	<p align="center">London Borough of Hammersmith & Fulham</p> <p align="center">CABINET MEMBER DECISION</p> <p align="center">FEBRUARY 2015</p>
<p align="center">THAMES WATER COUNTERS CREEK MENDORA ROAD SuDS SCHEME</p>	
<p align="center">Report of the Cabinet Member for Environment, Transport & Residents Services</p>	
<p>Open Report</p>	
<p>Classification - For Decision Key Decision: No</p>	
<p>Wards Affected: Fulham Broadway</p>	
<p>Accountable Executive Director(s): Nigel Pallace - Bi-Borough Executive Director Transport & Technical Services</p>	
<p>Report Author: George Warren – Flood Risk Manager</p>	<p>Contact Details: Tel: 020 (753 6991) E-mail: (George.Warren@lbhf.gov.uk)</p>

<p>AUTHORISED BY:</p> <p>The Cabinet Member has signed this report.</p> <p>DATE: 16 February 2015..</p>

1. EXECUTIVE SUMMARY

- 1.1. This report has been prepared with the purpose of briefing the Cabinet Member for Environment, Transport & Residents Services about the Sustainable Drainage Systems (SuDS) measures proposed by Thames Water Utilities Limited (“TWUL”) to be installed within Mendora Road.
- 1.2. In addition to this the paper also seeks approval for the construction (and maintenance) of SuDS measures to be undertaken by the London Borough of Hammersmith & Fulham’s (“LBHF”) Highways Department on behalf and to be fully funded by TWUL .

2. RECOMMENDATIONS

- 2.1. Approve the Mendora Road scheme proposed by TWUL and grant permission for LBHF Highways Department to undertake the constructions works and maintenance programme as set out in the report.

3. REASONS FOR DECISION

- 3.1. With Surface Water Flooding posing a significant risk to the LBHF the implementation of a SuDS scheme is seen as the most environmentally friendly and potentially the most cost effective way of reducing the risk of flooding to the community.
- 3.2. With Mendora Road being a scheme initiated, financed and initially managed by TWUL it is seen as a great means by which to trial a number of SuDS technologies to see the impact on surface water flooding as well as to monitor the costs associated with construction and maintenance with limited risk to the Council. It will also provide first-hand experience of the construction and maintenance of such applications or schemes for Council staff and contractors.

4. INTRODUCTION AND BACKGROUND

- 4.1. Over 2,000 properties within the Counters Creek catchment have reported sewer flooding in recent years and widespread flooding occurred in July 2007 following severe weather. The Council has been committed to implementing more SuDS projects to help reduce the amount of surface water draining into the combined sewerage system to reduce the risk of flooding to properties within the borough. In addition to the flooding benefits SuDS can also provide environmental and social benefits.
- 4.2. SuDS are becoming an increasingly hot topic regarding the management of surface water in the UK. There have been many discussions lately within DEFRA and Central Government around the implementation of Section 3 of the Flood and Water Management Act (2010) and how SuDS can be rolled out across the UK. Therefore, this project is seen as a great opportunity to trial out new SuDS technologies within LBHF at no capital cost to the Council, whilst also forming a working relationship with TWUL , a key stakeholder moving forward.
- 4.3. TWUL has an obvious vested interest in encouraging SuDS, due to their ability to reduce the rate of flows to the sewer. As part of their overall Counters Creek investigation, TWUL are commissioning a series of retrofit pilots in three streets, Melina Road, Mendora Road and Arundel Gardens (RBKC), to help understand the costs, benefits, deliverability and customer acceptability of SuDS. These particular streets were chosen, from a shortlist of over 15 potential streets, as they were deemed to be representative of the streets found within the two boroughs. In addition to this the sewers in each street are not greatly influenced by rainwater flows

from neighbouring streets, allowing for more accurate measurements of the direct benefits of SuDS.

4.4. TWUL has employed the services of an Independent Advisory Group (IAG) since 2006 to provide expert independent advice and guidance while the Counters Creek scheme was being designed. These consist of three eminent professors:

- Professor David Balmforth is Executive Technical Director at MWH, a leading international wet infrastructure and water management company, and President of the Institution of Civil Engineers.
- Professor Bob Andoh is Chief Technology Officer at Hydro International, which develops solutions for stormwater and wastewater management companies globally. Bob is an expert on urban flooding, sewerage systems and the wastewater treatment processes.
- Professor Adrian Saul, Professor of Water Engineering at the University of Sheffield, is a leading academic in the Flood Risk Management Research Consortium.

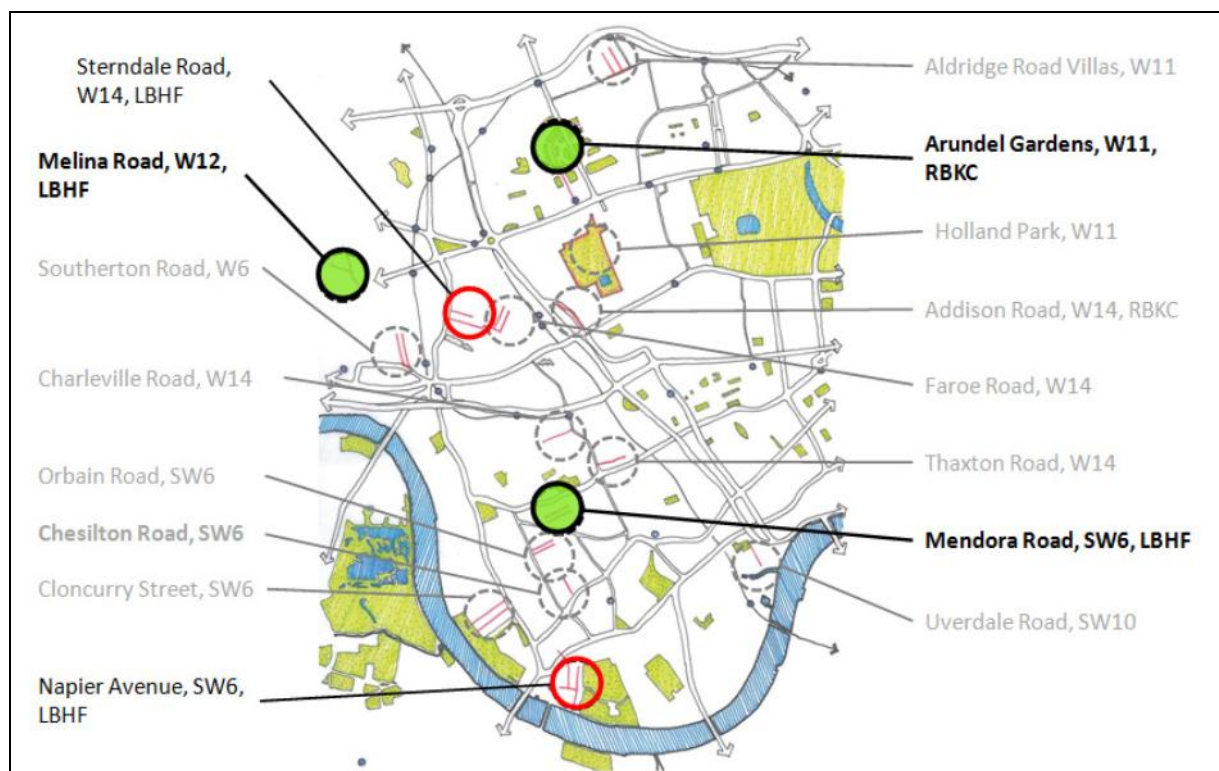


Figure 1 - Location of the three selected pilot streets (rejected streets from the shortlist shown in red. De-selected streets from the original long list greyed out)

4.5. Specific aims of the study are as follows:

- Measure the effectiveness of retrofitting SuDS in reducing rainwater runoff to the combined sewer system

- Evaluate how easy it is to engage the public with regards to SuDS
 - Evaluate engagement with stakeholders
 - Assess the social impact
 - Assess the cost of retrofitting SuDS compared with conventional flood alleviation schemes, taking into account the environmental costs/benefits of both approaches.
 - The approach looks for innovative ways to minimise rainwater flows to the combined sewer system that also enhance the customer experience by greening streets, improving properties and their value and engaging the public in water issues.
- 4.6. This report focusses on the Mendora Road scheme.

5. PROPOSAL AND ISSUES

- 5.1. Currently, surface water flows from the existing Mendora Road carriageway and enters the combined sewer through the existing road gully and connection arrangement. The existing 300mm diameter sewer runs to the south of Mendora Road and joins into the existing 300mm diameter sewer running down the centre of Rylston Road.
- 5.2. The selected proposal involves the installation of permeable block paving contained within the existing parking bays on the north and south sides of the road. On the south side of the road the permeable paving will be installed above an open graded crushed rock sub-base. On the north side of the road a greater volume of attenuation is required because half of the roof area from the houses currently drain to the highway. In order to maximise volume and minimise the depth of excavation, it is proposed that a geo-cellular sub-base replacement system (Permavoid or similar) will be used. The permeable paving systems intercept and hold flows, releasing them at a controlled rate to the sewer network via a series of chambers at the west end of Mendora Road.
- 5.3. The proposed scheme is designed to have capacity to store surface water runoff from the catchment up to a 100 year event plus an allowance for climate change (+30%). This will provide improved flood protection for the immediate area as well as freeing up significant additional capacity within the combined sewer network for areas downstream to drain to.
- 5.4. As the local highway authority LBHF is responsible for all publicly maintained roads in the borough with the exception of the Transport for London Road Network (TLRN). Therefore in order to install any form of SuDS along Mendora Road TWUL have been working closely with LBHF.
- 5.5. Consideration was given to replacing existing street trees in new bio-retention tree pits and to building new rain gardens to attenuate the road

and footpath runoff. This was rejected as parking spaces would have been lost, which was deemed to be unacceptable.

- 5.6. A visualisation of the proposed permeable paving in the parking bays of Mendora Road is shown in Figure 2 below:



Figure 2 - Artists Impression Mendora Road

- 5.7. Detailed drawings of the proposed design can be provided upon request.
- 5.8. TWUL has been carrying out baseline modelling at Mendora Road and Prothero Road, monitoring the flows within the sewer, so as to be able to determine the impact of these measures on reducing the flow rates from the street once the measures are implemented.
- 5.9. TWUL has proposed to fund the construction of the project and the monitoring and maintenance of the installations for a period of 24 months post completion of the construction works. Once this 24 month period has expired the monitoring and maintenance will become the responsibilities of the Council thereafter.
- 5.10. LBHF submitted a lump sum fixed fee price for the construction of Thames Water's design on the 30/10/14 for £551,492.14. This includes the contractors fee, 10% contingency, a consultancy fee to cover officers time supervising the works and a 7.5% fee for administrative charges. It is proposed that this fee be paid in three stages by Thames Water (25%, 50%, 25%).

- 5.11. An agreement will need to be reached between LBHF and Thames Water over what constitutes a successful pilot scheme. It is the intention to utilise the IAG in these discussions, as impartial experts in the field. It is important to also identify what constitutes failure so as to ensure that LBHF aren't tied into the adoption of a pilot scheme which turns out not to function as intended. These discussions will be necessary prior to construction commencing.
- 5.12. The proposed programme shows construction to run for 12 weeks, during which time disruption to residents will be minimised where possible.
- 5.13. Although during construction Mendora Road will no longer be a through road to traffic, residents will still be able to gain access to their properties at all times.
- 5.14. Given the nature of the work, parking spaces will be reduced during the construction phase. The exact construction methodology will be devised to minimise the impact upon the residents within the street where possible within the timeframe. According to the latest parking stress survey for the street there is 25% spare capacity, therefore it is proposed to limit the number of unavailable parking spaces at any one time to this quantity. Special arrangements will be put in place for disabled residents, discussions with whom will take place once approval is granted.
- 5.15. During the construction phase weekly meetings between LBHF staff, F M Conways and TWUL will occur to ensure that the project remains on track and that any potential issues are resolved quickly and efficiently.
- 5.16. Maintenance will be carried out according to the Maintenance Statement, (the maintenance programme) by LBHF's existing highway maintenance contractor F M Conways. As previously stated this will be funded for the first 24 months by TWUL, with an upfront annual payment made on the basis of an estimated cost for the additional maintenance burden.
- 5.17. In order to help facilitate the implementation of the project within LBHF TWUL has offered to fully fund an engineering internship within LBHF Highways team for a 12 month period. This will provide the opportunity for a junior member of staff to gain experience in highways construction as well as SuDS.

6. CONSULTATION

- 6.1. An extensive consultation process has been undertaken by TWUL throughout the project., details of which can be found within Appendix A.
- 6.2. F M Conways will be providing regular updates to residents regarding the progress of the works during the construction phase.

7. LEGAL IMPLICATIONS

- 7.1. An agreement must be executed between the Council and TWUL detailing the agreed costs to be paid to the Council for the construction works and associated maintenance programme of these SuDS measures for the 24 month period after installation of the construction works.
- 7.2. Implications verified by Sharon Cudjoe: Solicitor, Tel: 020 8753 2993

8. FINANCIAL AND RESOURCES IMPLICATIONS

- 8.1. The cost of this project is rechargeable to Thames Water in full and as such there should be no financial implications for the Council. However, Thames Water are known to take a very tough line when reviewing costs incurred and in rechargeable Highways Works it has often taken a very long time (years) to obtain payment and even then at a discount to the actual cost. It is therefore highly recommended that all monies be paid in advance, including an allowance for the first two years of maintenance costs.
- 8.2. Implications verified/completed by: Gary Hannaway, Head of Finance, Ex. 6071

9. PROCUREMENT IMPLICATIONS

- 9.1. The construction works are to be purchased by Thames Water and actioned by LBHF as Private Works.
- 9.2. Once awarded it is proposed to procure the services of the LBHF Highways Term Contractor, F M Conways, to undertake the construction work at both locations simultaneously under the supervision of an LBHF Highways Projects Officer.
- 9.3. A quotation was acquired from F M Conways, using our framework of pre-agreed rates, from which a "Lump Sum" Fee Estimate was created and submitted to Thames Water on 30/10/14 to undertake the works.
- 9.4. The fee estimate for Thames Water did not declare our pre-agreed rates with F M Conways, instead it showed their total for the work plus a 10% contingency, a £28,425 fee for consultancy services (for each site) and a 7.5% administrative charge.

LOCAL GOVERNMENT ACT 2000
LIST OF BACKGROUND PAPERS USED IN PREPARING THIS REPORT

No.	Description of Background Papers	Name/Ext of holder of file/copy	Department/ Location
1.	None		
2.			
3.			

Appendix A - Thames Water Consultation Process