

SOUTHERN WATER ‘WATER FOR LIFE’ CONSULTATION RESPONSE

1. INTRODUCTION

- 1.1 Southern Water is consulting on proposals to build a desalination plant on land between Ashlett Creek STW and Fawley Waterside. The proposal includes pipeline route options (i) to take recovered drinking water to Testwood Lake near Totton, and (ii) to the Solent in the vicinity of Fawley Waterside and Calshot to extract seawater and return effluent concentrated brine.
- 1.2 This report sets out a proposed consultation response. The (extended) consultation deadline is 16 April 2021.

2. BACKGROUND

- 2.1 Desalination at Fawley is the largest of several proposed additional sources of new drinking water supply for southern Hampshire in Southern Water’s published Water Resource Management Plan (WRMP 2019). These are required to meet future needs and to replace supply from the Rivers Test and Itchen following abstraction license reductions.
- 2.2 Desalination at Fawley has ‘base case’ or preferred option status, and is the main focus of this consultation. It would provide about 40% of the additional new supply required in periods of drought demand.
- 2.3 A range of water supply alternatives to desalination are also being evaluated in case desalination proves to be undeliverable and a fallback water supply solution is necessary. These are mainly based in eastern Hampshire and include water recycling and water transfer from Portsmouth Water.
- 2.4 There are other elements of future water supply such as leakage reduction and water use efficiency that form part of the WRMP 2019 package of supply measures, but are not part of this consultation.

3. SUMMARY OF PROPOSED RESPONSE

- 3.1 Whilst acknowledging the urgency of the water supply position and the need to bring new sources of supply online as soon as practicable, the base case desalination plant proposal at Fawley is not considered to be a sustainable water supply solution.
- 3.2 Desalination is a high-carbon, high energy option that is a poor fit with the national targets to achieve carbon net zero.
- 3.3 The proposed site, its operation and pipeline connections would be likely to have significant and ongoing adverse impacts on internationally designated nature conservation sites, probably more so than all or most of the fallback alternatives. Yet under the Habitat Regulations it must first be established that there are no feasible alternative solutions which would be less damaging.

- 3.4 The pipeline routing options to Testwood are likely to be impacted by, or significantly impact on, other committed or emerging developments of strategic significance to NFDC and to the wider area, such as the Solent Freeport, A326 road improvements and the potential re-opening of the Fawley rail line. It could also seriously impact on essential strategic housing developments such as Fawley Waterside and possibly North Totton. Cumulatively local communities and business could face a prolonged period of severance and disruption if all these projects proceeded.
- 3.5 Even if desalination was demonstrated to be the most appropriate water supply solution, a site near Fawley Waterside located within the New Forest National Park is not an appropriate first choice location. National policy is that major development in a National Park should be a last resort only in the demonstrable absence of alternatives, which is not the case here with a range of feasible water supply alternatives identified.
- 3.6 It is therefore essential that Southern Water fully develops the technical case for the desalination plant at Fawley and all of the identified fallback alternatives, to help ensure a sustainable water supply solution is identified and delivered by 2027 as is required.

4. CONCLUSIONS

- 4.1 Desalination at Fawley is a high carbon footprint, high environmental impact and high risk water supply option that NFDC should not support.

5. FINANCIAL, CRIME & DISORDER , EQUALITY & DIVERSITY IMPLICATIONS

- 5.1 None.

6. ENVIRONMENTAL IMPLICATIONS

- 6.1 The proposed desalination plant and its pipeline connections and operations would have very significant environmental implications for internationally designated habitats in the Solent, and on the New Forest National Park landscape.

7. OTHER IMPLICATIONS

- 7.1. Potential for significant community disruption and severance during pipeline construction, which may be compounded by committed upgrading to the A326 and potentially by works for the potential Solent Freeport.
- 7.2 Potential adverse impact on the Fawley Waterside development. Pipeline construction may also affect Strategic Site 1 North Totton, although the routing indicated suggests it would be laid under existing roads.

8. RECOMMENDATIONS

- 8.1 To agree the attached consultation response.

9. PORTFOLIO HOLDER ENDORSEMENT

I have agreed to the recommendation of this report.

Sign: Cllr E J Heron

Date: 8 April 2021

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Background Papers:

Southern Water published documents

<https://www.southernwater.co.uk/our-story/water-for-life-hampshire/our-consultation-water-for-life-hampshire>

Date on which notice given for this decision – 8 April 2021

Last date for call-in – 15 April 2021

Southern Water 'Water for Life' (WfL) NFDC consultation response

Introduction

1. New Forest District Council (NFDC) welcomes the opportunity to respond to the Water for Life consultation on the 'base case' proposal for a seawater desalination plant at Fawley and associated pipelines and pumping. The consultation will help to inform the next key decision point which will help to determine whether this project, or one or some combination of the identified fall-back alternatives, is progressed.
2. NFDC is responding as a 'stakeholder' including as local planning authority for significant parts of the identified pipeline routes.

The security of future drinking water supply for southern Hampshire requires urgent resolution.

3. NFDC both acknowledges and emphasises the urgency of Southern Water's water supply position and the importance of resolving the supply deficit by bringing significant and sustainable new sources of water supply forward as soon as possible, and by the 2027 date agreed under best endeavours.
4. The consultation document correctly highlights the need to abstract less water from the sensitive chalk stream habitats of the Test and Itchen rivers and more from sustainable, resilient sources instead, following the 2018 legal agreement between Southern Water and the Environment Agency.
5. A resulting supply deficit in drought periods of 190 million litres per day is identified, equivalent to the usage of approximately 150,000 people, particularly affecting South West Hampshire. Drinking water for most of the eastern and southern parts of NFDC is currently sourced from the River Test.
6. The base case desalination plant (or fallback alternatives) in the WfL consultation would meet about 40% of the deficit, so it is essential that there is a high level of confidence in and support for the scheme that is ultimately progressed.

Carbon neutrality objectives should be more prominently factored into the evaluation and decision-making process.

7. Desalination appears a perverse choice of preferred option when feasible lower, energy, lower carbon and less impactful fallbacks alternatives are identified, including a potential new reservoir-based solution at Havant Thicket. The UK has committed to achieving carbon net zero by 2050 with accelerated interim carbon reduction targets for 2030 announced recently. Both desalination and waste water recycling are comparatively high energy and high carbon emitting water supply solutions, and desalination is generally understood to be the more energy and carbon intensive process of the two.
8. It is not possible from the material published to date to meaningfully compare the base case carbon and energy performance relative to the fallback alternatives. Given the long term implications of the decision to be made, the relative carbon merits of the base case and alternatives should be made transparent and feature more prominently in the option evaluation and decision-making process.

9. We reiterate our response to the 2018 WRMP consultation that desalination really should be the last resort. We find it surprising that additional water storage / reservoir options to harvest seasonal natural rainfall and water table peaks did not feature more strongly in the suite of WRMP 2019 water supply solutions, the late fallback addition of Havant Thicket excepted.

Significantly more work is required to demonstrate that the base case desalination plant is a sustainable water supply option that can be delivered on time. Significantly more work is required to develop the fall back alternatives to a comparable level of technical detail, in case the base case proves not to be.

10. NFDC is highly sceptical about the sustainability and deliverability of the desalination plant base case, and it is not a water supply solution this Council can support. The base case appears high-impact and high-risk relative to some of the alternatives, based on the limited high-level evidence published to date.
11. Even if upon fuller evaluation desalination were adjudged to be acceptable on climate change and other grounds, there remain serious, unanswered questions about the proposed location of the plant and its pipeline routings.
- i. The pipeline routing options to Testwood are likely to be impacted by, or significantly impact on, other committed or emerging developments of strategic significance to NFDC and to the wider area. These include:
- The Solent Freeport, which indicatively may include land at Exxon Fawley Refinery understood to be the broad area of search for a smaller desalination plant fallback option location.
 - Strategic transport investment in the New Forest Waterside area such as the Hampshire County Council A326 corridor improvements. There could be scope for extended disruption to communities and local businesses as well as risks to the already tight desalination project timescales.
 - The potential pipeline option along the currently disused Fawley rail corridor may not be achievable. Work on the feasibility of re-opening the Waterside rail line to Fawley for passengers has been funded by the Government's Restoring Your Railway Ideas Fund¹. The Council strongly supports the line re-opening, and if it can be achieved it would be an important element in the sustainable operation of the Solent freeport project.
 - the Fawley Waterside development for 1,500 homes (Local Plan allocation site SS.4).
 - The North Totton development for around 1,000 homes, in part at planning application stage (Local Plan allocation site SS.1).
- ii. It is the only scheme option where the main plant (potentially 10+ hectares in size) is proposed to be located within a National Park. The NPPF (para 172) sets out a presumption against major development in National Parks, and a requirement to first assess the 'scope for developing outside the designated area, or meeting the need for it in some other way'.

¹ <https://www.hants.gov.uk/News/27052020Waterside>

- iii. The base case requires more significant, permanent intrusion into European designated sites than the fallback alternatives. It also appears likely to have a greater potential adverse impact on European designated sites than all or most of the fallback alternatives. Impacts would be ongoing from the discharge of up to around 50 million litres per day of concentrated brine into the Solent, and from periodic pipeline maintenance or replacement. In such circumstances the Habitats Regulations require, inter alia, that it must first be established that there are no feasible alternative solutions which would be less damaging.
 - iv. Only one potential desalination plant site is broadly identified so far, which is understood to adjoin but not include land forming part of the environmental and landscape mitigation for the 1,500 home Fawley Waterside development². A limited amount land can be identified outside the application boundary; it is unknown whether this would be sufficient to accommodate a desalination plant but it does not appear likely.
 - v. The Council would strongly oppose any attempt by Southern Water to utilise for the desalination plant land that forms part of the Fawley Waterside development habitat and landscape mitigation package. It would introduce a major setback to the delivery of a strategically significant brownfield site housing-led redevelopment which has taken more than five years to negotiate through the planning process. The site is a cornerstone of future housing supply for the New Forest area. Any impact on the developments' mitigation, or arising delays from uncertainty, could have potentially serious implications for its overall deliverability. Any existing mitigation land needed by Southern Water would most likely have to be acquired by compulsory purchase, which would likely be opposed by both the land owner and by the Council.
12. The combination of the factors above add process, challenge and timetable risks to the consenting stage of the process. The extent to which these risks and impacts can be adequately managed and mitigated within the project delivery timetable requires detailed evaluation before there can be any confidence about the deliverability of the base case scheme by the required date, 2027.
13. All the currently identified options need to be more fully developed to mitigate delivery risks in the base case, and to enable regulatory decision makers to determine how best to ensure sustainable, secure and timely enhancement to drinking water supply for the area.

Wastewater recycling alternatives offer scope to reduce nitrate discharges to the Solent, a significant benefit not captured in the analysis of alternatives opportunities to date.

- 14. The consideration of wider benefits forms part of the evaluation process for water supply solutions. This reflects a recognition by government and water industry regulators that water companies have a role to play in the 'green economic recovery' to help the country to meet the economic and social challenges of the COVID pandemic³.

² New Forest District Council and the New Forest National Park Authority resolved to approve this development in Summer 2020

³ Green economic recovery – the water industry's role in building a resilient future, July 2020.

15. The need to mitigate the impact of additional nitrate discharges from housing development on European designated sites in the Solent is the number one barrier to the delivery of much-needed housing in much of the Hampshire area. The area has a cumulative backlog of thousands of homes delayed by a lack of available mechanisms for nitrate mitigation, with critical social and economic implications. In recognition of the significance and challenge the issue poses locally, DEFRA is funding a £4.2m pilot study to develop a nutrient trading platform in the Solent.
16. The fallback alternatives to the desalination base case include various permutations of water recycling, up to 75 million litres per day. If operating full-time at the upper capacity level, water recycling could divert wastewater discharge to the Solent that would contain 220,000 kg total nitrogen per annum⁴.
17. At an illustrative 20% of this theoretical level of wastewater effluent reduction, the reduction in nitrogen discharged could provide sufficient offsetting headroom for all or most committed and planned housing development in the PfSH area for the next decade. The nitrate offsetting credit value of around £100m at current market rates could help fund the project, and the wider environmental, economic and social benefits would be very significant.

Appendix 1: Consultation feedback form questions

The letter is the main Council response. We attach this form as an appendix to it to assist Southern Water to map the contents of the letter to their consultation form.

Q1. Which of the following best describe your interest in the Water for Life – Hampshire programme? (Please tick as many as apply)

Stakeholder from an organisation / group interested in this programme'

Other: local planning authority for part of the project (pipeline routes) and for elements of some of the fallback alternatives.

Base Case

Q2a. To what extent do you agree that the proposed Base Case would be an acceptable solution to the potential future water resource challenges in Hampshire?

Strongly disagree. Please see attached letter paras 7-13.

Q2b. Please provide any comments in relation to the following areas to support your answer to question 2 - Options for abstracting water from the Solent; Information on the desalination plant infrastructure and the ways we are considering managing the cleaned wastewater (brine) removed from the seawater; The alignment of the underground pipeline, to connect drinking water produced by the project, to our network.

Please see attached letter paras 7-13.

⁴ Published Environment Agency monitoring data indicates that the average total nitrogen level in treated effluent discharge from Budd's Farm over the preceding three years is 8 mg/l. The figure stated is based on 100% capacity operation at 75 ml/d, 365 days per annum.

Q3. Do you have any comments to make in relation to potential impacts of the proposed Base Case?

These could cover the following areas: water, environmental, energy, traffic and transport and people (health and socio-economic). (Please provide as much detail as you can)

Please see attached letter paras 7-13.

Alternative Options

Q4a. To what extent do you feel the desalination alternatives would be an acceptable alternative solution, should the Base Case not be delivered, to address potential future water resource challenges in Hampshire?

Q4b. Please provide any comments to support your answer to Q4a.

All the desalination alternatives are already deemed feasible and appear to offer scope for more sustainable and less risky water supply solutions than the base case, but there is insufficient information to make an informed judgement. Please see attached letter paras 10-13.

Q5. Do you have any comments to make in relation to potential impacts of any of the desalination alternatives listed?

There is insufficient information to do so in a meaningful way. Further detailed assessment of all fallback alternatives is needed to enable transparent judgements to be made about their positive and negative impacts, and about which option or combination of options is the most appropriate to progress.

Our responses to Q4 and Q5 apply equally to Q6-Q9.

Q6a. To what extent do you feel the water recycling alternatives would be an acceptable alternative solution should the Base Case not be delivered, to address potential future water resource challenges in Hampshire?

Q6b. Please provide any comments to support your answer to question 6a

Q7. Do you have any comments to make in relation to potential impacts of any of the water recycling alternatives listed?

Q8a. To what extent do you feel the water transfer alternatives would be an acceptable alternative solution, should the Base Case not be delivered, to address potential future water resource challenges in Hampshire?

Q8b. Please provide any comments to support your answer to question 8a

Q9. Do you have any comments to make in relation to potential impacts of the water transfer alternatives?

Final Comments

Q10. Do you have any other comments, thoughts or concerns about the Water for Life – Hampshire programme of proposed options you have provided feedback on?

The attached letter paras 14-17 identifies a potentially very positive environmental and economic benefit from water recycling options in reducing wastewater nitrate discharge to the Solent.

Q11a. How did you hear about this consultation?

Local press. Given the base case is partly within the district we would have expected to be contacted directly at an earlier stage.

Q11b: Do you have any feedback on this consultation e.g. level of information provided, advertising etc?

Additional mapping information was requested and supplied, and a meeting arranged which was useful, thank you.

The published material from previous stages that inform the consultation is difficult to navigate and heavily redacted. Material produced for the second RAPID Gate should be more site specific and should enable direct and transparent comparison between all options under evaluation

We request to be more closely involved in preparatory work for the current Second Gate stage.