

Lower Thames Flood Risk Management Strategy

Presentation to Institute of Fisheries
Management

20th October 2011

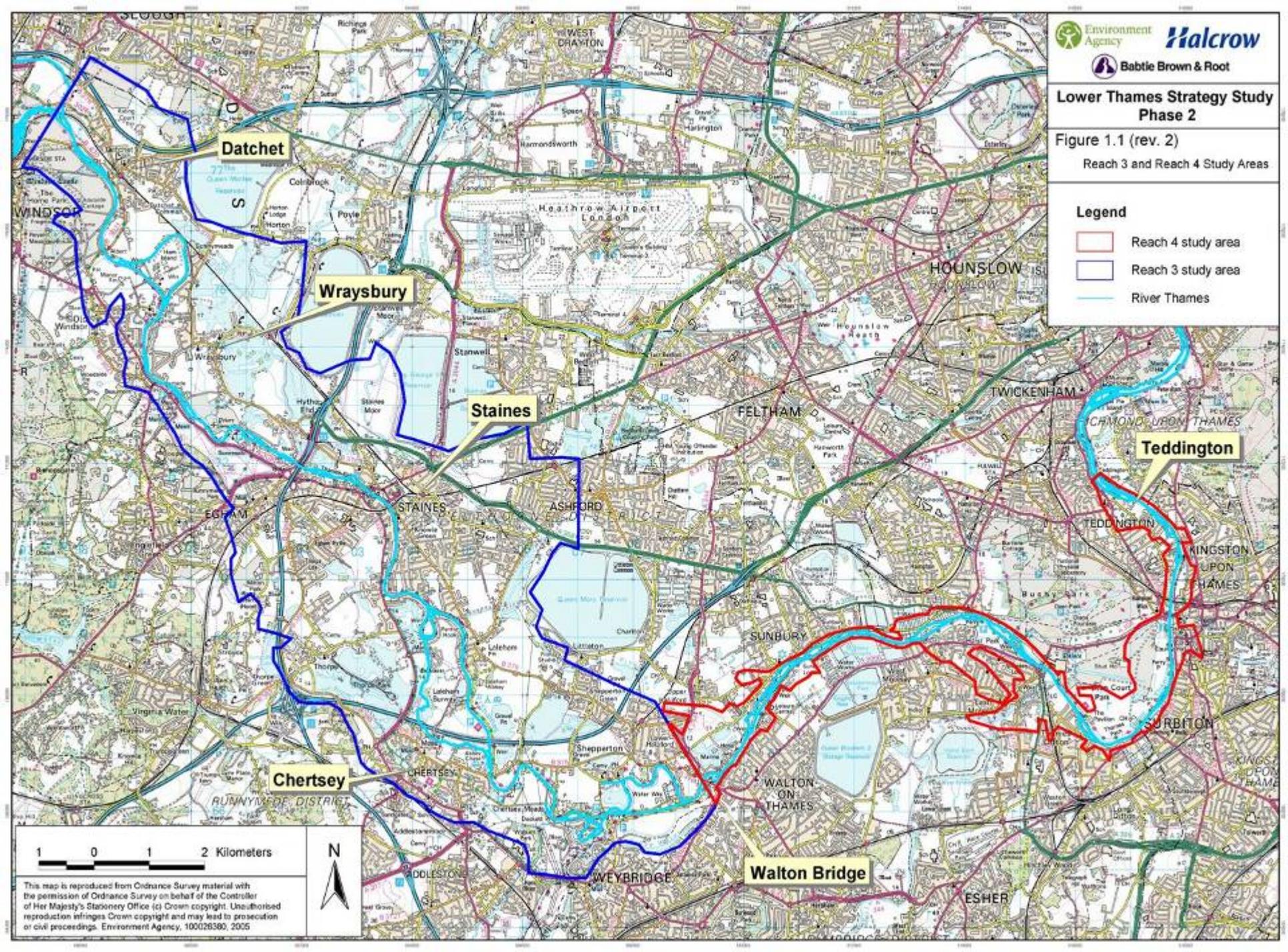
**Lower Thames Strategy Study
Phase 2**

Figure 1.1 (rev. 2)

Reach 3 and Reach 4 Study Areas

Legend

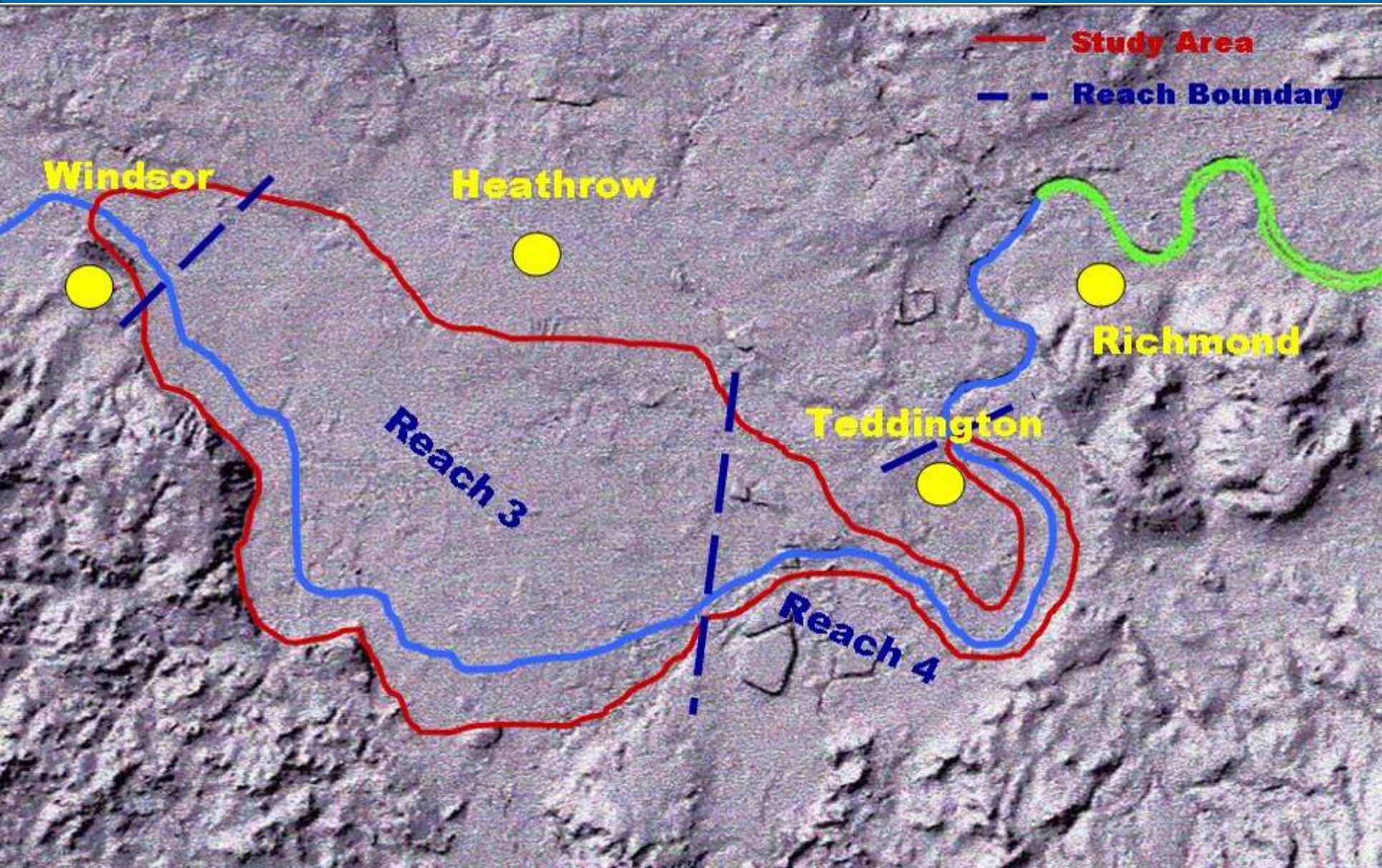
- Reach 4 study area
- Reach 3 study area
- River Thames



1 0 1 2 Kilometers



Lower Thames Strategy Study Area Topography



Lower Thames Strategy

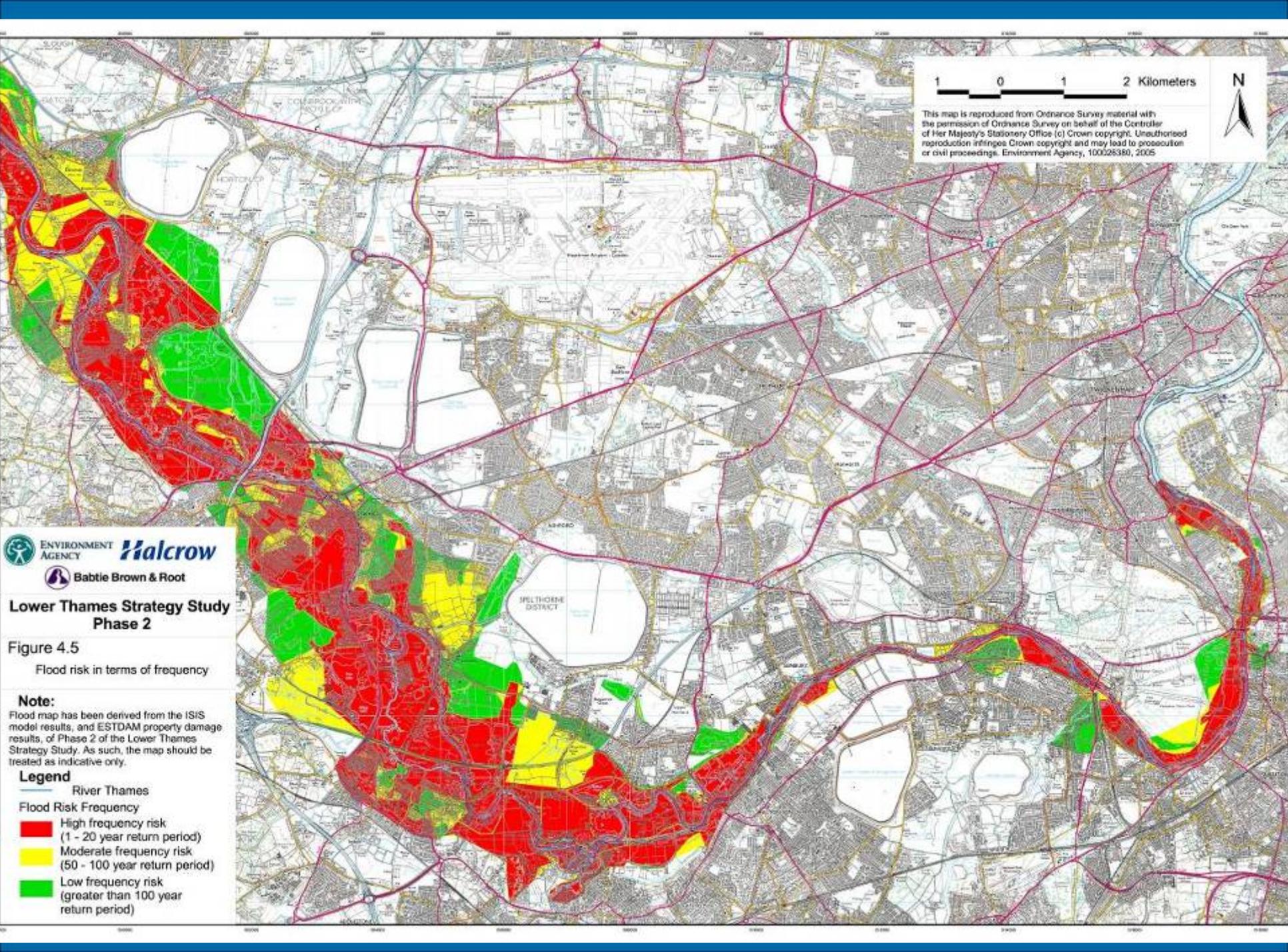
Summary of present flood risk – LTS Reach 3

Reach 3 Return Period (annual probability, % chance)	Floodplain Area (sq.km)	Residential Properties Affected	People at Risk
1 in 20yr (5%)	22	5300	3,000
1 in 50yr (2%)	27	8,900	21,700
1 in 100yr (1%)	30	12,200	29,600
1 in 200yr (0.05%)	32	15,800	38,200

Lower Thames Strategy

Summary of present flood risk – LTS Reach 4

Reach 4 Return Period (annual probability, % chance)	Floodplain Area (sq.km)	Residential Properties Affected	People at Risk
1 in 20yr (5%)	4.0	850	2,000
1 in 50yr (2%)	4.8	1,750	4,200
1 in 100yr (1%)	5.4	2,750	6,600
1 in 200yr (0.05%)	6.0	5,000	11,900



1 0 1 2 Kilometers

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 ENVIRONMENT AGENCY **Halcrow**
 Babbie Brown & Root

**Lower Thames Strategy Study
Phase 2**

Figure 4.5
Flood risk in terms of frequency

Note:
Flood map has been derived from the ISIS model results, and ESTDAM property damage results, of Phase 2 of the Lower Thames Strategy Study. As such, the map should be treated as indicative only.

- Legend**
-  River Thames
 - Flood Risk Frequency**
 -  High frequency risk (1 - 20 year return period)
 -  Moderate frequency risk (50 - 100 year return period)
 -  Low frequency risk (greater than 100 year return period)

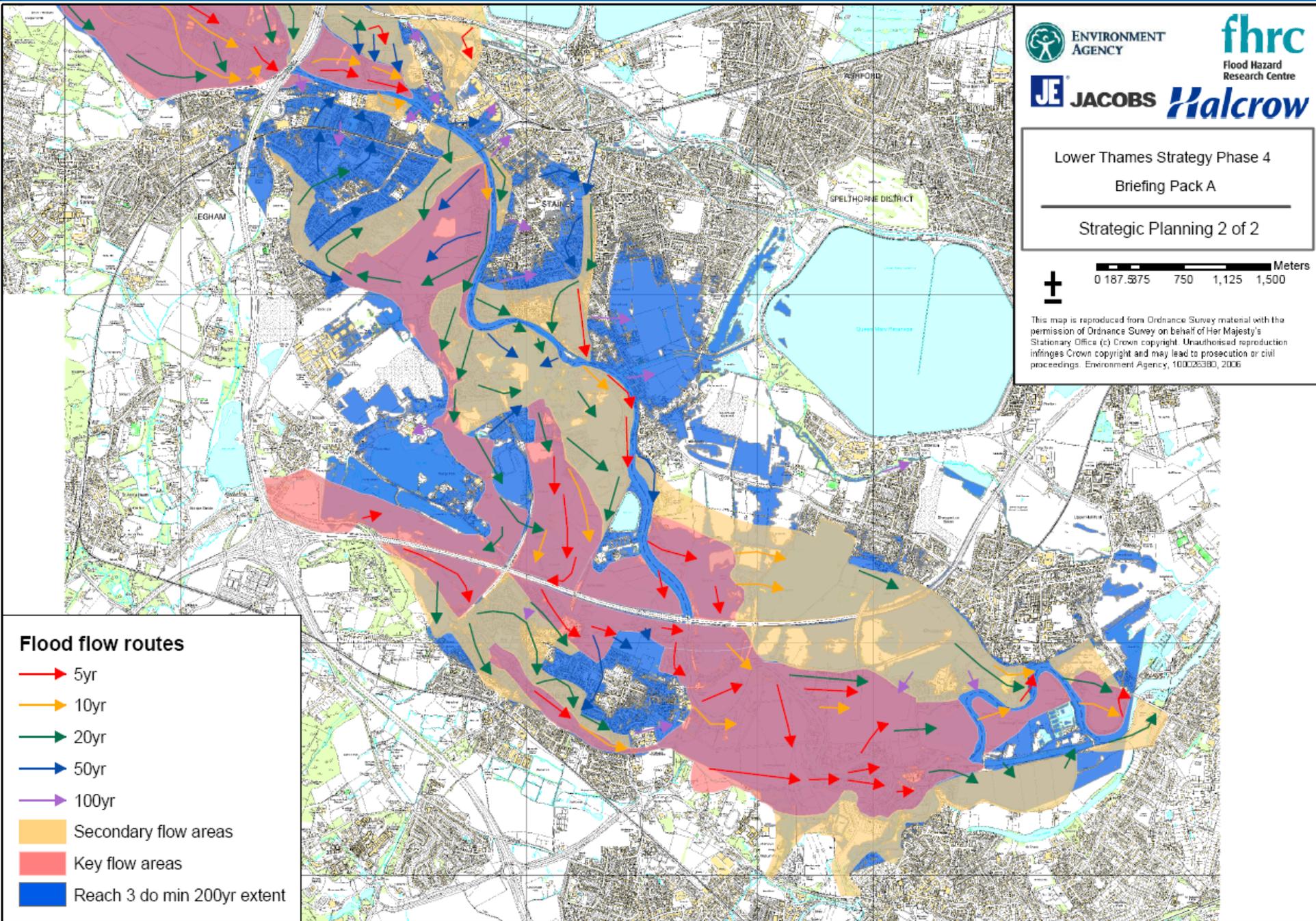


0 187.5 750 1,125 1,500 Meters

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Flood flow routes

- 5yr
- 10yr
- 20yr
- 50yr
- 100yr
- Secondary flow areas
- Key flow areas
- Reach 3 do min 200yr extent



Lower Thames Strategy phases

➔ Phase 1:

- Updated 1992 Study flood risks and management options for Reach 3

➔ Phase 2:

- Evaluated flood risks and reach based / catchment wide management options for Reaches 3 and 4
- Identified alternative Flood Risk Management approaches

➔ Phase 3:

- Evaluated approaches; developed optimum Flood Risk Management strategy for the Lower Thames. We were seeking to answer 3 specific questions

➔ Phase 4:

- SEA Report prepared (statutory process)
- Strategy Appraisal Report prepared and submitted for approval

Lower Thames Strategy

Components taken forward into Phase 4

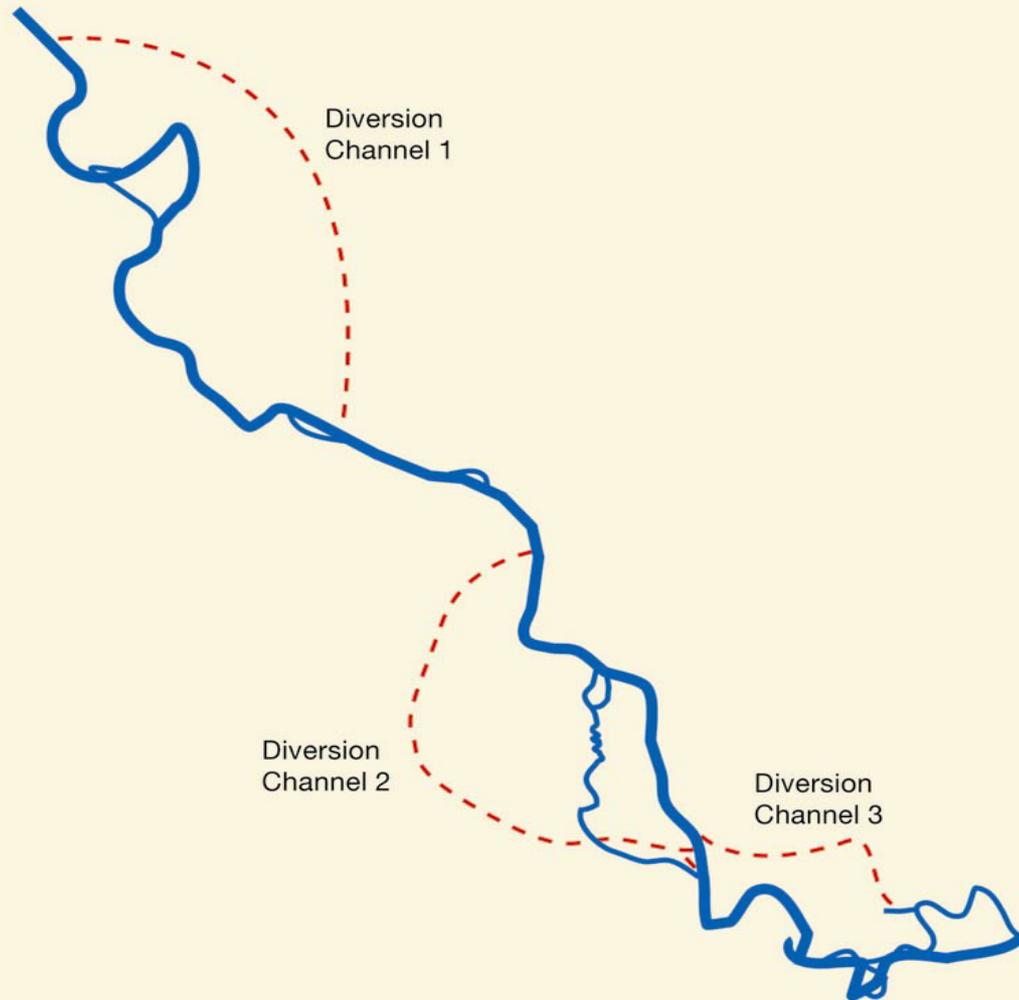
STRATEGY COMPONENT	REACH 3	REACH 4	WIDER CATCHMENT
Diversion Channels	Y		
Community based measures	Y	Y	
Non-structural measures	Y	Y	Y
Emergency response tools	Y	Y	
Compensation works		Y	
Strategic storage			Y
Thames Barrier			Y

Proposed Strategy

- ➔ Combined strategy comprising two components:
- ➔ Floodplain Management Component
 - *Land control (safeguarding flood flow, channel routes, zoning for DC in high risk area)*
 - *Improved preparedness (focussing on public awareness/ increased uptake of FWD, emergency plans, flood resilience for properties)*
 - *Community-based options for Reach 4*
- ➔ Engineered Component
 - *Diversion channels (1,2 & 3) without river bed re-profiling*
 - *Compensation measures in Reach 4*

Lower Thames Strategy Preferred Option

Option D2



3 channels

- 1) Datchet => Staines
- 2) Egham => Chertsey
- 3) Chertsey => Shepperton



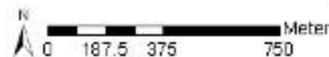
Only option to significantly reduce flood risk



No channel options feasible for Reach 4

Lower Thames Strategy Phase 4
Potential Diversion Channel Routes
within the main works/mitigation corridor

Channel 1



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- Key to likely channel routes/corridor
- Potential Diversion Channel
 - Channel 1 works/mitigation corridor
 - Channel 1 alternative
 - Channel 2 works/mitigation corridor
 - Channel 2 alternative corridor
 - Channel 3 works/mitigation corridor
 - Channel 3 alternative corridor





Lower Thames Strategy Phase 4
 Potential Diversion Channel Routes
 within area of search

 Channel 1

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 Meters
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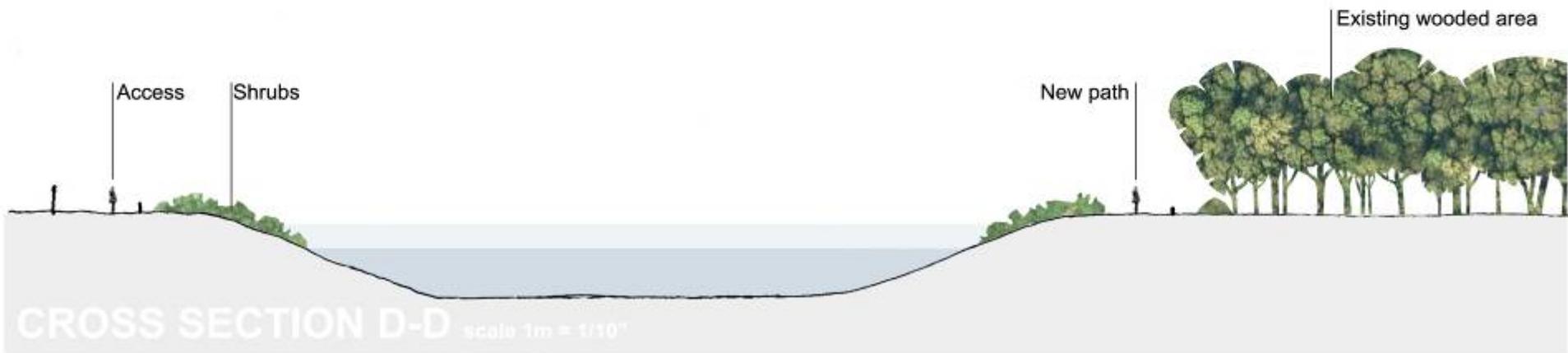
Legend
 Potential diversion channel alignment
 Channel 1 area of search

Fig 6.2

Lower Thames Strategy

Typical flood mitigation works corridor, Sections

Typical diversion channel is approaching similar size to Thames







Lower Thames Strategy Phase 4

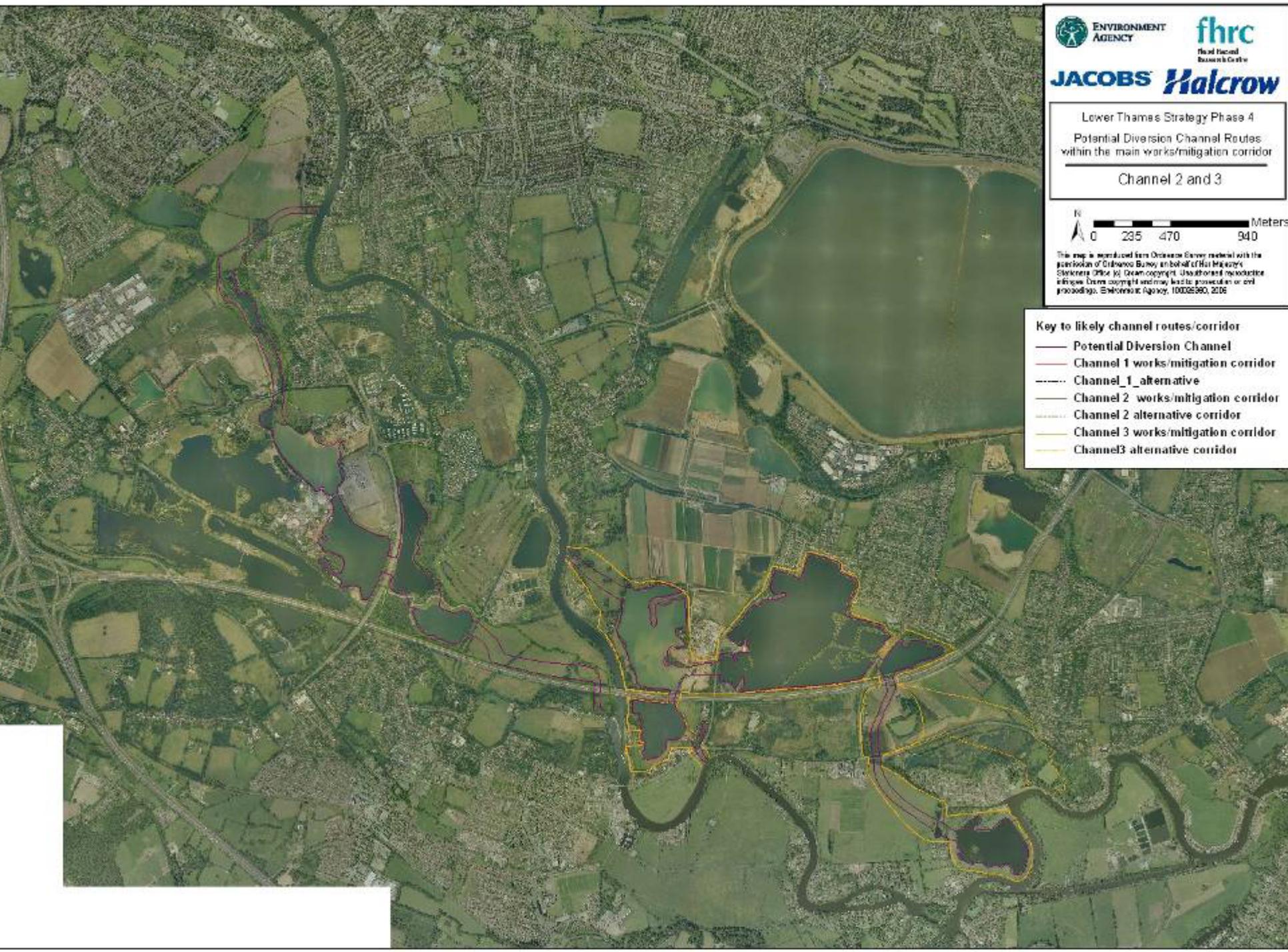
Potential Diversion Channel Routes
within the main works/mitigation corridor

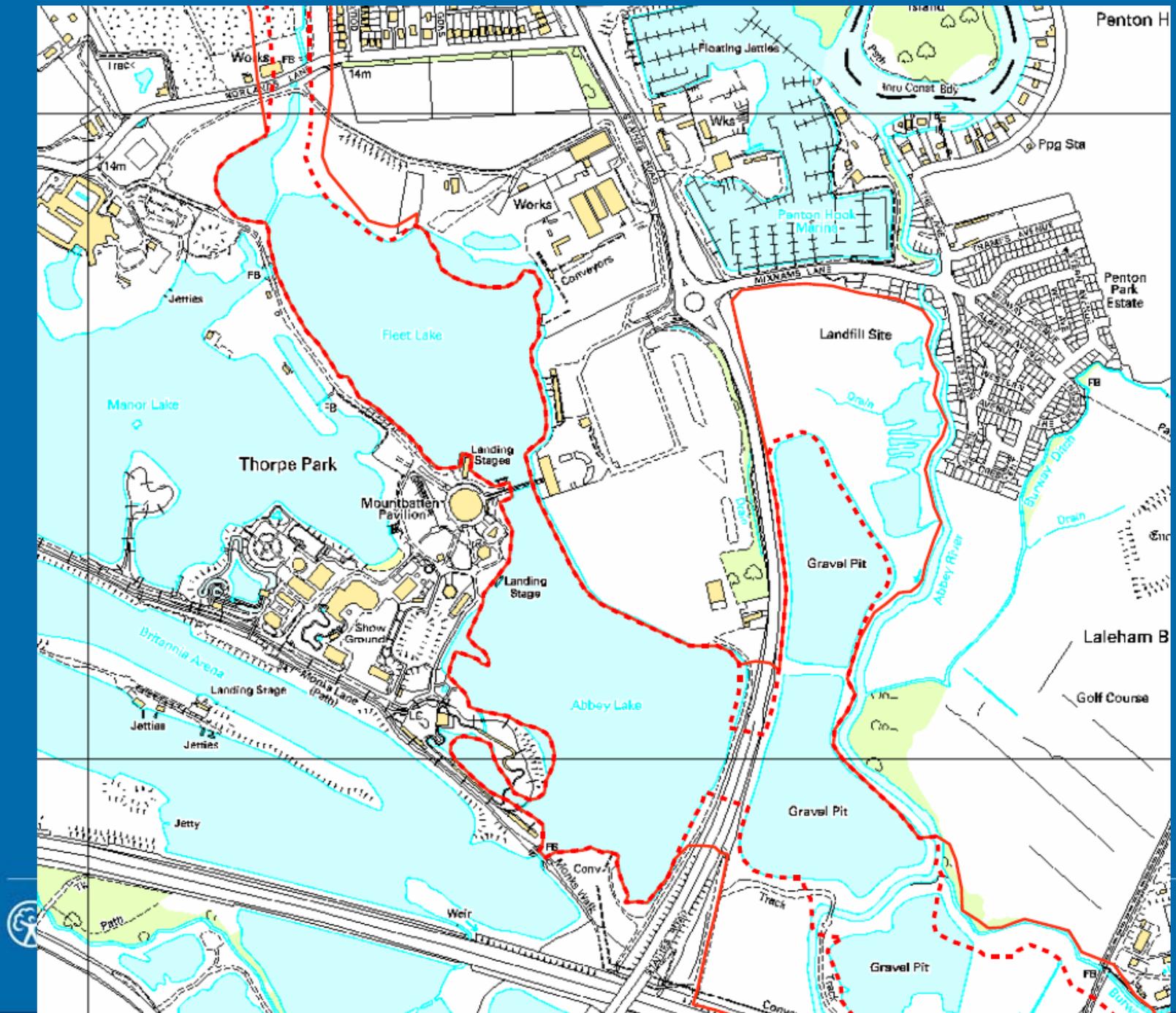
Channel 2 and 3

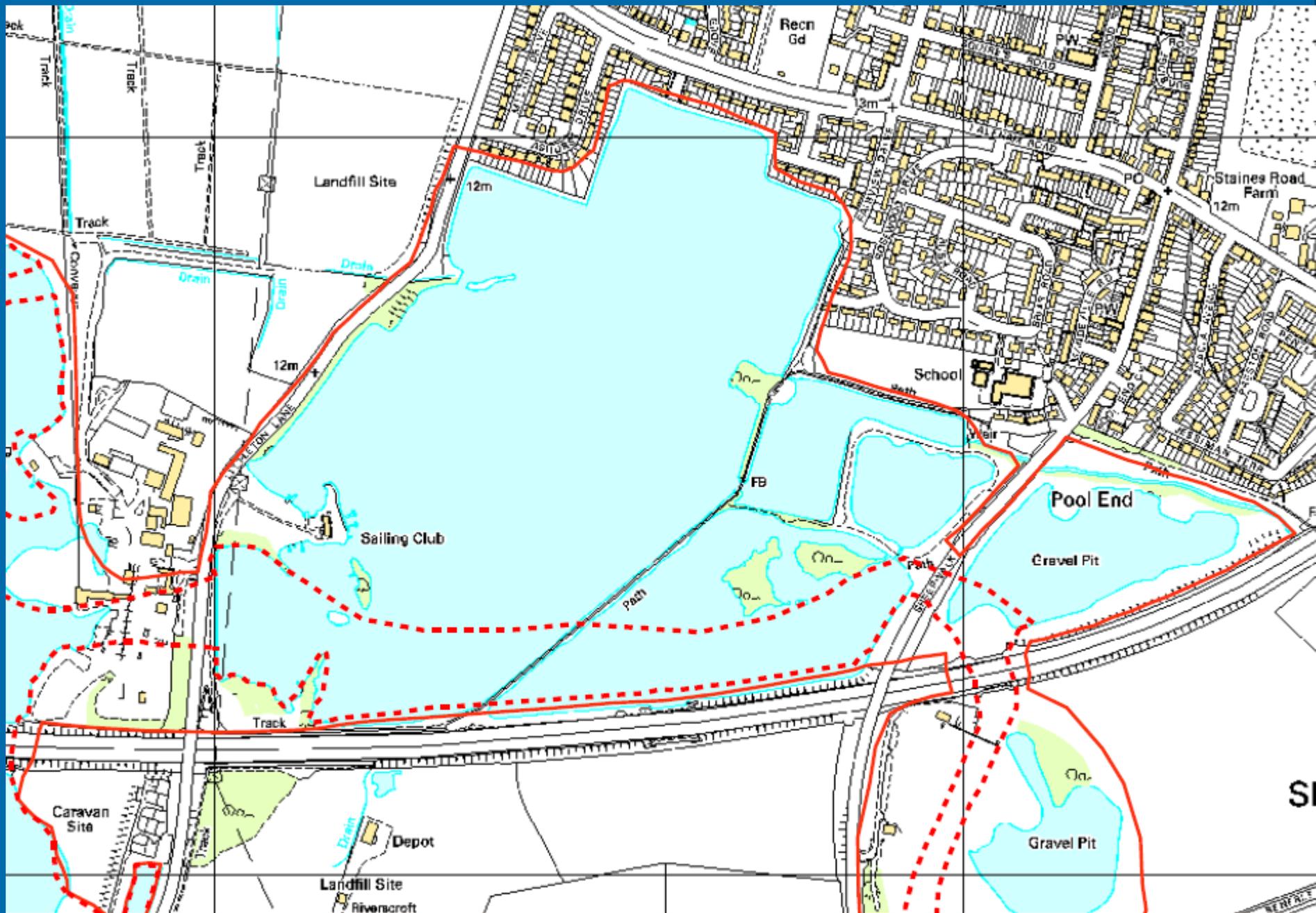


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- Key to likely channel routes/corridor**
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 - Channel 2 works/mitigation corridor
 - Channel 2 alternative corridor
 - Channel 3 works/mitigation corridor
 - Channel 3 alternative corridor







Environmental

- ➔ Complying with Habitats Directive - demonstrating no adverse impact to Special Protection Area
- ➔ Complying with Water Framework Directive – demonstrating no overall detriment to water quality
- ➔ Ensuring environmental enhancement through increase in biodiversity potential

