

# **East Hanney Parish Council's response to Thames Water's Draft Water Resource Management Plan.**

## **Introduction**

East Hanney is one of the villages that would be directly impacted by the reservoir proposed by Thames Water (TW) under their Water Resource Management Plan (WRMP). The reservoir if developed would be within both the parish and village boundary (as defined by the Parish's emerging Neighbourhood Plan).

East Hanney is a historic rural village community in a verdant setting in the Oxfordshire lowland vale. The village and wider parish are exposed to frequent severe and damaging flooding episodes, much of the village and wider parish being in flood zones 2 and 3. The surrounding fields and surfaces absorbing excess water and protecting the village. One consequence of the plan is that the fields will be lost, as will the network of ditches, streams and tributaries that take water away from the village and hold it releasing it into the Letcombe Brook and River Ock slowly, thus mitigating flood events downstream of the parish.

The reservoir that is proposed is a mega-reservoir on a scale that has never before been attempted, which itself carries significant risk and questions over deliverability. The mega -reservoir as proposed would be some 25meters above ground level imposed on a mainly flat landscape of character (lowland vale).

A smaller reservoir would not present the level risk when compared to that which is proposed, especially if it was to be centred on the same point as the proposed mega-reservoir and would thus sit away from the land areas where the reservoir is currently proposed, leaving a large proportion of the network of natural waterways and flood protection systems in place.

East Hanney Parish Council (EHPC) is concerned not only about flood risk, but also the wider consequences on the village, and the everlasting impact and change that it will bring. TW claim that it will bring benefits to the local area, but when questioned this is supposedly relating to local employment opportunities. In reality any employment will be through major contractors utilising workforces from outside the local area, importing workers, or corporate teams due to the size and scale of the contracting works. There is no benefit for the community and EHPC finds this and other statements made by TW misleading and false. TW has listed a number of statements to support their proposal that are untrue.

EHPC is very concerned about the proposed extent of the works; the walls at 25meters height would with the water impose a considerable weight on the geology, and take some 12 years to realise, including 8 years to build giving rise to significant risk of contamination to the area and existing under- and over-ground water systems.

In order to consider the proposal EHPC engaged an independent firm of expert hydrologists who have in their team specialist reservoir development engineers, Water Resource Associates llp (WRA).

The WRMP as currently proposed is flawed and thus unsound. EHPC does not believe that there is demand or a need for a reservoir of this size and that TW are 'being creative' in their business case for the need, instead they should be realistic and be looking to provide a solution in their plan which meets actual need and is not based on their failure to address the significant problems such as systemic leakage, and their desire to provide fresh water to third parties such as Affinity Water. Much of what is provided by TW is based on historic data, much from over a decade ago, which is therefore out-dated and not reliable. Very

worryingly it does not include any consideration of, or impact on the local community and the immediate area nor does it detail the proposed landscaping.

It is essential that the plan is referred to the Secretary of State and is subject to a Public Enquiry. Thames Water should be made to reassess the need and delivery options. The requirement for adequate sewage provision should also be considered as it is clear from the frequent discharges being made into the Brook, that provision for this has not been made and this should also be factored in with the greater provision of fresh water.

The plan needs to be subject of a public enquiry because it is not robust, it is unsound, and is driven by strategic delivery objectives which do not reflect the interests of the area for which they are appointed as the utility provider. It would seem that this is very much proposed for capital and financial benefit to TW only, and is not currently realistic.

### **Issues with the business case**

Other than the fundamental aspects, including regarding lack of substantiation, and failure to align supply with true identified need. It is at a substantial cost to current rates payers, who will not benefit from the water held in the mega-reservoir. It is also a cost to the public purse, poor value for money, and brings risk and deliverability issues There are also some very basic aspects of the case put forward by TW which is flawed.

These include:

- Much of their data and arguments for the business case are based on information relating to 2007. For it to have been provided in 2007, such content would have been originated prior to that date. Fundamentally, a lot of the considerations and arguments for the reservoir are outdated and no longer applicable. The case is not therefore robust and is unsound.
- The diagrams provided are illustrative only and are not therefore what the reservoir may look like, or from where it will be served. Specifically what area the mega-reservoir might cover. This has serious consequence for the village and parish of East Hanney as it would be considerably more invasive than suggested, being close to recent housing developments. The area currently proposed has a number of problems associated with it that TW have failed to recognise, such as areas of flood risk, and consequence of the loss of drainage system to the surrounding fields and agriculture.
- Errors, omissions and speculative statements.
  - the selection of the site at Abingdon for a single reservoir, (it is in East Hanney/Steventon not Abingdon), amongst the factors that are given for the case, are the following facts:
    - Easy rail access, with link to the possibility of a new rail station at Grove. This is not a firm plan.
    - The line is now electrified; this causes two issues: for rail to be used to supply the site there would now need to be installation of an electrified spur line to the site off the main London to Swansea route; access to the line is restricted with the electrification pylons so plant could not be removed from static trains even without a station. The Parish Council seeks clarification on the avoidance of heavy construction traffic.
  - Since 2007 the village of East Hanney has been subject to 3 severe floods, including flooding arising from the Ock not being able to release its water into the Thames at Abingdon. TW

make statements regarding historic environmental factors, and claim that there is no risk of flooding. This would seem to be false and not supported with updated data. There is no recognition of the flood risk here, and this is very unsound.

- A new housing estate has been built on the edge of East Hanney and also in Steventon immediately adjacent to the proposed mega-reservoir, with further homes still to be built. This will affect the positioning and land available to develop the project.
- It is stated that it could increase biodiversity; however, this equally points to the fact that it may reduce biodiversity.

There are many more similar examples, but EHPC trusts that this evidences that the proposal is not substantiated and therefore not credible.

### **Need for a reservoir?**

Thames Water's case for a reservoir of this size seems to be based on a combination of just 3 factors:

These are:

1) **The projected population growth** for the period to 2100 that assumes an increase of 4.1m people in the catchment area, with a 2.1m increase by 2045. This shows a jump in their figures, nearly doubling between the periods to 2015 and 2100.

In our discussions TW admitted that they were simply using published statistical projections and that these were likely to change, particularly the increase to 2100. As this represents a near doubling, when compared to capacity for population absorption the demographics would not and could not reach this point in this period. The projections to 2045 are similarly unlikely and dependent on change.

It should be considered that the demand from the population in the TW area will be much smaller than that projected and as a consequence either the reservoir is not needed, or a much smaller reservoir only which could be located in a number of places, might be required. A mega-reservoir that carries the risks and disadvantages that the current proposal suggests is not required.

Reasons why the population projections are likely to change include:

- Saturation of urban and suburban areas leading to a change in development patterns into what are currently less dense communities (which due to space and current government planning strategy will be outside of the Thames Water area), and thus result in a levelling off in demand in the Thames Water area before the additional supply that TW are suggesting is needed, is required. We are already seeing this with Central and Local Government housing policy leading to more population movements to outside of the TW area, for example to the West and East Midlands and the North West.
- The development of new main transport links would provide ease of movement from the south. This includes the HS2 rail line, which will ultimately enable population to live outside the region.

Thus the projections are certain to change. The proposal looks like an attempt to gain support for a major infrastructure project that will generate a long-term revenue flow for the benefit of TW, rather than a plan aligned to the need in the area for which they are responsible.

2) **Thames Water's failure to address leakage** and deliver a sustainable leakage prevention solution. It is a well-publicised fact that TW is losing as much water from leakage as the proposal for the mega-reservoir would provide. Whilst improving their leakage reduction proposals, TW are still not addressing the issue

sufficiently and as the provider and manager of water resources across and for the Thames Valley should have their focus on reducing leaks.

This however, is not what they are proposing; instead they have diverted their resource to a mega-reservoir as a water storage to facilitate the sale of water to third parties outside of the area for which TW has responsibility. Whilst partnering is a TW choice, it is not their responsibility. Whereas, TW's duty is foremost to the people and environment of the Thames Water area. Provision of a mega reservoir is not substantiated and would be at risk and cost to the local area and to the communities in Oxfordshire who would suffer disturbance, loss of land, and impact on landscape as well as financial cost, so that TW can generate a future income stream from parties outside of their area for which they have duty of care.

It is also the case that the cost of such a reservoir will be to the account of TW customers. There is no case for them to substantiate the risk, cost, or need for such a dramatically high level of capital investment when there is no local need. Reduction of leaks is surely the priority.

**3) Thames Water's desire to provide water supply to third parties.** This EHPC suggests is the real reason why TW are proposing this mega-reservoir. The contract with Affinity Water and other parties outside of the TW supply area is a commercial matter and thus outside their core requirement to provide and manage resource in their own region. It is not therefore within their core responsibilities and thus cannot be considered as a justifiable reason for the additional need for storage and capital investment on such a scale. This is about profit, and should not be allowed as it is at environmental and financial cost to the customers whom TW are appointed to serve.

All 3 of the arguments given by Thames Water for the mega-reservoir are flawed. They are subject to change and should be discounted on the basis that it is not within their mandate.

The supply of water needs should be aligned to proven local need in the area, and TW must also be incentivised to fix the leaks across its region. The proposal for the mega-reservoir is a distraction for them; it is a major capital project that would divert managerial and technical resource away from the real issue that is to address the current failures. It should not therefore be taken forward.

### **Value for Money**

Supply must be provided on an efficient and value for money basis. To do this the resource would need to be developed in line with real need over time. There is no sound evidence that the actual need in the Thames Valley is likely to require a mega-reservoir, the mega-reservoir should not be developed. Instead it would seem more appropriate that if there is deemed to be a shortfall, that this be served by one of the other options tabled, or a smaller reservoir, which does not carry the costs, and risk, which the reservoir as currently proposed, would bring. A smaller reservoir would therefore represent much better value for money, being aligned to need over time, with capital costs related to time and use. So that therefore if in 2080 a second reservoir is deemed to be needed, it can be provided closer to and at a cost to the customers who are to use it at that point. TW should not be proposing a scheme which is currently not required and which would be at cost to the current users who are already suffering as a result of the costs of leakage.

### **Consultation**

There has not been any local consultation with the village, TW has not undertaken any analysis of the impact that the reservoir would have on the local area, both technically, and socially. It is not known if it will be sound, and there is no detail on the consequences of the weight of water on the underlying geology or on the agricultural land affected, which will lose water from the loss of the existing drainage channels.

For the local communities of East and West Hanney, Grove, Steventon, Drayton and Marcham this is very concerning. It is worrying that whilst consultation has been running at events in the centre of London; there has not been any direct consultation in our village by TW. People work and are not able to attend events in London, these have been deliberately time-tabled at a location and at times so inconvenient that local people have not been able to attend, or understand in full the consequences of what TW are proposing.

The lack of local consultation in the village appears deliberate and intended to keep this under the radar. It means that a lot of households are not aware and have not been informed and therefore not known, so have not voiced their opinion.

TW have not undertaken a resident leaflet drop around the village or invited residents to submit comments. TW should be made to undertake a comprehensive local consultation exercise before their proposals are considered further.

### **Risk of flood**

EHPC has engaged a reputable independent firm Hydrologists who include specialists in the development of flood prevention and reservoir construction.

TW are clear in their propaganda that there is no increased risk of flood. This is misrepresentation and a misleading statement that must be immediately withdrawn.

In the first instance their proposals are based on an illustrative or artists impression of the outcome. Therefore the mega-reservoir as proposed is very likely to change in shape, and design, including in landscaping and design.

Based on the current outline description, the mega-reservoir will be positioned directly across the main floodwater flow from the direction of East Hanney to the Ock. Although watercourses are to be built to direct the water around the reservoir, in times of flood this will backflow into the Letcombe Brook at East Hanney.

The risk of flood is highly dependent on the ground heights arising from the reconstructed landscape. Special attention needs to be given to this to avoid risk of certain flood. Please see diagram below that illustrates the floodwater flows.

In addition there is certainty of flood onto the Steventon road at East Hanney. This has been identified by WRA who state:

“The reservoir location will cover an area of low-lying ground between the villages of East Hanney to the west, Steventon to the east Marcham to the north and the main Didcot to Swindon railway to the south as shown in Figure 1. The total area of the development including the embankment will be 8.59 km<sup>2</sup>, and the development will occupy part of the catchment draining to the River Ock. The topography of the area in the form of a digital terrain model (DTM) has been generated from 2m LiDAR data available from the Environment Agency. The overall slope of the land for the reservoir development is in a south-west to north-east direction with the altitude ranging from over around 63m AOD (metres above ordnance datum) in the south-west to 54m AOD in the north-east. None of the area of the reservoir development currently drains towards East Hanney. The village is mostly within the catchment area of the Letcombe Brook, with some areas of new development draining into stream, which flow to the Childrey Brook between the A338 and the reservoir boundary.

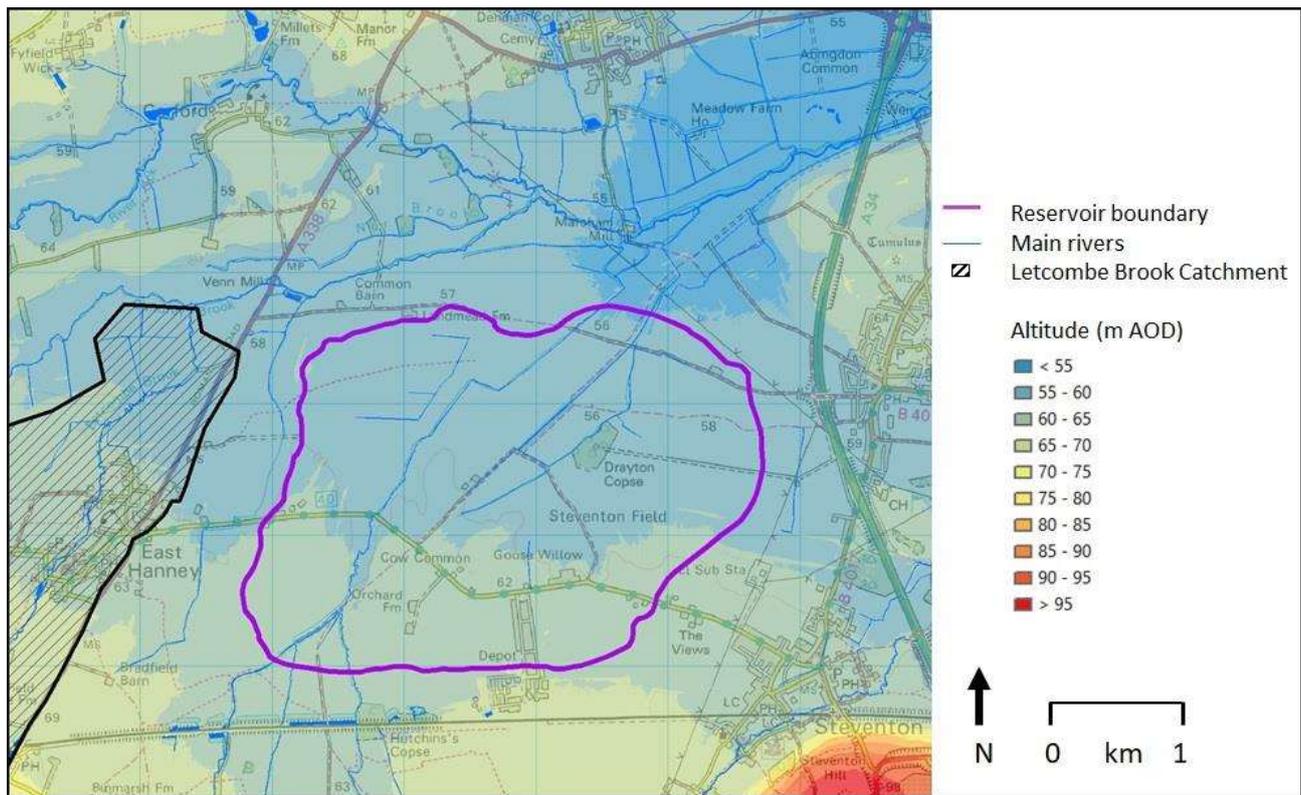
“The development area is characterised by shallow superficial deposits of sand and gravel over impermeable clay which provide flow through groundwater to a dense network of ditches which convey the flow into the main channel of the River Ock about 500m to the north. Construction of the reservoir will require the bed

and the embankment to be sealed with impermeable material to prevent leakage, therefore there will be no infiltration of rainfall to the shallow groundwater. Overall therefore a slight reduction of flows to the River Ock would be expected. An area of 6.46 km<sup>2</sup> will be removed from the 230 km<sup>2</sup> River Ock catchment at Abingdon. This is the area of the reservoir development inside the crest of the embankment. The new embankment of the reservoir, rising some 15-25m above the existing ground levels will divert some surface runoff from the development area into the drainage network. The reservoir proposals show that this would be conveyed from the southern side into two new waterways flowing to the east and west at the foot of the embankment [ ... ], which is taken directly from the Thames Water report.

“The channel to the west flows around the south-west corner of the reservoir then into the areas between the western extent of the reservoir and the A338, some 600m from the eastern edge of East Hanney. In addition to surface runoff from the embankment this new channel will take drainage from streams flowing north from the foot of the Berkshire Downs. The impact on flood risk would be notable as a large area of flood storage depicted by flood zone 3 (the 100-year flood extent) will be removed following the construction of the reservoir. This storage will need to be incorporated within the course of the new channel and this will encroach towards the eastern edge of East Hanney. The current ground levels at this part of East Hanney are around 60.7m AOD, whereas the edge of the reservoir embankment to the east has ground levels of 59.3m AOD. As long as these overall levels are maintained then the flow of water would be away from East Hanney. Although the streams will obviously no longer receive the rainfall falling on the reservoir area, the majority of the flow will be groundwater fed issuing from the Chalk aquifer of the Berkshire Downs to the south.

“In addition, the channel also needs to cross under the Steventon Road, between the edge of the embankment and the village of East Hanney, a proper culvert design needs to be included which would provide conveyance for the 100-year flood plus an allowance for climate change. The potential flooding of the Steventon Road would be a significant impact on the residents of East Hanney as it is the main route to the east. It is expected that Thames Water or their consultants would prepare a flood risk assessment to consider the diversion of waterways and flood storage.”

Figure 1



### Local concerns

Residents have voiced concerns amongst other matters about:

- There is not adequate floodplain identified to compensate for the proposed reservoir.
- Flood risk will be increased to surrounding villages.
- The visual impact will be greatly detrimental to the area, the enormous size of the structure is quite frightening, the muddy inner embankments when the proposed reservoir is not full will look ugly, the many extra ancillary structures on the site and the very, very steep 80 feet high embankments surrounding the proposed reservoir. All of these are not acceptable in this location.
- These very high embankments have not been tested because new construction methods are to be used due to this being the largest reservoir ever attempted. If these embankments fail for any reason 150 million cubic metres of water will flood everything and everyone in its path.
- The effect of the weight of the reservoir plus the water on the land is unknown and could be devastating to the surrounding villages.
- During construction the surrounding watercourses will be substantially disturbed and polluted and may never recover.
- The noise and vibration during the 10 years of construction will be unbearable, affecting the wellbeing of local people.
- Rainfall will enter the proposed reservoir and not the local watercourses adversely affecting plant and wildlife.
- Important agricultural land will be lost forever.

- The microclimate will be affected resulting in more mist, fog and frost plus thousands of midges attracted by the muddy banks.
- The health of local people will be adversely affected by the deterioration in air pollution, the increase in fog and the continual daytime noise during the years of construction.

### **Risks**

- Risk of leakage
- Risk of flooding, as the area and village is mostly already zone 3, something that TW has not noted.
- Risk of back-flood into the village. Construction of the reservoir would be across the Ock catchment area and in times of regular flood would cause backfill to East Hanney flooding the village. See the flood map that TW has provided.
- Risk of major catastrophe, because of the size and volume of water held behind the walls.
- Risk of contamination to the environment and ground water during the construction period.
- Risk that the development of a reservoir of the size and scale some 25 meters above ground level as proposed is unproven, and untried, it is not known how sound it may be over time and if it can be successfully delivered.
- Risk and loss of community and environment over the 8 year build period.
- Risk and consequence of the impact that the tonnage of water will have on the underlying geology and aquifers, likely leading to underground flows and flooding in surrounding villages.

### **Parish Requirements**

- A Public Enquiry must be instituted in order to establish the actual need for a reservoir at this location and on this scale.
- Thames water must be required to revisit and revise the Water Resource Management Plan in the light of the omissions and flaws that exist in their plan,
- There must be more focus on fixing the leaks and consideration of actual need,
- There must be consideration of whether a new reservoir is needed at all given changing demographics, and when, and where? There is no case for a mega reservoir, especially one with the risks, costs, and disturbance that TW currently propose.
- There needs to be a full and detailed independent analysis of the impact of the construction of a mega-reservoir of this type on the local area, which would necessarily include the effect on water courses and flooding, the loss of agricultural land, the effect of the weight of the water on local geology and micro-climate.
- Changes in the population forecasts across the region and alignment to the needs of the people of the Thames Water area must be the priority,
- Changes resulting from developments nationally and regionally as a result of Central and Local Government policy, including the as yet undefined impacts of 'Brexit', need to be factored in.,
- A full and detailed local consultation exercise in advance of the submission of any plans to develop the mega-reservoir, must be undertaken.
- Areas of flood risk as identified in this area arising from the proposals must be addressed.
- Thames water must retract statements that are incorrect, including that relating to risk of flooding, and their imagery to residents which to date has portrayed the proposed reservoir as similar to the facility at Farmoor in Oxfordshire, when in fact this proposal is for a considerably bigger reservoir, directly impacting on existing settlements and communities, with 25 high meter walls, 8 years of disturbance, and risk to the environment including risk of contamination.

Currently these are many basic omissions, and flaws in the plan which make it unsound. It must be referred to the secretary of state and to a public enquiry.

## **Summary**

Southwest Oxfordshire and the Thames near Abingdon should not bear the brunt and cost to its environment and own supply, in order to allow TW to make a profit. Thames Water's WRMP shows no detailed analysis of the effect of the proposals on immediate local areas, being simplistic and relating only to the region as a whole. The Plan appears to have dismissed numerous proposed sites with the specific intention of identifying the site to the south west of Abingdon as the only viable option. This outcome is based, as EHPC has demonstrated, on out-dated historic data and lazy assumptions, with no substantiation of the effect of the mega-reservoir on the local environment.

The Vale of White Horse District Council Local Plan 2031 (parts 1 & 2) have been required to identify land for such a project, though there is little detail, and the planned development of housing and local industry and employment does not fit clearly with the current plan from Thames Water.

Immediate benefits, such a local employment are limited, the construction of such a project requiring specialist contractors the majority of whom would have to be imported from outside the region and indeed internationally.

There has been no analysis of the effect of the construction of the mega-reservoir whilst the project is underway. Where would the workforce be located, how the associated plant and construction traffic would be accommodated on an already over-stretched local transport network and the resultant impact on the local economy have, for example not been addressed in any way.

There is no clear or detailed statement about the consequences of the risk of contamination.

East Hanney Parish Council fully expects that Thames Water's Water Resource Management Plan be made subject to a Public Enquiry in its entirety, with particular emphasis on the identification of if there is the need for a mega-reservoir on such a scale. On the risks and issues associated with such a proposal, and on how supply could be met by alternative solutions.

Also, what the impact would be on the local area and communities, and the costs to the local community and environment. And why the reservoir is proposed geographically so far from the area of the assumed future need, when the volumes planned to be retained in this facility match the current issues with leakage across the Thames Water region as a whole.

For and on behalf of East Hanney Parish Council 12<sup>th</sup> November 2021.