 new people in the figures used for the IWMS study area. By contrast, of course, housing increase is made up of population growth (natural and by migration) and policy measures such as improving affordability and choice. It is only *population growth* which adds new people to the demands placed on the WWTW. I am Instructed that the 2014 SNPP projections for PUSH show a projected figure of 185,739 in population growth 2011-2036 (ie including the 5 year period before the IWMS's assumed 2016-2036 period). That is 325,433 fewer new residents than that assumed for the WWTW capacity assessments within the IWMS Appx B.

25. Consequently, it is clear that both Budds Farm and Peel Common will be operating comfortably within existing permitted capacity and, hence, at less than permitted Nitrogen discharge, for the foreseeable future. If and to the extent that additional mitigation measures are needed at those WWTWs after 2036 to allow increased flow but with a 'standstill' in Nitrogen discharge, there is ample time for the necessary lead-in times and a funding mechanism under the Infrastructure Charge payable by developers to the statutory water companies. Appx B to the IWMS has a table on lead-in times for intervention. Peel Common was suggested at '1-2 years'; Budds Farm has 'n/a' as no intervention is proposed except to review consents.

26. Properly considered, therefore, development within the area in question should be able to be accompanied by a Habitats Regulations Assessment which demonstrates that it will not have an impact on the Solent European sites without either assuming increased mitigation at WWTW or a net Nitrogen neutrality in its own case.

The Draft Methodology:

27. There are a number of assumed inputs into the Draft Methodology which are open to question as to their robustness.

28. The first, as noted in relation to the IWMS calculation is the assumption that each new dwelling is 2.3 new people in the catchment. Housing numbers can, of course, be used as a metric but it is the additional population they represent which is what needs to be captured, not the household size. Those Instructing me have considered housing growth and population growth on an historical basis and on a projected basis. Historically, depending on District, the ratio of new houses to increased population ranges from 1.0 in Fareham to 2.7 in Portsmouth. From the PUSH Position Statement 2016, it varies from 1.2 in Gosport to 1.8 in Southampton. Based on the Standard Methodology being used for plans more recently submitted for examination, the ratio of population to new dwellings ranges from 0.8 for East Hampshire to 1.4 at Southampton – an average of 1.0 across the PUSH area. It would be wrong, therefore, to assume a ratio of 2.3 new people for each new dwelling.

29. Secondly, figures for run-off from the urbanised area of the development at 14.3 kg/ha/year appear to be without an evidential base. They are said to have come from a Pool Harbour SPD, but its evidential base is not apparent. The EA's 'Strategy for Managing Nitrogen in the Poole Harbour Catchment to 2035' has at Appx 9a a figure of 10.4kg/ha/year for a given population/ha *including* sewage discharges.

30. Thirdly, it is not clear that the SANGS/openspace Nitrogen/ha figure is evidentially justified. It would be unlikely, one would have thought, to be equivalent to 'lowland grazing' which ADAS give 13 kg/ha/year for.

31. Fourthly, no account seems to be taken of SUDS and filtration methods, the nature of pathways to the water body in question, the distance from the water body and time taken to travel to the water body, or the natural breakdown and oxidisation of Nitrogen, and/or its take up by vegetation on the way.

32. Fifthly, the Nitrogen load of the current land use appears to depart from the ADAS report at Table 25 (p. 63). No explanation is given for this anomaly.

33. Sixthly, the statement at para. 29 that 'if there is a Total Nitrogen surplus, then mitigation is required to achieve nitrogen neutrality', while grammatically correct,

pre-supposes that Nitrogen neutrality per development proposal is required. For all the reasons given earlier in this Opinion, that is not correct. As to para. 30(i), in the event that WWTW permitted levels were likely to be exceeded, and/or that existing permitted levels were shown to be having an adverse impact on the integrity of the European sites, the permitting regime is there to prevent that. The evidence before me shows that there is no prospect of that occurring for the foreseeable future – certainly not before 2036.

Conclusion:

34. Having reviewed the Draft Methodology, I consider that it has serious evidential flaws in its current form. It would have to be substantively amended and its assumptions justified if it was to be used as a way of calculating Nitrogen neutrality for any given scheme.

35. Moreover, having reviewed the material before me on the current circumstances affecting the Solent and projected housing growth, it is my opinion that there is no need for individual developments to show Nitrogen neutrality. Housing projections, and the population they bring with them, are well within permitted capacity of the relevant WWTW and will remain so until sometime after 2036.

36. For an individual scheme, its HRA will be able to record that position and be able to conclude no harm to integrity to the relevant standard of certainty. For forthcoming plans, their own HRAs either do or will need to consider the future capacity of WWTW against population growth and ensure polices are in place to keep flow demand from development growth within permitted WWTW flow limits or that there is WWTW infrastructure in place to achieve a Nitrogen 'standstill' once current limits are expected to be exceeded, a matter for the Water Industry permitting process, not T&CPA development control.

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