Strategic Solution Interim Update Activity Plan to Gate 2

27 September 2021





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Please refer to Strategic Solution Interim Update: Submission Summary Appendix 1 - Submission Navigation and Glossary for the glossary of terms, definitions and abbreviations for this document.

Appendix A – Gate 2 Activity Plan – Schedule Extract



1 Introduction

1.1 Background

The Southern Water (SW) Options Appraisal process to date has been based on a need to provide resilience to a 1-in-200-year drought event. However, one of our three Strategic Objectives is Adaptability, to ensure suitability in terms of meeting long term water supply requirements and therefore sustainability of supply. We have not yet been able to have full regard to the ongoing work of Water Resources South East (WRSE) in the context of Regional Planning and to the requirements of WRMP24 in relation to the move to a 1-in-500-year drought standard and the need to consider environmental destination, in the context of the Options Appraisal work that we have undertaken to date. This work is important in the context of preparing and consulting on Water Resource Management Plan 24 (WRMP24), as well as to ensure a robust basis for the later planning and consenting process. We therefore intend to undertake further work in this regard prior to Gate 2.

To allow time for the further work to be undertaken we have requested of RAPID, and are anticipating reaching agreement, that the arrangements for Gate 2 are modified as follows:

- Gate 2 is rescheduled to 6 December 2021
- RAPID will agree to expedited determination timescales in respect of the rescheduled Gate 2, to enable
 SW to get on at pace with progressing the selected option towards Gate 3. We suggest 21 January 2022
 for a Draft Determination. This is on the basis that we commit to share the evidence we are developing
 for Gate 2 with the relevant regulators in good time before the gate and that their advice is incorporated.

At this Gate the highest-ranking option or options will be confirmed by SW as our 'Selected Option', and if appropriate a further option will be confirmed as a 'Back-Up Option', to be taken forward to Gate 3 in the manner described in our submission. SW will detail how our 'Selected Option' is planned to evolve to meet the challenge of a 1-in-500-year water resource planning world by submission at Gate 2 of a 'Selected Option Evolution Plan' and a similar approach will be taken with any Back-Up Option selected.

This plan should be read in conjunction with Interim Update: Customer and Stakeholder Engagement plan and the Interim Update: Regulator and other statutory bodies engagement plan.

1.2 Purpose of this document

This document sets out the Activity Plan for the period between the Interim Update and the rescheduled Gate 2 for the following:

- **Future Needs Activities:** planned activities for testing, in the context of the move to a 1-in-500-year drought standard required for WRMP24 (based on information available prior to Gate 2 preparation), the outcome of the Options Appraisal work we have undertaken since Gate 1, which include:
 - Preparation of Outline Option Evolution Plans for each option remaining after this Interim Update
 - o Development of Future Needs Statement (to inform the Option Evolution Plan)
 - Consideration of known risks and uncertainty, WRSE emerging results and regional needs (including those of Portsmouth Water)
 - Consideration of how the options could evolve to help meet the challenge of a 1-in-500year drought event water resource planning requirement and requirements in relation to environmental destination for WRMP24



- Testing of the Options Appraisal work undertaken in light of additional information and analysis, as set out in this Activity Plan
- Preparation of the Selected Option Evolution Plan for the Selected Option

Progressing development of the Emerging Preferred Option – Option B.4 75 MI/d DO recycled water (indirect) including a 15 MI/d water recycling plant, sent to Havant Thicket Reservoir (HTR) and transferred to and treated at Otterbourne WSW. Further context is provided in Figure 1 below.

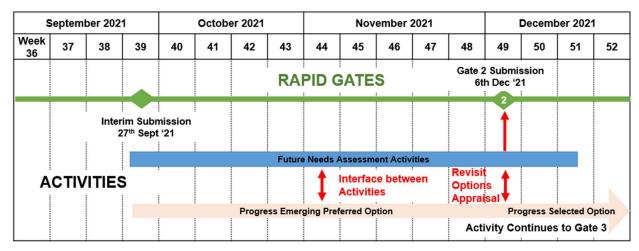


Figure 1 - Indicative Interim Submission to Gate 2 activities

Costs incurred as a result of the activities detailed above will be detailed in the Gate 2 submission as well as the need for the activities, we will have undertaken.



2 Development of the EPO to Gate 2

Our Options Appraisal process to date has been undertaken through a 1-in-200-year and WRMP19 lens. However, one of our three Strategic Objectives is Adaptability, to ensure suitability to meeting long term water supply requirements and therefore sustainability of supply. The Adaptability Strategic Objective is for options to be sustainable by being flexible and adaptable, including in terms of their: (a) capacity and scalability; (b) ability to contribute to strategic reinforcement of the regional and national network; (c) ability to rely on appropriate transitional measures to manage risks around delivery timescales; and (d) ability to allow for technological innovation.

We have not yet been able to fully have regard to the ongoing work of WRSE in the context of Regional Planning and to the requirements of WRMP24 in terms of the move to a 1-in-500-year drought standard and the need to consider environmental destination, and having regard to WRSE requirements, in the context of the Options Appraisal work we have undertaken to date. We therefore intend to undertake further work in this regard prior to Gate 2. The main additional activities proposed as part of our revised Gate 2 submission are described in the following sections.

2.1 Future Needs Assessment

2.1.1 Prepare Outline Option Evolution Plans

An Outline Option Evolution Plan will be prepared for each option remaining after this Interim Update.

The Outline Option Evolution Plan will outline how each option could evolve after Gate 2. This will cover matters such as how the capacity or Deployable Output (DO) of the option could evolve and be defined, how the option could be combined with elements of the other options considered at Gate 2, a plan for further evolving the option, any 'no regrets' opportunities, any changes in relation to supply in respect of any of the options and what might be possible for flexible and staged consenting and delivery.

The Outline Option Evolution Plans will be taken into account when considering the options in the context of the further Options Appraisal work to be undertaken, as described below.

2.1.2 Prepare Future Needs Statement:

2.1.2.1 Consideration of known risks to elements of WRMP19 Preferred Strategy

A precursor but foundational activity to the Future Needs Assessment will be a thorough review and further sensitivity analysis of the supply-demand balance calculation undertaken to define the effect that supply and demand interventions described in WRMP19 have on the supply-demand deficit and specifically, the required capacity of the SRO.

Enhancing confidence in the supply-demand balance calculation is critical as it is a crucial element of the evidence basis on which the Emerging Preferred Option has been identified.

The supply-demand balance calculation incorporates a number of supply and demand elements, and some elements may be open to challenge – these include bulk transfer imports and exports, leakage and demand reduction schemes and sustainability reductions in supply works abstractions (influenced by work being undertaken on river flow predictions and their effect on river ecology). Further work will be undertaken to refine our understanding of this impact, and any others identified, on the required SRO capacity. This will contribute to the robustness of the Options Appraisal Process testing prior to Gate 2, and the identification of the Selected Option to take forward. Once finalised we will consider, subject to the availability of information, any resulting impact on the consenting and MCDA evaluation and ranking.



2.1.2.2 Review emerging WRSE Regional Plan

A holistic review will be undertaken of the emerging WRSE plan seeking to understand how, within the parameters of the accelerated Gated Process and Section 20 (s20) agreement, the WfLH options could best be reflected in the context of the Regional Plan requirements. Consideration will be given in the Outline Option Evolution Plans to how the options could be adapted or phased to accommodate the needs of the emerging WRSE regional plan.

2.1.2.3 Working with Portsmouth Water to develop a Future Needs Statement & associated timescales

Further work will be undertaken, based on the latest information available prior to Gate 2 submission, to refine the understanding of the future needs arising from the move to a 1-in-500-year drought standard required for WRMP24, and any additional environmental sustainability reductions proposed. Key contributors to this activity will be the WRSE group, Regulators and Portsmouth Water (PW), who are facing potential Sustainability Reductions within their Meon catchment and are key collaboration partners.

We will also be undertaking a review to align schedules, procurement, engineering design of the reservoir and pipeline with PW, with that of the EPO.

The key output of the activities described above will be a 'Future Needs Statement' that refines the assessment of the future needs to be addressed, the necessary timeframe within which the future needs will arise (including drought and sustainability reductions, where known), and a quantification of the potential range of needs (MI/d) that are modelled and expected to arise. This will be used to inform further evaluation of the options in the context of the further Options Appraisal work described in section 2.3 below.

2.1.3 Evaluate the ability of the options to address future needs

The options will be assessed in terms of their ability to meet the need set out in the Future Needs Statement, taking into account their Outline Option Evolution Plans. This will be taken into account in the context of testing the Options Appraisal work that has been undertaken to date.

2.1.4 Evaluation of asset sizing

As part of the Outline Option Evolution Plans for each option, a high-level evaluation will be undertaken on the potential that meeting a future need has on changing key asset sizing (to include pipelines, water recycling plant(s) and associated pumping stations).

This will include the identification of the key basic parameters of pipeline diameters and non-infrastructure asset footprint such that a high-level quantification of any additional land take, required in order to accommodate future-needs, can be made. The evaluation of asset sizing arising from future needs will be matured to a standard necessary to support the full testing, in the context of the move to a 1-in-500-year drought standard required for WRMP24, of the outcome of the Options Appraisal work we have undertaken since Gate 1.

2.1.5 Selected Option Evolution Plan - develop delivery strategy in light of future needs

A Selected Option Evolution Plan and a Back-Up Option Evolution Plan will be developed that articulate how the Selected Option and the Back-Up Option at Gate 2 will be further evolved after Gate 2 to meet the identified future needs. This will include consideration of:

 No regrets activities (i.e. activities that will be required in any eventuality in order to progress the Selected Option)



- Asset delivery phasing: whether there are any opportunities to phase the delivery of each option to
 accommodate future needs for example, the stepped implementation of the delivery of each option to
 accommodate the phasing of future needs: WRMP19, WRMP24, sustainability reductions etc.
- Whether the option can be combined with elements of other options considered at Gate 2
- If delivery is phased, how each step can be future proofed for maximum efficiency. For example, if meeting a future need demands a larger pipeline and pumping station, how this can be most effectively accommodated during the prior stage. For example, should a pipeline and pumping station capacity that meets the future need be designed and constructed from the outset, or are there opportunities to future proof each element and easily accommodate future expansion? This element of work will require close regulator liaison as it considers the concepts of inter-generational investment and minimising customer and environmental impacts through effectively accommodating future needs.
- The evolution of planning, consenting and procurement strategies to accommodate and support a
 revised, and possibly phased, future needs delivery strategy. From a consenting perspective, this will
 include reviewing how a scheme can be progressed as planned whilst seeking to manage and minimise
 risk through the early Development Consent Order (DCO) pre-application planning stage, whilst future
 needs scope continues to mature with the publication of WRSE and WRMP24 findings.

2.2 Options Appraisal

A comprehensive Options Appraisal Process has already been undertaken in the context of a WRMP19 driven 1-in-200-year drought standard. This has been included as part of the Interim Update documentation. The conclusions of this Options Appraisal Process will be revisited and tested, in the context of the move to a 1-in-500-year drought standard required for WRMP24, taking into account the Future Needs Assessment work described above and the Outline Option Evolution Plans.

We will revisit and update as appropriate the Options Appraisal conclusions taking into account this work.

2.3 Section 20 Mitigation (Supply and Demand Deficit)

2.3.1 Interim Measures Development with regulators

To date, 57 possible options have been identified that have the potential to act as interim measures and as a contingency to the Base Case in the event that this option is not operational by 2027. High level assessments of deployable output, cost and timescale have already been undertaken for the 57 identified options.

During this stage, monthly workshops will be convened with key project stakeholders (including regulators) to reduce and refine the number of interim measures under consideration. A core team comprising SW and regulator representation will be identified during the first workshop. This is a precursor activity to identifying our Selected Option to progress to delivery.

Concurrently, SW will review the 57 possible options under consideration and align with internal Risk & Value Governance processes.

2.4 Governance

SW has already undertaken full internal and external assurance of the documentation that is being prepared for Gate 2 submission. Any further assurance necessary from changes arising from the additional evaluation activities outlined above will be by exception only.



2.4.1 Internal Assurance & Legal Reviews

Southern Water continues to use a "three lines of defence" framework for its reporting governance and assurance activity for all Regulatory submissions. This helps to assure performance information by applying multiple levels of control. The details of the overarching regulatory reporting approach and objectives can be found in SW Final Assurance Plan (March 2021) and Data Assurance Summary (July 2021).

2.4.2 External Assurance

An external assurer will be contracted to carry out assurance on behalf of the Southern Water and (where relevant to the Havant Thicket SRO) the Portsmouth Water Boards of any Gate 2 submission documents that have materially changed arising from the Future Needs Assessment. This will assure that the submission meets the RAPID Gate 2 requirements and the requirements of the Gate 1 final determination.

2.4.3 Board Governance

The results of the external assurance will be presented to the Southern Water Steering Group, Executive Programme Board, Audit Committee, Western Area Board Working group and Southern Water Full Board as part of the governance and submission sign off ahead of the submission to RAPID for Gate 2.

Those sections relevant to the Havant Thicket SRO will also be presented to the Portsmouth Water Board, following reviews by their Executive team, as part of the sign off process ahead of the submission to RAPID for Gate 2.



3 Activities for Progressing the EPO to Gate 3

This section provides a precis of the activities which will be undertaken to progress the EPO (B.4) and EBU to Gate 3, during the period prior to Gate 2 and confirmation of our Selected Option, in order to meet our All Best Endeavours (ABE) Obligation and minimise any impact on the solution delivery date. These activities will be undertaken in parallel with the Future Needs Assessment Activities, and the further testing of the Options Appraisal outcome, between the Interim Update and the Gate 2 submission, 6 December 2021, see Figure 1.

The Work Breakdown Structure in our plan is structured to closely align with the identified Gate 3 activities set out in Ofwat's PR19 Final Determination, as illustrated in Figure 2. The activities detailed within this document are a narrative of our overarching schedules that can be found within the Solution Conceptual Design Report.

Developed design, finalised feasibility, pre-planning investigations and planning applications

- Updated finalised feasibility, data collection and developed design
- Cross-comparison of updated solutions costs and benefits in regional and national models
- External assurance of data and approaches supported by Board statement
- Confirm procurement strategy including direct procurement for customers delivery decisions
- Pre-planning application submissions
- Start development consent orders pre-planning application investigations
- Planning permission-related stakeholder engagement completed
- Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.
- Identification of any changes in solution partner or solution substitutions
- Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate
- Proposals for gate four activity and outcomes, and penalty scale, assessment criteria and contributions

Figure 2 - Indicative Gate 3 activities¹

ndicative gate three activities

It should be noted that to maintain the required pace to deliver the SRO, some Gate 3 activities will be commenced with immediate effect, notwithstanding that Gate 2 is in December 2021.

¹ Page 42, PR19 Final determination: Strategic regional water resource solutions appendix



3.1 Updated finalised feasibility, data collections and developed design

Under this category heading we include all of our Engineering and Technical development activities. The outcomes of the below activities will interface and input into our technical designs, procurement activities and DCO or planning pre-application activities.

The ultimate design maturity will be informed by our Gate 3 activities, including consenting strategy, stakeholder input and feedback, and the procurement strategy adopted for the project, with its associated market engagement. Much of the work below will directly inform the design input to the DCO or planning process and the development of Works Information for the main works contract.

Key activities that we will be undertaking include:

- Water sampling
- Initial mass balance calculations
- Outline compliance and commissioning strategy
- Mechanical design development
- Civil design development
- Architectural and outline specification options
- Electrical and Instrumental design development
- · Pipeline design and routing
- Ongoing pilot plants associated with recycling technology and the new Otterbourne plant technology

3.2 Confirm procurement strategy including direct procurement for customers delivery decisions

Under this category heading we include all of our Procurement activities. These activities relate to both day-to-day procurement activities that support the project implementation and further development of the DPC delivery strategy for the project. The outcomes of the below activities will interface and input into our DPC Strategy, Control Point submissions, technical designs and DCO / planning pre-application activities.

We will be undertaking a significant ongoing amount of general procurement activities to build the integrated organisation to deliver the project. This includes procurement of the third-party resource augmentation of Programme and DCO / planning teams, the extensive engagement of engineering, surveys, environmental support and ECI engagement. This procurement will be a combination of both framework suppliers and specifically procured suppliers for particular specialist capabilities.

3.3 Pre-planning application submissions

Under this category heading we include all of our planning and DCO pre-application activities. The outcomes of the below activities will interface and input into our technical designs, procurement activities and stakeholder management strategies.



The following consenting activities will be undertaken including:

- Progressing consenting activities that can still be actioned in line with current schedule and consenting
 and strategy, e.g. EIA methodology and scoping, scheme development work and supporting evaluations
 to support non-statutory consultation, building engagement plans & schedules, and related procurement
 activities.
- Reviewing and re-casting as appropriate the consenting schedule for the Selected Option.
- Collaborating with Portsmouth Water to review how the Emerging Preferred Option B.4 interfaces with Havant Thicket Reservoir, and how these interfaces can be best managed through the consenting process.

3.4 Start pre-planning application investigations

Under this category heading we include all of our survey and investigation activities. These surveys relate to both engineering and environmental related surveys. The outcomes of the below activities will input into our technical designs, procurement activities, DCO or planning pre-application activities and stakeholder management strategies. We will be working closely with stakeholders and regulators to identify, scope and undertake these key activities.

This work relates to the preparatory works for the surveys which supports the associated procurement activities. These activities will not feed into the Gate 2 submission. Specific preparatory activities include:

- Environmental related surveys Scoping and agreeing survey protocols; and
- Land referencing and landowner engagement to enable access for the above surveys and investigations.

3.5 Planning and consenting stakeholder engagement completed

Under this category heading we include all of stakeholder and customer engagement activities. The outcomes of the below activities will interface and input into our technical designs, procurement activities, DCO or planning pre-application activities and stakeholder and customer strategies.

We will be undertaking extensive stakeholder engagement as part of the consenting process. Tailored engagement will take place with a wide range of stakeholders including:

- Regulatory bodies, including RAPID, EA, NE, MMO
- Statutory consultees, including EA, NE, Historic England
- · Local planning authorities
- Landowners and interested parties
- Customers and other stakeholders

Details of how we propose to do this and target timescales are provided in the IU Regulator and other statutory bodies engagement plan.



3.6 Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions

Under this category heading we include our activities associated with management of the WRMP process. The outcomes of the below activities will be a key input to technical development, provide the need for the DCO or planning applications and give confidence that the solution is supported by an approved WRMP.

The need for a new source in the Hampshire region is a key part of SW's Preferred Strategy in WRMP19. The possibility of needing to change WRMP19 in the light of any change to the Base Case was highlighted in our draft WRMP19 Annual Review. We will complete this WRMP19 Annual Review in advance of the statutory deadline. We are working with stakeholders to define any additional WRMP19 activities and will report on this at Gate 2.

3.7 Identification of any changes in solution partner or solution substitutions

Under this category heading we include activities and costs associated with the negotiation and agreement on necessary bulk supply agreements with our solution partner (PW). These activities apply to the Emerging Preferred Option, and will interface and input into our technical designs, procurement activities and DCO or planning pre-application activities.

3.8 Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate

Under this category heading we include all of our strategic programme management, project management, programme controls and PMO activities which will continue up to and after Gate 2. These activities support the effective planning, management, control and delivery of a highly complex project. These activities cover the entirety of the programme and project scope to ensure the development of the EPO including creation of an integrated team with PW, that can effectively manage and deliver this highly complex project.

The Gate 2 Activity Plan provided at the Interim Update will continue to be expanded as necessary between the Interim Update and Gate 2 and SW will engage with RAPID in order to seek alignment on the activities to be completed. Additionally, the EPO and EBO schedules will continue to be developed and optimised.

3.9 Details of efficient spend

An Efficiency of Expenditure report has been prepared reflecting the original Gate 2 submission date however, we will engage with RAPID to agree the following:

- Cost incurred from Gate 1 up to the 27th September 2021.
- Costs incurred from 27th September 2021 onwards up until 6th December 2021, including confirming actual costs against forecast costs to 27th September 2021.
- Costs incurred from Gate 1 to 6th December 2021 that are early start Gate 3 activities as agreed with RAPID.



3.10 Penalty / Reward Scales, Assessment Criteria and Contributions for the Gate 3 Submission

The Penalty / Reward Scales, Assessment Criteria and Contributions for the Gate 3 Submission will be further investigated and submitted at Gate 2.



Appendix A – Gate 2 Activity Plan – Schedule Extract

A copy of the annex is shown on the following page.



ACTIVITY PLAN TO GATE 2 SCHEDULE



