



## Thames Water (TW) Meeting

### 1316 – East Hemel

<b>Reason for Issue</b>	For Information	<b>Author</b>	[REDACTED]
<b>Date</b>	08 January 2025	<b>Date Issued</b>	12 February 2025

#### Attendees:

Thames Water (TW) – [REDACTED]

Expedition Engineering (EXP) – [REDACTED]

#### Minutes and Key Actions:

Item	Notes	Actions
These minutes should be read in conjunction with the slides presented during the meeting.		
<u>1</u>	<p><b>Introduction</b></p> <p>The purpose of the meeting was to commence engagement with Thames Water (TW) regarding the East Hemel masterplan. This meeting has been proposed to discuss the emerging surface/foul water drainage strategy, and any diversions/requisitions of, and connections to, Thames Water assets. AG explained that the project is still at relatively early stage with the development of a concept masterplan, and it is expected that a number of follow-up meetings will be required throughout the pre-planning period.</p> <p>SK explained that he is part of the sewer connection and diversions team, and that he would be able to coordinate inputs from other parts of TW to provide coordinated pre-planning engagement.</p> <p>EXP introduced the emerging development proposals for the East Hemel site.</p> <p>A concept masterplan is being developed in line with the Hemel Garden Communities framework plan, including up to c.4,000 homes, up to 4 primary schools, 1 senior school and a commercial/ industrial zone in the centre of the Site (nearest to Buncefield Oil Depot/M1 Junction 8). EXP confirmed that all design will be aligned with the emerging Local Plan for St Albans District Council (SADC), who are the lead Local Planning Authority.</p>	

	<p>EXP are leading the civil engineering design including sustainable drainage, flood risk management, utilities, earthworks, energy and sustainability.</p> <p>Outline planning application is expected to be submitted Q3 2025.</p>	
<p><b><u>2</u></b></p>	<p><b>Site overview, background and hydrological context.</b></p> <p>AG provided an overview of the site’s context and constraints. The site has a varying topography with three distinct dry chalk valleys, characteristic of the Chiltern landscape.</p> <p>The anticipated ground conditions at the site comprise topsoil overlaying superficial deposits of the Clay-with-flints Formation. These superficial deposits are underlain by Chalk bedrock (Lewes Nodular Chalk Formation and Seaford Chalk Formation). The Lambeth Group has been geologically mapped in the north and south regions of the site above the Chalk bedrock</p> <p>A previous masterplan has been developed for the site. Wardell Armstrong led the development of the drainage (surface and foul water) strategy for that scheme and previous engagement with the Thames Water from August 2016 to January 2020. Available records from previous discussions with Thames Water regarding this site, will be shared alongside the minutes of this meeting.</p> <p>The nearest rivers are the River Ver and River Gade. The River Ver is approximately 3km to the east of the site and flows south to join the River Thames. The River Gade runs through Hemel Hempstead and is located approximately 3.3km to the west of the site. The River Gade flows south and is canalised to form part of the Grand Union Canal. The site is within the hydrological catchment of the River Ver, and within Flood Zone 1, which has an annual probability of fluvial flooding of less than 0.1%.</p> <p>There is, however, a greater risk of surface water flooding within the valleys associated with extreme rainfall events. The management of overland flows passing through the site is therefore critical.</p>	<p>EXP</p>
<p><b><u>3</u></b></p>	<p><b>Existing Thames Water assets</b></p> <p>AG provided an overview of existing drainage features within and in the vicinity of the site. A number of existing nearby stormwater attenuation ponds are understood to be owned and operated by Thames Water (TW) and National Highways.</p> <p>The Redbourn Reservoir, to the northwest of the site adjacent to Three Cherry Trees Lane, is understood to be a TW balancing pond which discharges through a 375mm dia. connection in Redbourn Rd/Hemel Hempstead Rd to a part of the River Ver in ‘The Common’ (to the east of the site). SK confirms that the Redbourn Reservoir is maintained and owned by TW.</p>	

	<p>Marchmont Pond, to the south-west of the Site, in Leverstock Green, is a smaller pond owned and maintained by Thames Water.</p> <p>AG further provided an overview of the existing TW foul drainage network in the vicinity of the site. The site is currently agricultural land and therefore not formally connected to the Thames Water foul network. There are existing foul water pipes to the north and west of the site which serve the existing surrounding residential communities.</p>	
<b><u>4</u></b>	<p><b>Historic Flooding</b></p> <p>AG presented an overview of the record of historic flood events within and near the site. Understanding the flooding context is important for managing the overland flows within the site and ensuring the Proposed Development does not increase the risk of flooding within the new site or to neighbouring communities.</p> <p>Through recent community engagement events and as described in the SFRA, many local residents have described recent flood events in the Leverstock Green neighbourhood. We understand that these flood events are associated with the Marchmont Pond, and that Thames Water are aware of these incidents and have been responding accordingly. The flooding principally affects residential properties along Kingcup Avenue, and some of the nearby agricultural fields. AG queried whether TW could provide some further information regarding these flood events, and whether TW have any plans in place to undertake maintenance or upgrade works to the balancing pond and reduce the likelihood and extent of flooding in this area.</p> <p>AG also noted that there have been recorded flood events in Punchbowl Lane. It is understood there are no recorded TW assets in the area contributing to this. SK confirmed there are no TW assets in this area.</p> <p>Similar to Leverstock Green, there has been reported flooding incidents along Hemel Hempstead Road (northern edge of the Site) and within the site. As above, AG queried whether TW could provide some further information regarding these flood events, and whether TW have any plans in place to undertake maintenance or upgrade works to the balancing pond and reduce the likelihood and extent of flooding in this area.</p>	<p><b>TW</b></p> <p><b>TW</b></p>
<b><u>4</u></b>	<p><b>Sustainable Drainage Strategy</b></p> <p>EXP presented the key strategic principles for the emerging sustainable drainage strategy.</p> <p>Site investigations have been undertaken in 2014, which confirmed that much of the site is covered by low permeability superficial deposits. On this basis, it is</p>	

	<p>likely that concentrated drainage infiltration through soakaways and infiltration basins will not be possible. This has been discussed and agreed with the LLFA in principle in a meeting on 13/09/2024.</p> <p>AG noted that the drainage strategy will include “diffuse infiltration”, through permeable pavement and soft landscape areas mimicking the natural infiltration regime as part of source control measures to minimise surface water runoff rates and volumes.</p> <p>On this basis, stormwater will be discharged to the nearest water course (River Ver) via TW surface water sewers. This has been discussed and agreed in principle with the LLFA. Final flows and rates are to be confirmed but will align with regulations and local guidance.</p> <p>It is proposed that attenuation will be provided in cascading open water ponds which provide storage in addition to enhancing amenity and biodiversity. These features will be sized to restrict discharge rates to the Qbar/greenfield runoff rate criteria as per the Hertfordshire LLFA requirements. These ponds will be lined to create permanent water bodies of ecological and amenity value.</p> <p>These ponds will also flood in a controlled manner for the 1:100+40% climate change condition within the landscape valleys and green areas.</p> <p>The strategy will also include Best Practice SuDS features for source and pollution control, which will include on-plot and street corridor features such as raingardens, bio-swales and permeable paving. The pollution control measures will be substantiated through the Simple Index approach included in the Drainage Strategy submitted for planning. The adoption strategy for these features is being discussed with the LLFA and other stakeholders.</p> <p>SK confirmed that TW typically does not maintain SuDS features but noted that new legislation (Section 3 of the Flood and Water Management Act) will require the formation of a SuDS Approval Body (SAB), which will need to be created to adopt and maintain Suds for new developments.</p> <p>SK noted that TW would not object to the drainage strategy on this basis, provided the SuDS hierarchy has been followed, and this approach has been agreed with the LLFA.</p> <p>SK noted that TW typically require a restricted rate of 2l/s/ha to discharge to a surface water sewer, however SK noted that this may not be achievable given the size of the development and connection locations. SK noted that TW do not model surface water connections into their network and as a policy, do not upgrade surface water sewer systems to accommodate an increase in discharge volume.</p>	
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

	<p>SK did however note that TW have a statutory responsibility to accept surface water flows approved by the LLFA regardless of whether the network can accommodate the flow capacity.</p>	
<b>5</b>	<p><b>Water Resources</b></p> <p>The site falls in an area defined as ‘Seriously Stressed’ by the Environment Agency (EA) Water Stress Map (2021). The catchment has been classified as such since 2013 and given current regional economic growth and climatic trends, the pressure on water resources is expected to get worse. The Chalk Aquifer is particularly at risk of over abstraction and water stress.</p> <p>It is proposed to manage water resources through efficient fittings to reduce consumption in addition to complementing the supply with harvested rainwater in selected buildings and external areas – for example allotment gardens. Efficient fittings that limit water use to 95-100 l/person per day (lpd) are already established on the market and are widely accepted by consumers. Their use will be reviewed for the project.</p> <p>It is also proposed to consider combined attenuation/rainwater harvesting where appropriate, combined with a smart weather system to control water levels within the wetlands to optimise rainwater harvesting quantities and release storage volumes in advance of a storm event. This system would use the latest weather monitoring technologies to control storage/release.</p> <p>This approach will result in less foul water discharge to the TW network, which was welcomed by SK.</p>	
<b>6</b>	<p><b>Connections, diversions and requisitions</b></p> <p>As noted above, the drainage strategy proposes to discharge surface to the River Ver, via Thames Water surface water sewers. SK requested that EXP provide the precise locations and discharge rates of the proposed connections, to help test implications and capacity.</p> <p>AG noted that the existing TW 375dia pipes in the north and south of the site, will need to be diverted, along an offset alignment, to accommodate the proposed drainage ponds. SK noted this should not be a major concern and can be done through a separate section 104 diversion application.</p> <p>AG shared the planned adoption sketch, highlighting the different organisation who would adopt and maintain SuDS and drainage features across the Development. It is proposed that surface water sewers would be adopted by TW. SK agreed with this approach and explained that the Works will need to be undertaken in accordance with Sewers for Adoption and TW guidance.</p>	<b>TW/EXP</b>



	<p>For the central commercial area catchment, EXP are proposing the construction of a new pond on the eastern side of the M1. AG noted that there will need to be a proposed drainage connection from the central commercial area to the pond eastern side of the M1 motorway. AG noted that the size, level and gradient of this pipe is still to be determined but is likely to required micro-tunnelling. SK explained that it is the preference that TW undertake this work, not least because are likely the only third party who are approved by National Highways (NH). SK noted that there will likely need to be design and constructability discussions regarding this connection. For example, larger pipes may need to be twinned and have a maximum diameter dependent on the micro tunnelling techniques. Further coordination of this crossing will be required with NH, TW, and EXP. EXP confirmed that they are arranging a meeting with NH.</p> <p>To connect to the 375dia sewer in the south (to the east of the M1), a new sewer will need to be requisitioned on third party land. SK explained that TW would be able to undertake this work.</p> <p>SK noted that dependent on the capacity of the sewer, TW may have a preference for a new direct connection to the River Ver with a new outfall. This can be determined following review of the proposed connection locations.</p> <p>SK explained that the phasing strategy will need to be developed to accompany the drainage strategy. AG noted that the phasing is not yet fully defined though as this is developed, it will be shared with TW.</p>	<p>EXP</p>
<p><u>7</u></p>	<p><b>Foul Drainage Strategy</b></p> <p>EXP presented the emerging foul drainage strategy. It is envisaged that there are likely to be 4-5no. pumping stations required to service the Proposed Development. Each pumping station will have different rising main alignment and connection locations to the local TW sewer network. The indicative location and peak flow from each pumping station will be confirmed as part of the drainage strategy.</p> <p>The foul drainage network will be designed and built in accordance with TW guidance and will be offered for adoption.</p> <p>SK noted that TW will require further detail on the possible points of connection, peak flow and phasing.</p> <p>SK note that it is likely the quantum of the development will require upgrades to the local sewer network. The lead time on upgrades to local foul water systems is long, in order of 18-24 months. SK further explained that Maple Lodge WwTW is nearing capacity, and TW are due to undertake long term strategic upgrades to the facility to cope with the growing demand. SK requested an accommodation schedule, development quantum and accompanying phasing plans, so that the</p>	

	Major Projects Team can determine the impact on the network and capacity at Maple Lodge WwTW.	
<b>8</b>	<p><b>AOB</b></p> <p>SK noted that TW are happy to work throughout the pre-planning period to support the emerging drainage strategy. There is no charge for this service. AG suggested to have a follow up meeting regarding the project in Spring 2025, following the actions noted above.</p> <p><u>Summary of actions</u></p> <p>EXP will issue the presentation to TW for review and comments.</p> <p>EXP to share anecdotal information of Leverstock Green and Redbourn Rd/Hemel Hempstead Rd flooding received from public engagements.</p> <p>EXP will issue the planned adoption sketch for TW review and comments.</p> <p>EXP to share pre-planning information to TW, including the programme phasing, points of connections, flow rates, discharge rates as they are developed. PMN: EXP issued phasing information 20/01/2025, after which TW confirmed the need for connection points and corresponding foul flow rates.</p> <p>EXP to coordinate a follow-up meeting following sharing of information.</p> <p>TW to share historic flood information, particularly relating to the Marchmont Pond (Leverstock Green) and Redbourn Reservoir (Hemel Hempstead Rd/B487)</p>	<p><b>EXP</b></p> <p><b>EXP</b></p> <p><b>EXP</b></p> <p><b>EXP</b></p> <p><b>EXP</b></p> <p><b>EXP</b></p> <p><b>TW</b></p>