



Sewer Flooding Alleviation in the Counters Creek Catchment

**Royal Borough of Kensington & Chelsea
7pm 24 June 2010**

Sewer flooding – Thames Water's position



- We share our customers' view that sewer flooding inside people's homes is unacceptable and we are serious about providing solutions –
 - Taking Care of Water – outlines our strategy to eliminate high risk sewer flooding over the next 25 years
 - £323 million spent from 2005 to 2010 to alleviate sewer flooding – reducing the flood risk to over 5500 properties by 2010.
 - Business Plan 2010 to 2015 – Ofwat's Final Determination allows £340m to alleviate a total of 2500 properties, consistent with our 25 year strategy

Agenda



1. Summary of Study Findings
2. Ofwat's Decision
3. Short-term - FLIP Programme
4. Long-term Plan
5. Impact of New Development
6. Questions and Answers

1. Summary of Study Findings



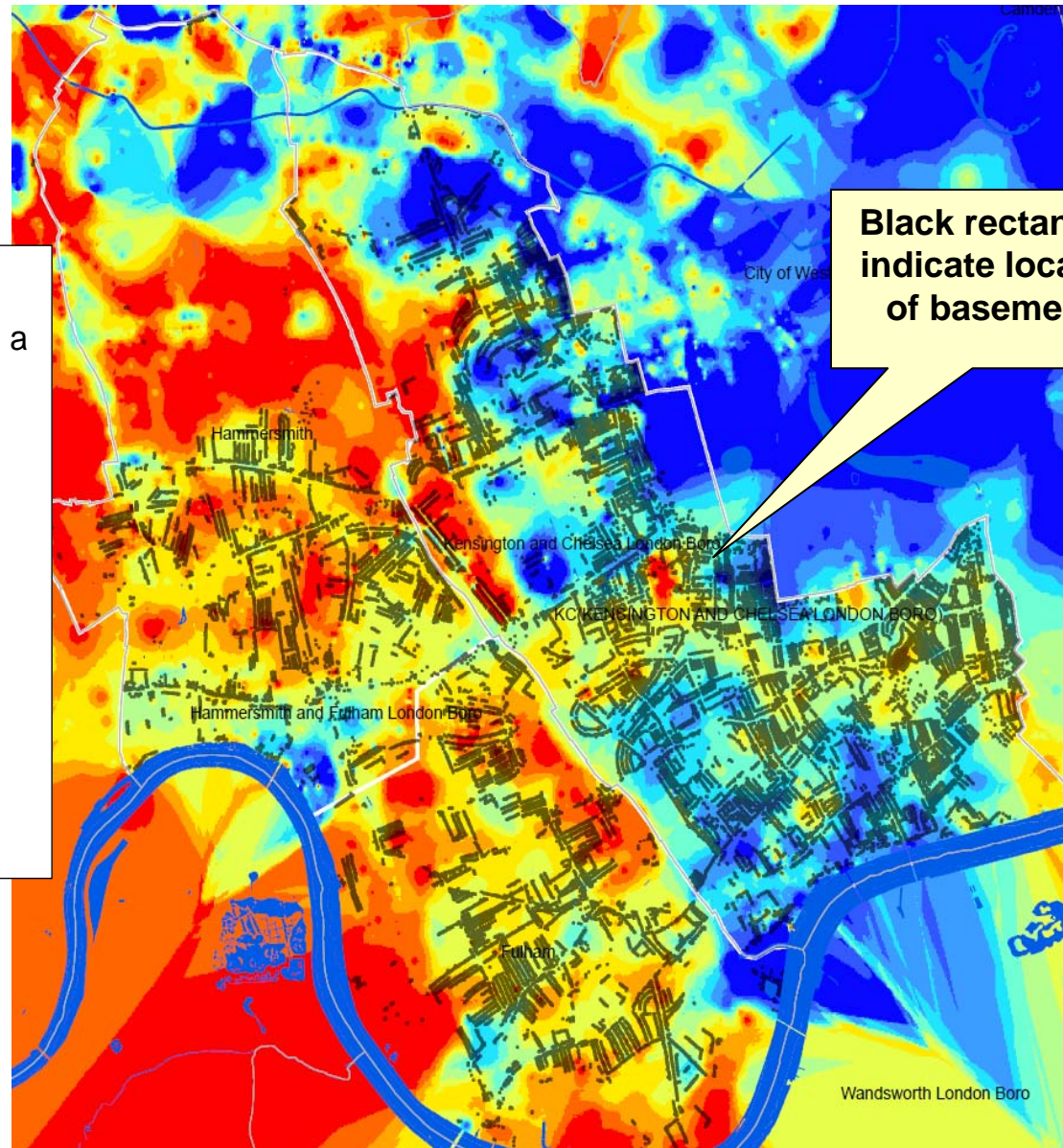
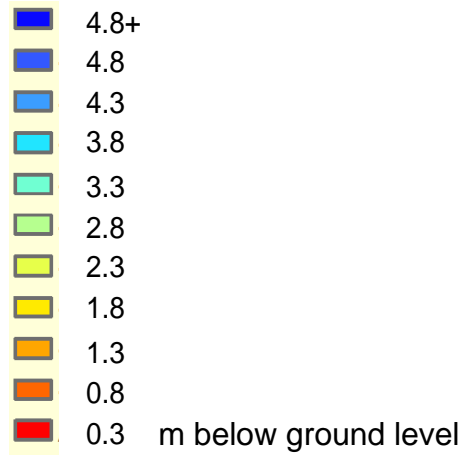
Characteristics of the local area increase risk of sewer flooding:

- Wastewater enters Counters Creek from as far away as Brent and Camden.
- 17% increase in impermeable area (due to paving over of gardens etc) since 1971
- Sewers are shallow and have to be pumped into the River Thames during heavy rain.
- There are 37,000 basements in the area which is around 5 times higher than the national average
- 1,461 properties are on risk registers from incidents customers have reported to Thames Water in 2004, 2005 and 2007 and earlier events
- Of the above, 500 flooded for the first time in July 2007 storms across the area
- Study suggests around 7,500 basement properties could potentially be at risk of flooding due to a 1 in 10 year or more frequent event

1. Summary of Study Findings



Level of sewage in the sewer below ground in metres during a 1 in 10 year event



Black rectangles indicate location of basements

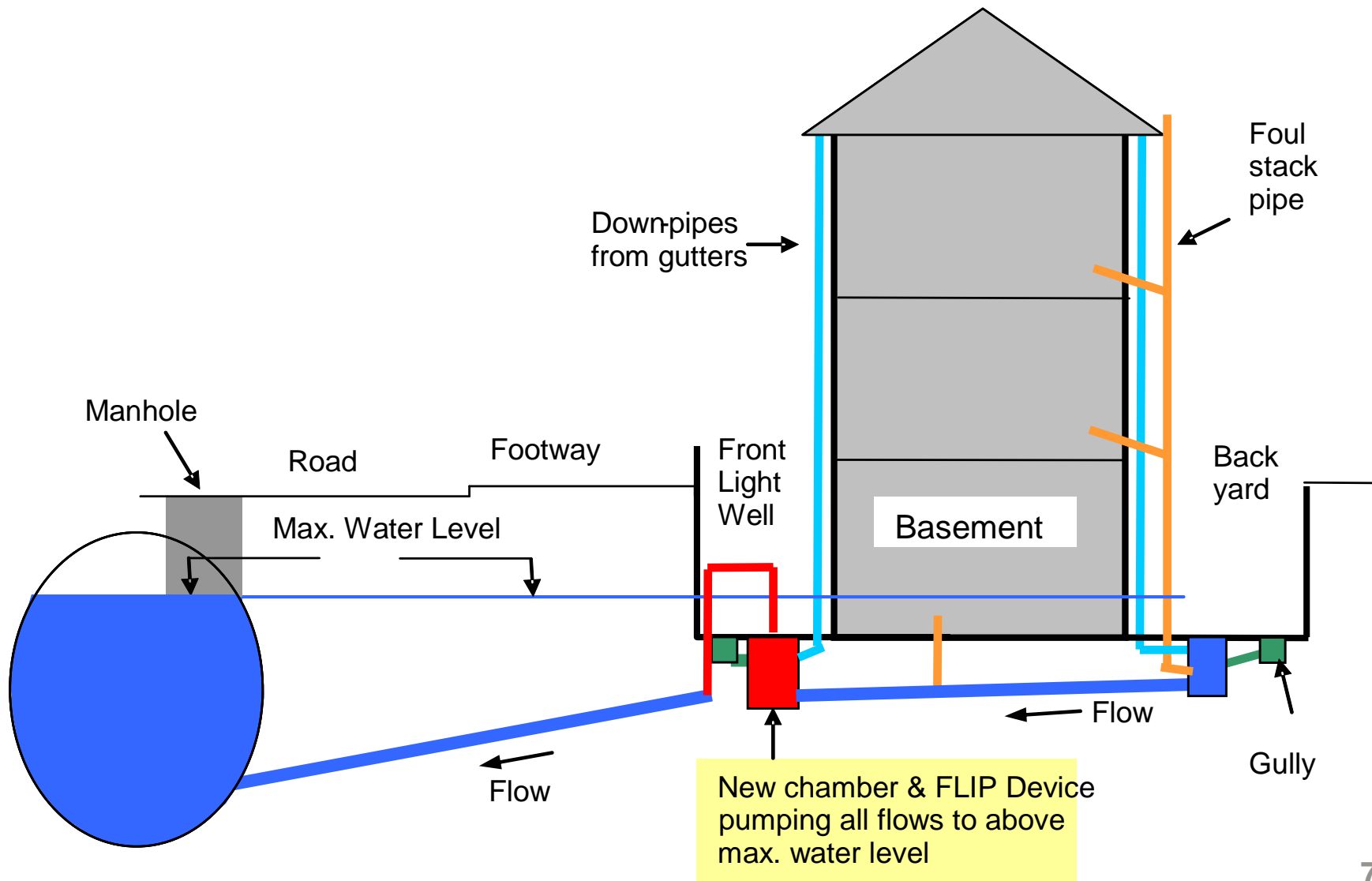


2. Ofwat's Decision

Over £25m to progress:

- **Short-term** - the protection of more than 600 properties at the highest risk of flooding using mini package pumping stations (known as 'FLIPs')
- **Long-term** – a major upgrade of the sewerage network in the Counters Creek area to alleviate **all** properties from the risk of sewer flooding.
 - We plan to submit an updated case to Ofwat in 2012
 - We are currently developing and costing the solution; however, the start date is dependent on funding approval from Ofwat
 - Agreement would allow construction to commence in 2014

3. Short-term - FLIP Programme



3. Short-term - FLIP Programme



Summary of properties recorded on our database in the Counters Creek catchment and frequency of flooding:

| No.floods* | Hammersmith & Fulham | Kensington & Chelsea | Grand Total |
|--------------------|----------------------|----------------------|-------------|
| 1 | 253 | 464 | 717 |
| 2 | 125 | 76 | 201 |
| 3 | 37 | 31 | 68 |
| 4 | 17 | 12 | 29 |
| 5 | 4 | 1 | 5 |
| 6 | 1 | 2 | 3 |
| 7 | 1 | 0 | 1 |
| not basement** | 252 | 185 | 437 |
| Grand Total | 690 | 771 | 1461 |

* Our records date back to 1950

** FLIPs devices are only suitable for properties with basements

3. Short-term - FLIP Programme



We propose to offer FLIPs devices to:

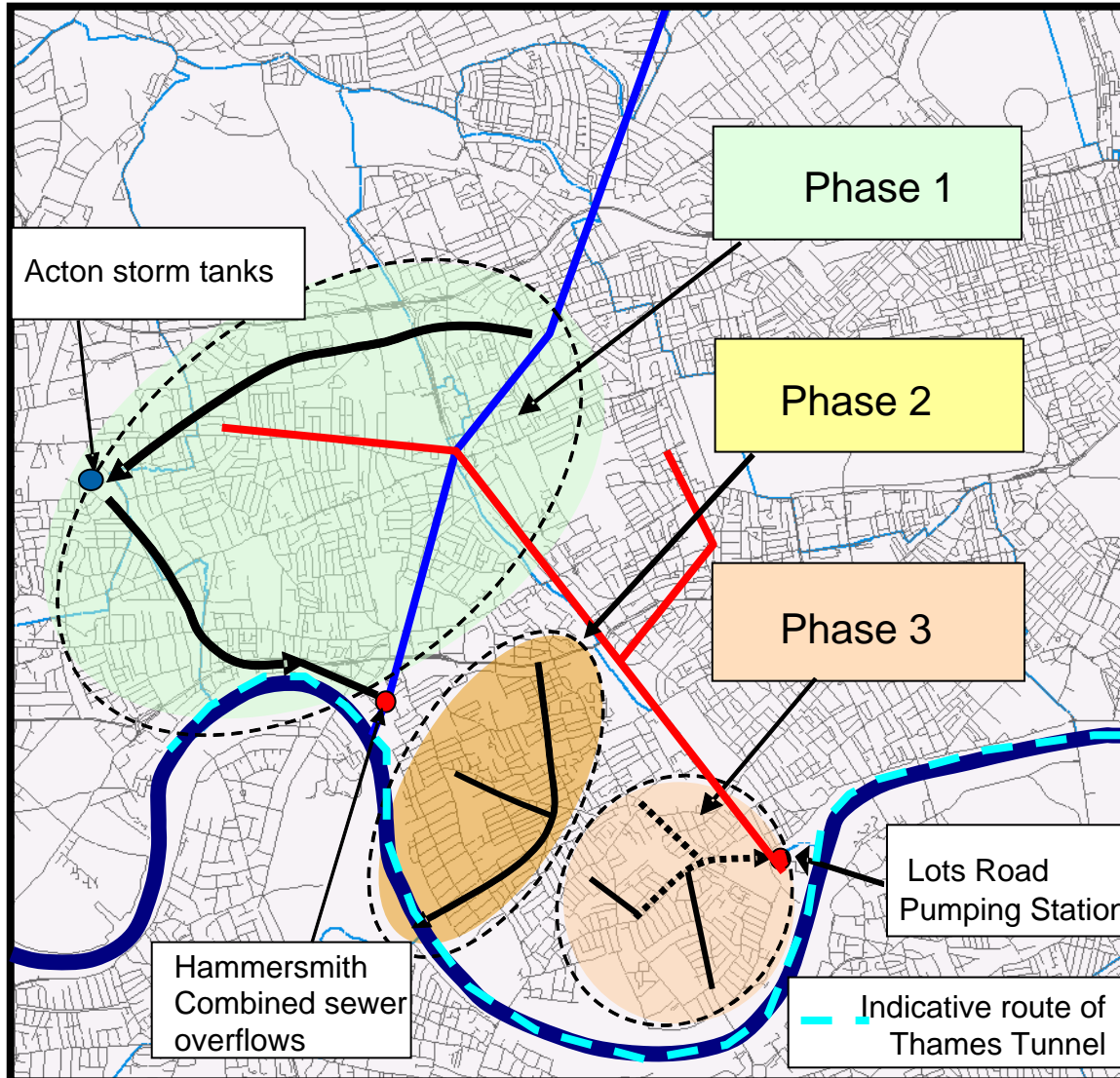
- Customers with basements in either the London Borough of Hammersmith & Fulham or the Royal Borough of Kensington & Chelsea that have reported internal sewer flooding to us and are recorded on our 'DG5' flooding register (for which a rainfall event with a return period of less than or equal to 1 in 10 years must have caused flooding)
- Customers with basements in either the London Borough of Hammersmith & Fulham or the Royal Borough of Kensington & Chelsea that have reported internal sewer flooding to us and our hydraulic model shows them to be at the highest risk of flooding

3. Short-term - FLIP Programme



- Ofwat and the two London Boroughs consulted on our proposed approach in March
- In April we wrote to selected high risk customers offering them a device – we will have written to all customers by the end of July this year. The first surveys have been completed
- Methodology and approach now available to download from our website
- Project Manager (Mark Cooper) and team appointed
- The first devices will be installed in August 2010 by our delivery partner - Morrison Galliford Try Joint Venture
- Delivery to be rolled out over the next 12 to 18 months

4. Long-term Solution



Counters Creek Project

- Reduces high risk flooding
- Local solution to a local problem
- Not reliant upon the Thames Tunnel
- Developed and constructed over next 8 years

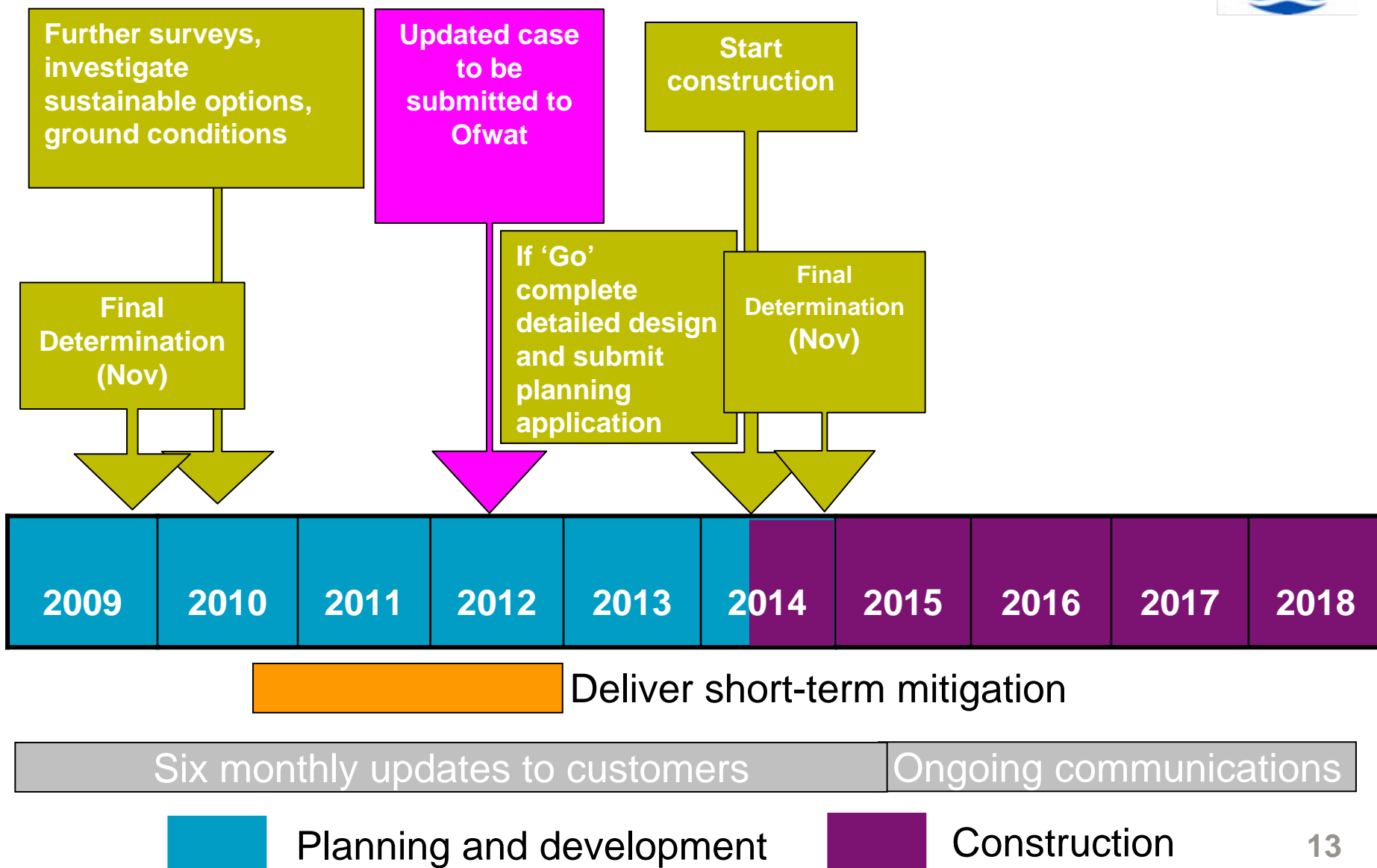
Thames Tunnel Project

- Independent project to improve river water quality

4. Long-term Solution

- 1,000 doorstep interviews conducted in the catchment during February 2010 to understand extent of historic flooding
- Instrumentation measuring depth in the Counters Creek sewer has been installed which transmits information to our offices every day
- In April 2010, Ofwat challenged us to make our preferred design more sustainable (i.e. how we will manage future demand as well as increasing the supply capacity of the network)
- Further surveys are now planned to improve the accuracy of our model and the numbers of properties at risk:
 - We need to measure basement depths below ground level
 - Further improve our understanding of subterranean connections to the sewerage network
- Ground conditions and the impact on the environment need to be assessed

4. Long-term Solution



5. Impact of New Development



- We work closely with Planning Officers and comment on planning applications from Developers
- The Flood & Water Management Act 2010 and Mayor of London's Sustainable Drainage Strategy present opportunities to reduce surface water entering our network
- We do not have the right to veto a connection to the sewerage network once planning permission is granted
- Through the Mayor of London's "Drain London Forum", we will raise the profile of constraints on the sewerage network with Planning Officers from all London Boroughs in West London and the importance of planning conditions



Questions ?

www.thameswater.co.uk/counterscreek