

## Wessex Water Services Ltd Response to Ofwat's PR19 Draft Determination – August 2019

**Representation reference:** Cost Assessment C17

**Representation title:** Raw water deterioration

### Summary of issue

Ofwat's draft determination applies a 20% efficiency challenge to the Fonthill Bishop nitrate blending scheme due to insufficient evidence of robust optioneering and lack of detail about the pipeline costs.

Relevant values are summarised in the table below along with confirmation of the value we request in order to carry out the strategy and projects agreed with the DWI and supported by our customers.

Raw water deterioration	£m
PR19 business plan	12.127
Draft determination	9.831
Representation request	12.127

### Change requested

On the basis of the additional evidence provided in this representation, we request that Ofwat provide the amount requested above in its final determination.

### Rationale (including any new evidence)

We provide below additional information about the optioneering that we carried out during preparation of the PR19 business plan, and the latest position with regard to the need.

#### Need

The DWI have now issued the notices under Regulation 28(4) of the Water Supply (Water Quality) Regulations, which confirms that the Sturminster Marshall/Shapwick and Fonthill Bishop nitrate blending schemes are statutory obligations. The DWI letters are dated 4 July 2019 and 10 July 2019.

## **Robustness and efficiency of costs Fonthill Bishop optioneering**

From the outset we have considered the full range of options to ensure compliance with the drinking water standard for nitrates. The assessment of options and conclusions were described in:

- Our submission to the DWI in December 2017 – refer to section 6.1.3 pages 48 – 50, and Annex 1 pages 18 to 23, which was included as Appendix 5.3.A of our business plan submission
- *Supporting document 5.3 – Providing excellent drinking water quality* section 2.6 pages 18 to 20.

There are only two remaining viable options to achieving drinking water quality compliance. As explained in *Supporting document 5.3 – Providing excellent drinking water quality* the other options of enhanced catchment management, source abandonment and substitution are not feasible options. The two viable options are:

- Blending with background catchment management
- Treatment.

Each of these options was described in the DWI submission as repeated below.

### Treatment

Our standard nitrate treatment is ion exchange, the capital cost and operating costs are well understood having recently completed a new nitrate treatment plant at our source at Black Lane near Blandford.

At Fonthill Bishop water is pumped direct from the boreholes to Littledown Service Reservoir with the pressure leaving the Fonthill site at around 185m. In order to incorporate nitrate removal into this system it would be necessary to:

- Buy a new plot of land to accommodate the new treatment facility and get planning permission including tanker access for waste removal
- Lay new mains to and from this new site as it is unlikely that land and planning can be obtained close to the existing facility
- Change the borehole pumps to a lower lift to pump through the new ion exchange which will need a free discharge into a new ground tank (the ion exchange system cannot operate at the high pressure experienced at Fonthill Bishop).
- Construct a new ground tank and re-lift pumping station for onward delivery to Littledown SR after the ion exchange plant .
- Provide facilities to deal with the waste stream. At Black Lane most of the waste stream gravitates into a local sewer, but this is unlikely to be an option at this location. Therefore tankering would be required with a significant environmental impact and operating cost.

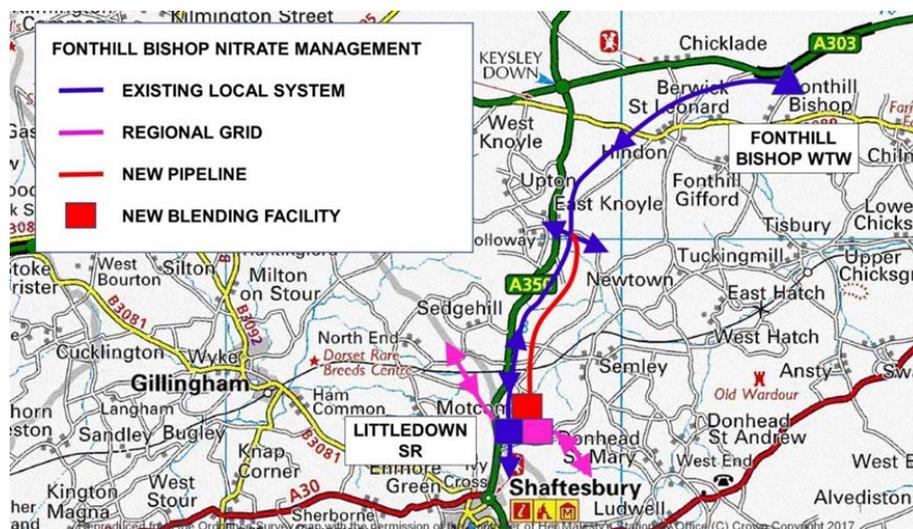
## Blending

This option would involve converting the existing system from Fonthill to Littledown into a dedicated high nitrate pipeline for blending at Littledown SR and utilisation within our regional grid as illustrated in the following figure.

The scope of works would be:

- 6 km of 400 mm diameter pipeline (shown in red on the plan below)
- Major connection detail at East Knoyle
- Blending arrangement at Littledown including relocation of disinfection from Fonthill.

The reason why a new pipeline is required is because there are several villages served directly from the main to Littledown. To achieve the blending at Littledown the existing main will be dedicated to supply the high nitrate water from Fonthill Bishop to Littledown. Then a new main will be used to resupply the villages with compliant water. There is no way to achieve this with only one pipeline.



The cost of the treatment option was established by using the out-turn cost for the recently completed scheme at Black Lane and adding estimates of the cost of the additional facilities that would be required such as the interconnecting pipelines, ground tank and high lift pumping station.

The comparison was set out in the DWI submission and in our business plan *Supporting document 5.3 – Providing excellent drinking water quality table 2-3 page 20*, with the conclusion that blending has the lowest whole life cost.

## Fonthill Bishop cost estimate

A detailed breakdown of costs, with the pipeline costs identified separately, is given in the table below.

**Table : Detailed breakdown of costs**

Item	Fonthill Bishop £k
<u>Construction Value</u>	
Civil work items	Pipeline 2,030
Labour, Plant, Material & Subcontract packages	Connection complex 322
	Sub-total 2,352
Mechanical and Electrical work items	
Labour, Plant, Material & Subcontract packages	1,369
Supervision and Prelims	760
Contractor Fees	419
Total Construction Value:	4,901
Design & Project management	1,178
Third party	424
Risk (15%)	1,148
Total Scheme Cost:	7,652

### Pipeline

For the 6km of 400 mm diameter pipeline, the equivalent construction cost unit rate is £338 per metre. This is a similar unit rate to the unit rates achieved through tendering on our Grid project (completed in 2018).

We are aware of significant prices increases in materials since 2017/18 that will make delivering the project at the PR19 cost estimate very challenging. Price increases between 2017/18 and August 2019 include:

- Ductile iron pipe (as required for this project) + 11.5%
  - Muck away (for disposal of excess material that cannot be reused) + 50%
  - Aggregates + 21%
- (Source: Wessex Water framework tenders)

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## Why the change is in customers' interests

The change will enable us to construct the Fonthill Bishop scheme, and therefore continue to provide excellent drinking water to our customers and comply with the legal undertaking agreed with the DWI.

As stated in *Supporting document 5.3 – Providing excellent drinking water quality* to our business plan customers are protected through the legal instruments issued by the DWI and through the performance commitment of drinking water quality – Compliance Risk Index.

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### **Links to relevant evidence already provided or elsewhere in the representation document**

PR19 business plan submission in September 2018

- *Supporting document 5.3 – Providing excellent drinking water quality*
- Appendix 5.3.A PR19 Drinking water quality submission to DWI and accompanying annexes.

Response to Initial Assessment of Plans March 2019

- Appendix 6 – Providing excellent drinking water quality: Response to IAP.