

Southern Water Mannings Heath Wastewater Treatment Works (WTW) Pump Away Scheme Technical Note on Option Selection

November 2023

1. Introduction

- 1.1 This technical note has been prepared to address the following comments raised by West Sussex County Council in relation to Southern Water's proposals to install a Pipe Bridge in Gaggle Wood, which forms part of the Mannings Heath Wastewater Treatment Works (WTW) Pump Away Scheme.

"Given the sites location in Ancient Woodland, a key policy consideration for the application will be the NPPF paragraph 180(c). Government guidance on these considerations is provided at the following links;

<https://www.gov.uk/guidance/natural-environment#biodiversity-geodiversity-and-ecosystems>

<https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

In this regard the applicant will need to demonstrate 'wholly exceptional reasons' and should summarise (with reference to the relevant submitted assessments) how government advice has been considered/addressed (including avoidance and mitigation measures, and demonstration of a suitable compensation strategy). This should be considered as part of the planning statement (i.e. you may wish to review key topics identified in the assessment guide). As part of this, it is also recommended that alternatives considered are set (both in terms of wider options for the WTW and specific options for the connection proposed), and reasons given as to why no-dig methods would not be achievable."

- 1.2 Paragraph 180 of the National Planning Policy Framework (NPPF) states:

"(c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁽⁶³⁾ and a suitable compensation strategy exists".

Note 63 of NPPF states: *"For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat".*

2. Reasons for the Proposed Development

- 2.1 The proposed pipe bridge is essential infrastructure, the wholly exceptional reasons for its development in Gaggle Wood, which is designated an Ancient Woodland, are set out in the Planning, Design and Access Statement submitted with the planning application and repeated below. These demonstrate that transferring wastewater from Mannings Heath WTW to Horsham WTW for enhanced treatment is clearly in the public interest; is required by the Water Environment (Water Framework

Directive) (England and Wales) Regulations 2017 and will have a positive impact on the environment.

“The Existing Wastewater Treatment Process

2.2 Mannings Heath is currently a small WTW. It discharges treated effluent to a tributary of the River Arun and when storm flows exceed the capacity of the WTW, it overflows stormwater to the tributary. The WTW first appears on the 1958 Ordnance Survey map, where an area of Gaggle Wood was cleared, and an access road created.

The Need for the Scheme

2.3 Southern Water has a statutory duty under Part IV of the Water Industry Act 1991 to ensure that an efficient and economical system of water collection and treatment is provided to customers. Discharges from the WTW are subject of environmental permits set by the Environment Agency.

2.4 To meet the requirements of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, which aim to protect and improve the water environment, the Environment Agency has set revised permit conditions. These require that, wastewater generated in the Mannings Heath catchment receives additional treatment to reduce levels of phosphorous, magnesium and iron. The current Flow to Full Treatment (FFT) permit is 7 litres per second (l/s). The revised permits set a phosphorous limit (P) of 0.5 mg/L (Annual Average) with an iron limit (Fe) of 4 mg/l (95%) and 8mg/l upper tier. The regulatory date by which that permit must be achieved is 22 December 2024. To do nothing is not an option.

2.5 Mannings Heath WTW is very small, and the necessary treatment plant to achieve the standards set in the permit cannot be accommodated within the existing operational boundary. An extension of the site is not feasible because the site is surrounded by Ancient Woodland and there is subsidence along its western boundary. Therefore, Southern Water proposes to convert Mannings Heath WTW to a wastewater pumping station (WPS) - the existing inlet screen that screens all incoming flows will be retained, as will the storm tank and overflow. A 3.6km pipeline is being constructed that will connect the Mannings Heath WPS to the existing gravity sewer network that conveys wastewater to Horsham WTW for treatment prior to discharge. Transferring Mannings Heath wastewater flows to Horsham WTW for treatment will also increase the FFT capacity to 9 l/s, which will reduce stormwater discharges at Mannings Heath.

2.6 Mannings Heath WTW and the local sewer network that drains to it, were established prior to the designation of Gaggle Wood as Ancient Woodland. As a result, the WTW is completely surrounded by the designated area and the Ancient Woodland is criss-crossed by existing buried sewer infrastructure and an existing pipe bridge (refer to the Landscape and Visual Technical Note), as well as the access road to the WTW.

2.7 Any new assets that are required to be connected into the WTW have to pass through the Ancient Woodland. Complete avoidance of this designation is impossible.

2.8 Where the new 3.6km sewer passes through the Gaggle Wood it crosses a deep ‘ghyll’ valley through which a stream runs. The pipe must cross this valley and a pipe-bridge is proposed.”

2.2 The Planning Statement continues in Section 6:

“Principle of the development

(WSWLP Policies: Strategic Objective 4; Policy W6; HDPF Policies:S1, S2 and 39)

6.2 Wastewater treatment is a vital public service, which underpins sustainable communities. Wastewater generated by the local community must be treated in accordance with environmental permits set by the Environment Agency. To meet the requirements of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, which serve to protect the environment, the community’s wastewater needs to be treated to a higher standard. To do nothing is not an option.

6.3 The Mannings Heath WTW is very small, and it is surrounded by Ancient Woodland, which prevents its expansion to accommodate further treatment processes. Therefore, the community’s sewage must be transferred to another site for treatment prior to discharge. The scheme, of which the proposed development is a key component, will ensure that there is sufficient capacity for sewage treatment for the existing community and so that developments may connect to the public sewer network. Transferring wastewater from Mannings Heath WTW to Horsham WTW for enhanced treatment is clearly in the public interest; and will have a positive impact on the environment.

6.4 The policies of the Waste Local Plan are supportive of the provision of necessary wastewater treatment and utilities infrastructure. Strategic Objective 4 of the Waste Local Plan aims “to protect the network of waste management sites and infrastructure”. HDPF Policy 39 Strategic Policy: Infrastructure Provision – recognises the importance of infrastructure capacity to enable new development and to ensure that the environment and amenities of existing or new local residents.

6.5 However, the ground conditions, topography and restricted space within the WTW demand that where the sewer transfer infrastructure crosses Gaggle Wood, which is an Ancient Woodland, a pipe bridge is required to span a deep ravine. It is not possible to avoid the Ancient Woodland completely. In accordance Paragraph 180 of the National Planning Policy Framework (NPPF) the need for the pipe bridge infrastructure in this location represents ‘wholly exceptional reasons’ for development in Ancient Woodland, where the public benefit would clearly outweigh impacts. Moreover, Southern Water has minimised the development footprint and potential impacts as far as is reasonably practicable and the proposals include a comprehensive package of mitigation measures that will enhance Gaggle Wood. Therefore, it is considered that the principle of the proposed development is acceptable.”

2.3 The biodiversity section of the Statement continues, “6.38 Ancient Woodland is irreplaceable. The location of the existing WTW within the Ancient Woodland means that it is not possible to avoid the works in the Ancient Woodland. Therefore, Southern Water has sought to minimise potential impacts as far as is reasonably practicable.”

3. Alternatives Considered

3.1 Southern Water considered the following alternatives:

- Upgrading the existing Mannings Heath WTW.
- Constructing a new WTW at an alternative site.

- Transferring flows to another WTW, using the following construction method options:
 - Open cut trench along the Mannings Heath WTW access road and the A281.
 - Horizontal Direction Drill from the west into the WTW.
 - Horizontal Direction Drill from the west into the access road to the WTW
 - Installation of a pipe bridge across the stream in Gaggle Wood.

3.2 Southern Water's careful consideration of alternatives was set out in its request for an EIA Screening Opinion (dated 30 May 2023). West Sussex County Council's EIA Screening Opinion (27 June 2023) concluded that EIA was not required. Below is a summary of the consideration of alternatives:

Upgrading the existing Mannings Heath WTW

3.3 The new treatment processes required to meet the new permit conditions cannot be accommodated safely on site due to the limited size of the WTW and severe ground subsidence on its western boundary.

3.4 It is not possible to extend the existing WTW to accommodate the necessary treatment plant because it is surrounded by Ancient Woodland and is located in very close proximity to a steep wooded valley that adjoins the western boundary of the WTW. Beyond the eastern boundary of the WTW there is a narrow strip of Ancient Woodland that is adjacent to the private gardens associated with the residential properties on The Birches.

3.5 Therefore, Southern Water concluded that the physical and environmental constraints of the site and its surroundings prevented an upgrade of the existing WTW, and this option was discounted.

Constructing a new WTW at an alternative site

3.6 Development of a new Mannings Heath WTW to west of the ancient woodland was considered. This option would involve the development of approximately 5600m² of third party, greenfield land to accommodate the new treatment works, plus a new permanent 250m access road from Brighton Road.

3.7 The land to the west of Gaggle Wood forms part of the High Weald Area of Outstanding Natural Beauty (AONB), a designation of national importance for landscape protection.

3.8 This option would also necessitate works in the Ancient Woodland as it would require the extensive network of sewer connections to be diverted, including those that currently run through the Ancient Woodland, or, in order to maintain the current inlet into the existing WTW, diversion via a pipeline across the Ancient Woodland to the new WTW.

3.9 Therefore as this option would permanently and adversely impact both the AONB and Ancient Woodland, as well as result in permanent loss of agricultural land, it was discounted.

Transferring flows from Mannings Heath WTW to another WTW

3.10 Southern Water considered four route options, to enable the community's sewage, which flows to Mannings Heath WTW to be transferred to another WTW for treatment:

- Option 1 - Open cut trench along the WTW site access road and the A281
- Option 2 – No dig (Horizontal Direction Drill) from the west, under Gaggle Wood into the WTW
- Option 3 - Horizontal Direction Drill from the west, under Gaggle Wood into the access road to the WTW
- Option 4 - Install a pipe bridge across the stream in Gaggle Wood.

Option 1 - Open cut trench along the WTW site access road and the A281

- 3.11 The 200m access track into the WTW, is very narrow and has existing infrastructure assets (pipes and cabling), which means that excavating the trench and space required for laying out the pipe and working on it, would require a 10m widening of the 200m access track, resulting in 2000m² of Ancient Woodland being impacted.

Option 2 - Horizontal Directional Drill (HDD) from the west into the WTW

- 3.12 Geological desk studies confirmed that this option is not feasible because the known ground conditions sandstone (Upper Tunbridge Wells Sand / Sandstone and siltstone, interbedded) jeopardise control of the HDD resulting in significant risk of break-out of drilling fluids into the Ancient Woodland and stream, or an aborted drill.

- 3.13 Moreover, the topography of the riparian corridor and presence of the stream necessitate a drill depth of approximately 13 - 16m Below Ground Level (bgl). As the width of the WTW is 35m there would not be enough room to accommodate a drill reception area within the WTW site, further impacting the Ancient Woodland and residential properties.

- 3.14 Even if HDD pipe installation was feasible, the upward bend of the pipe under the stream valley would significantly increase the risk of sediment collection and blockage failure in the pipe, increasing the risk of untreated effluent being released to the environment.

Option 3 - HDD from the west into the access road to the WTW

- 3.15 This option was not considered to be feasible due to the ground conditions detailed above (Option 2). Moreover, an HDD reception pit in the access road would impact approximately 18m² of Ancient Woodland, plus 10m widening of a 75m section of the access road to enable installation of the pipeline to the WTW would result in 768m² of ancient woodland being impacted.

Option 4 - Install a pipe bridge across the stream

- 3.16 This option would impact approximately 220m² of Ancient Woodland and involves the least amount of excavation.

- 3.17 Southern Water selected Option 4, which is technically feasible and has the least potential impact on the Ancient Woodland. Southern Water's request for an EIA Screening Opinion noted:

“The proposal to transfer flows to Horsham WTW rather than upgrading Mannings Heath WTW is dictated to a large extent by the physical constraints of the site. The new processes required to meet the new permit conditions could not have been accommodated safely on site due to the current size of the WTW and the severe ground subsidence on the western fence line. The site is surrounded on all sides by ancient woodland and is located in very close proximity to a steep wooded valley that adjoins the western fence line. Beyond the eastern fence line is narrow strip of ancient woodland that is itself adjacent to the private gardens associated with the

residential properties on The Birches. Furthermore the requirement for ferric dosing would have resulted in regular chemical deliveries to the site and the addition of sludge tankering from the site, which would have led to an intensification of site activity and vehicle movements through a residential area.

A proposal was considered to build a new Mannings Heath WTW to west of the ancient woodland, though this would have required approximately 5600m² of land to accommodate the new process treatment plus a new 250m access road from the Brighton Road to be constructed. This was discounted on the grounds the location of the new WTW would fall within the High Weald AONB and a permanent change of land use of this nature would not be viewed favourably.”

3.18 The EIA Screening Request and Planning Statement highlight that the first establishment of the WTW predates the designation of Gaggles Wood as ancient woodland, and the designation is criss-crossed by existing buried Southern Water infrastructure and the WTW access road. As a result, any new wastewater assets that are required to be connected into the WTW have to pass through the Ancient Woodland; complete avoidance of this designation is not possible.

3.19 West Sussex County Council’s EIA Screening Opinion, which concluded that the scheme does not have the potential for significant effects on the environment, noted:

“the loss of trees and impacts upon ancient woodland are inevitable. However, it is proposed to restrict works to a 10m easement in this area, routing avoids higher quality trees, and submitted arboricultural assessments set out proposed methodologies to minimise any root damage, protect retained trees and enhance the existing woodland that would reduce potential impacts and seek to offset them...”

3.20 The preferred option (Option 4): the pipe bridge, minimises the potential impacts on the Ancient Woodland as far as is reasonably practical. As set out in the Planning, Design and Access Statement, the proposals include a comprehensive package of mitigation measures, which have been developed by the project Arboriculturalist and Ecologist. These measures:

- **Minimise the footprint of temporary construction activities and the proposed pipe bridge.**

Within the already reduced 10m wide working area in the Ancient Woodland it has been determined that the outer sides (2-3m on both sides) of the working width will not need to have the root-balls removed and will only be coppiced to ground level. Protective matting will then be placed over this zone for the duration of the construction works (estimated to be no more than 2-3 weeks), after which the matting will be removed, and the plants will be able to re-grow. In the deeper central parts of the stream valley there is no need to grub up the root-balls. Therefore, these plants will also only be cut to ground level.

- **Retain understory and specimens capable of being coppiced, in situ through coppice management.**

Where this is not possible, specimens that are suitable for translocation will be moved to alternative positions outside the working area to avoid the loss of arboricultural and ecological features and promote the conservation of the important woodland ecosystem.

- **Minimise tree removal.**

Only three individual trees need to be removed: T12, a semi-mature Holly, of low value; T20 - a semi-mature Beech of moderate value, and T23, a semi-mature Hawthorn, also of low value.

- **Retain and redistribute any leaf litter and soil within Ancient Woodland.**
- **Enhance the Ancient Woodland.**
Through removal of the invasive plant species that are present and opening up of the woodland structure to allow more light in to encourage the ground layer vegetation.

3.21 All works within the Ancient Woodland will be implemented in accordance with the mitigation detailed in the Arboricultural Method Statement submitted with the Planning Application. This provides a step-by-step approach for coppicing (a traditional woodland management method) and tree translocation. The project arboriculturalist will advise on the construction works and design as it progresses to ensure any impacts are mitigated for and will provide supervision of reinstatement to ensure the pipe supports and surrounding material does not materially harm the soil bank or any roots of retained trees through over compaction.

4 Conclusions

- 4.1 Transferring wastewater from Mannings Heath WTW to Horsham WTW for enhanced treatment is clearly in the public interest; it is required by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 and will have a positive impact on the environment.
- 4.2 To do nothing is not an option and it is not possible to deliver the requirements of the environmental permit and avoid the Ancient Woodland completely. The ground conditions and topography require a pipe bridge to be installed. Together these represent wholly exceptional reasons for development in the Ancient Woodland. Southern Water has minimised the development footprint and potential impacts as far as is reasonably practicable. It is considered that the public benefits of this proposed development outweigh any residual impacts and the proposals include a comprehensive package of mitigation measures that will enhance Gaggle Wood.