

Lower Thames Flood Risk Management Strategy

Presentation to Institute of Fisheries
Management

20th October 2011

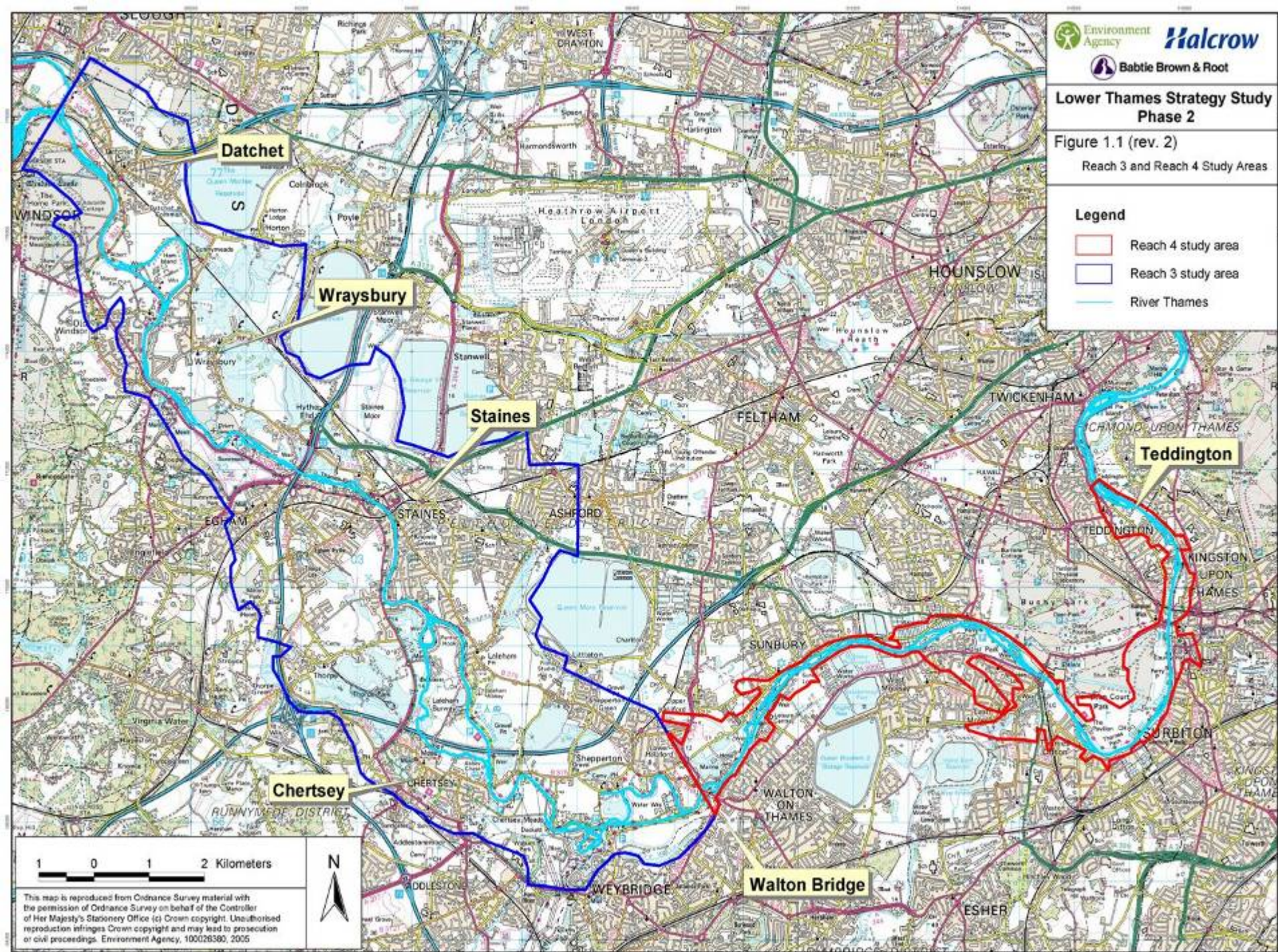
Lower Thames Strategy Study Phase 2

Figure 1.1 (rev. 2)

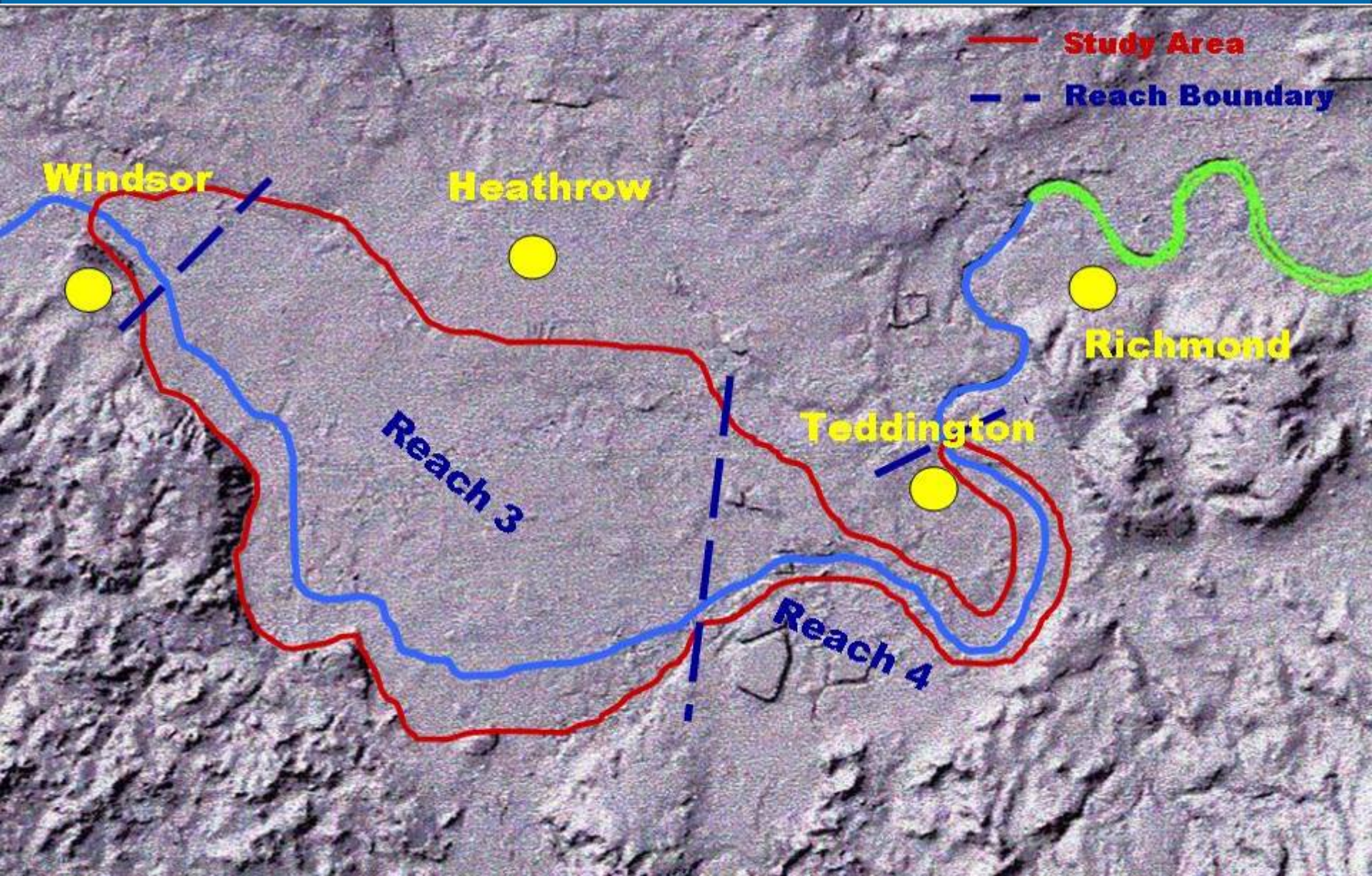
Reach 3 and Reach 4 Study Areas

Legend

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



Lower Thames Strategy Study Area Topography



Lower Thames Strategy

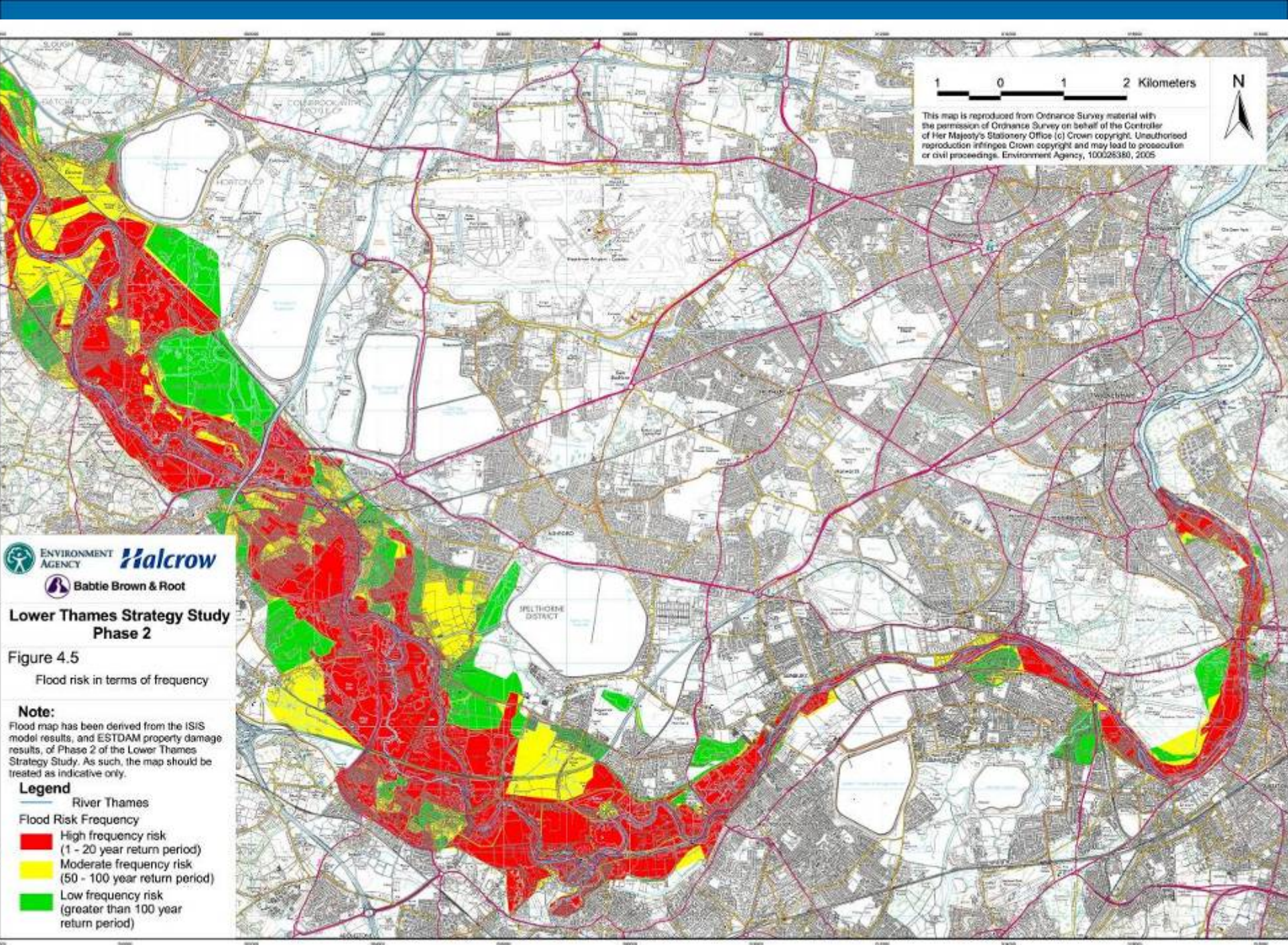
Summary of present flood risk – LTS Reach 3

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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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)



ENVIRONMENT
AGENCY

fhrc
Flood Hazard
Research Centre



JACOBS

Halcrow

Lower Thames Strategy Phase 4

Briefing Pack A



Strategic Planning 2 of 2

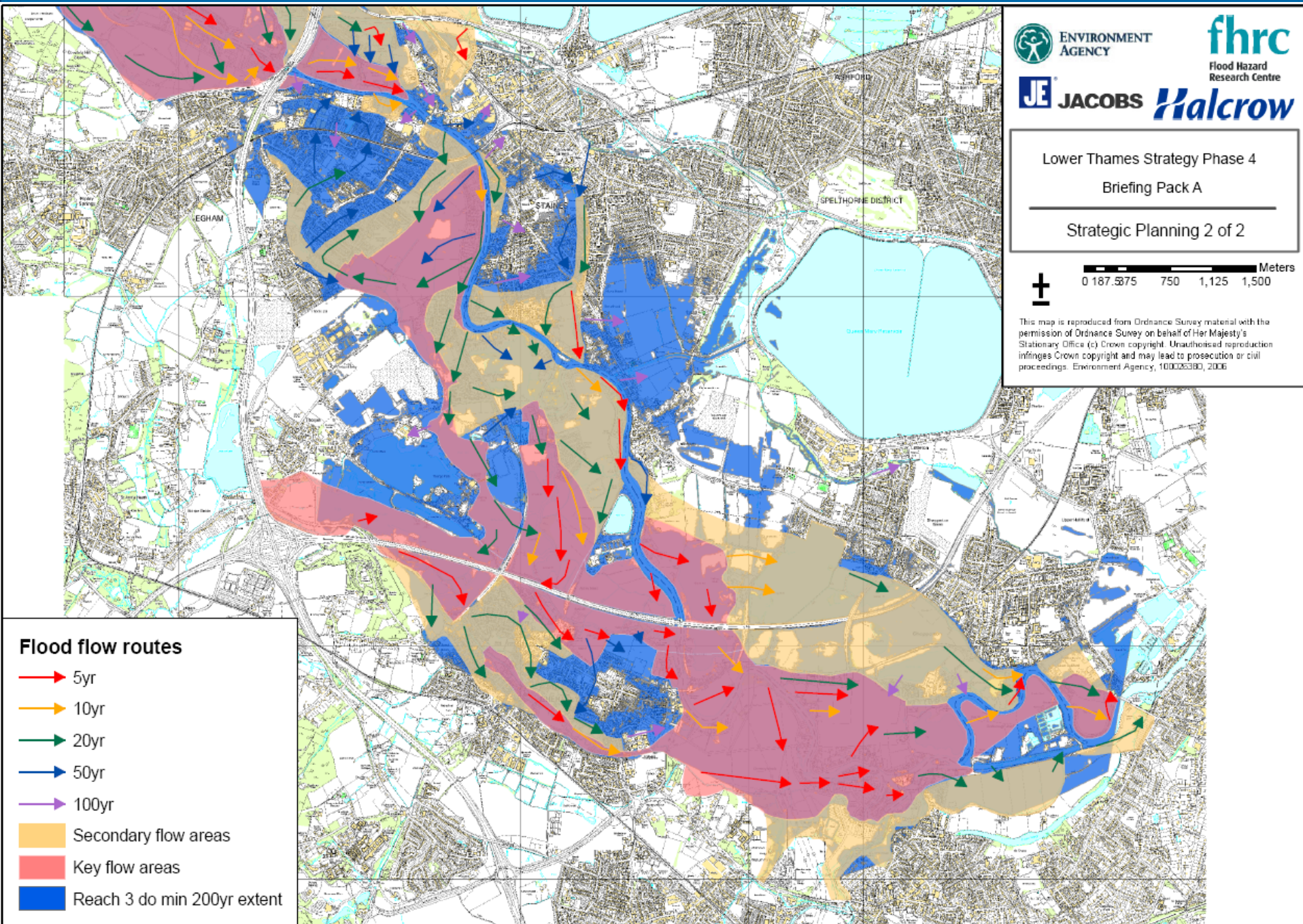


Meters
0 187.5875 750 1,125 1,500

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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

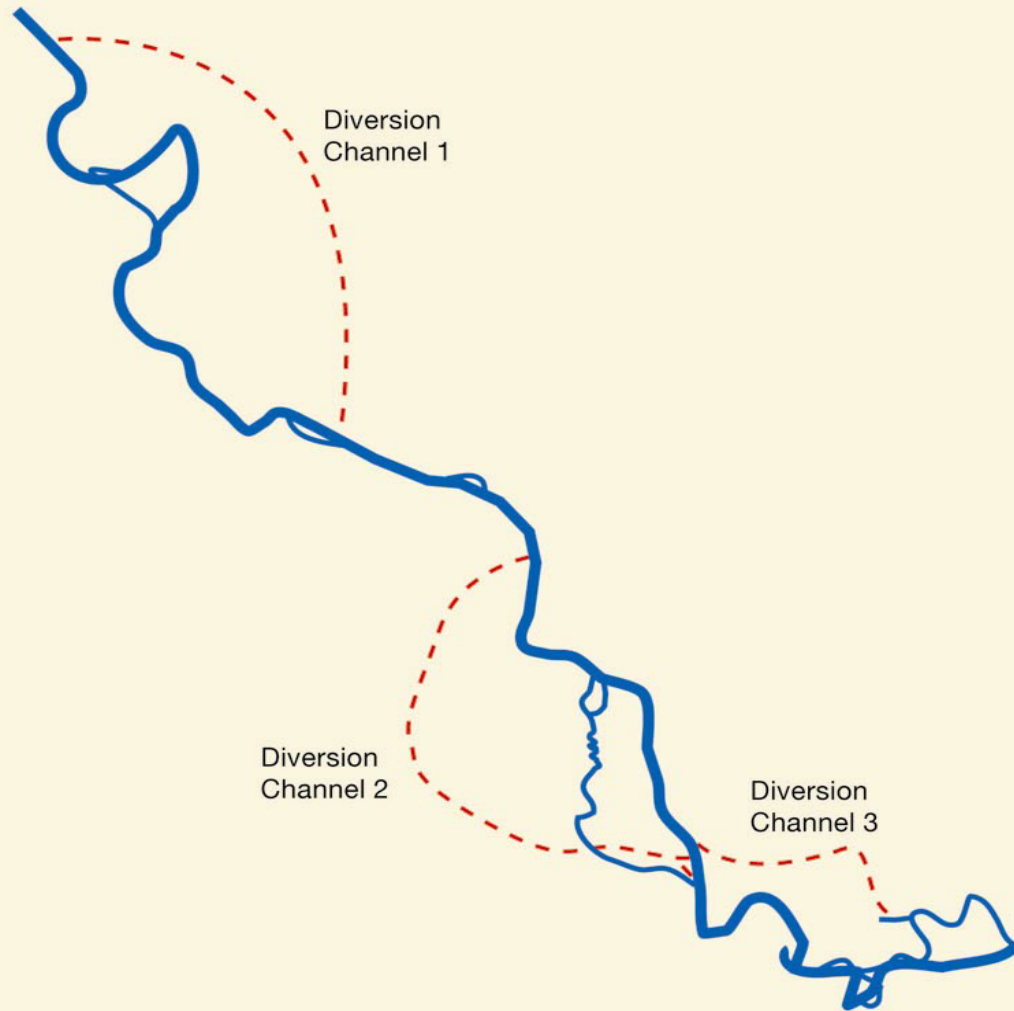
- *Land control (safeguarding flood flow, channel routes, zoning for DC in high risk area)*
- *Improved preparedness (focussing on public awareness/ increased uptake of FWD, emergency plans, flood resilience for properties)*
- *Community-based options for Reach 4*

➡ 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



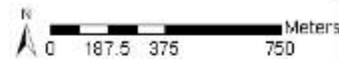
Only option to significantly reduce flood risk



No channel options feasible for Reach 4

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

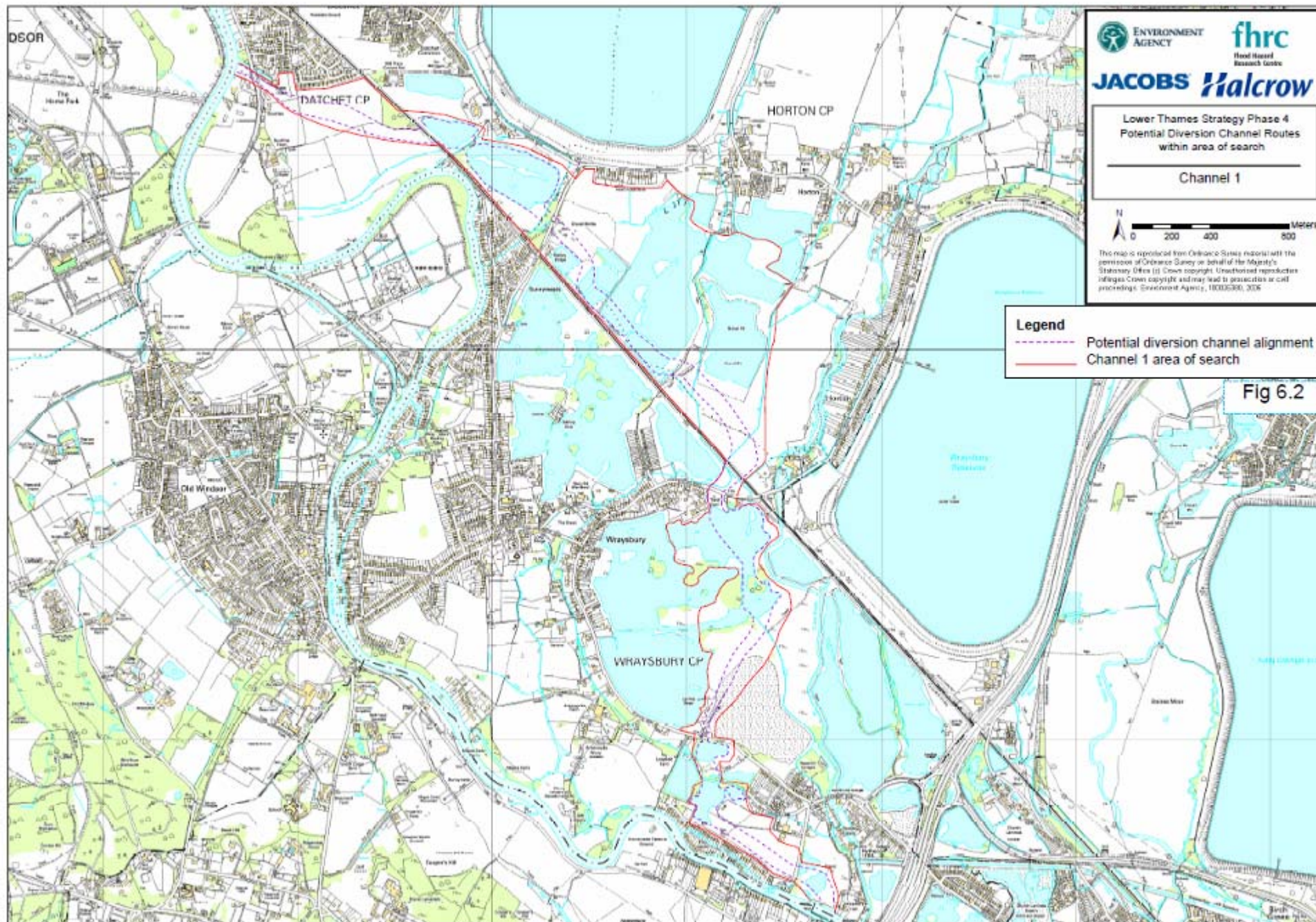
Channel 1



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Key to likely channel routes/corridor

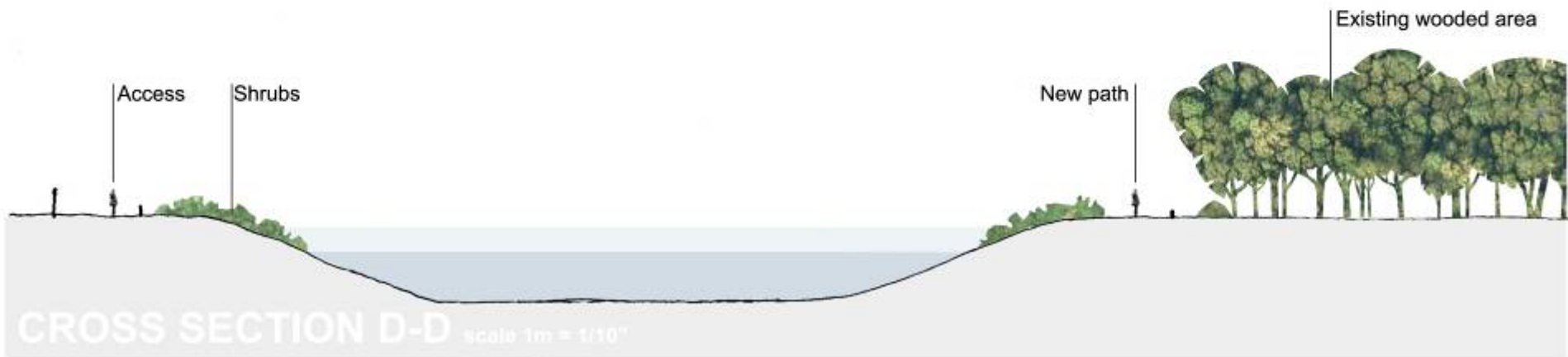
- Potential Diversion Channel
- Channel 1 works/mitigation corridor
- Channel 1 alternative
- Channel 2 works/mitigation corridor
- Channel 2 alternative corridor
- Channel 3 works/mitigation corridor
- Channel 3 alternative corridor

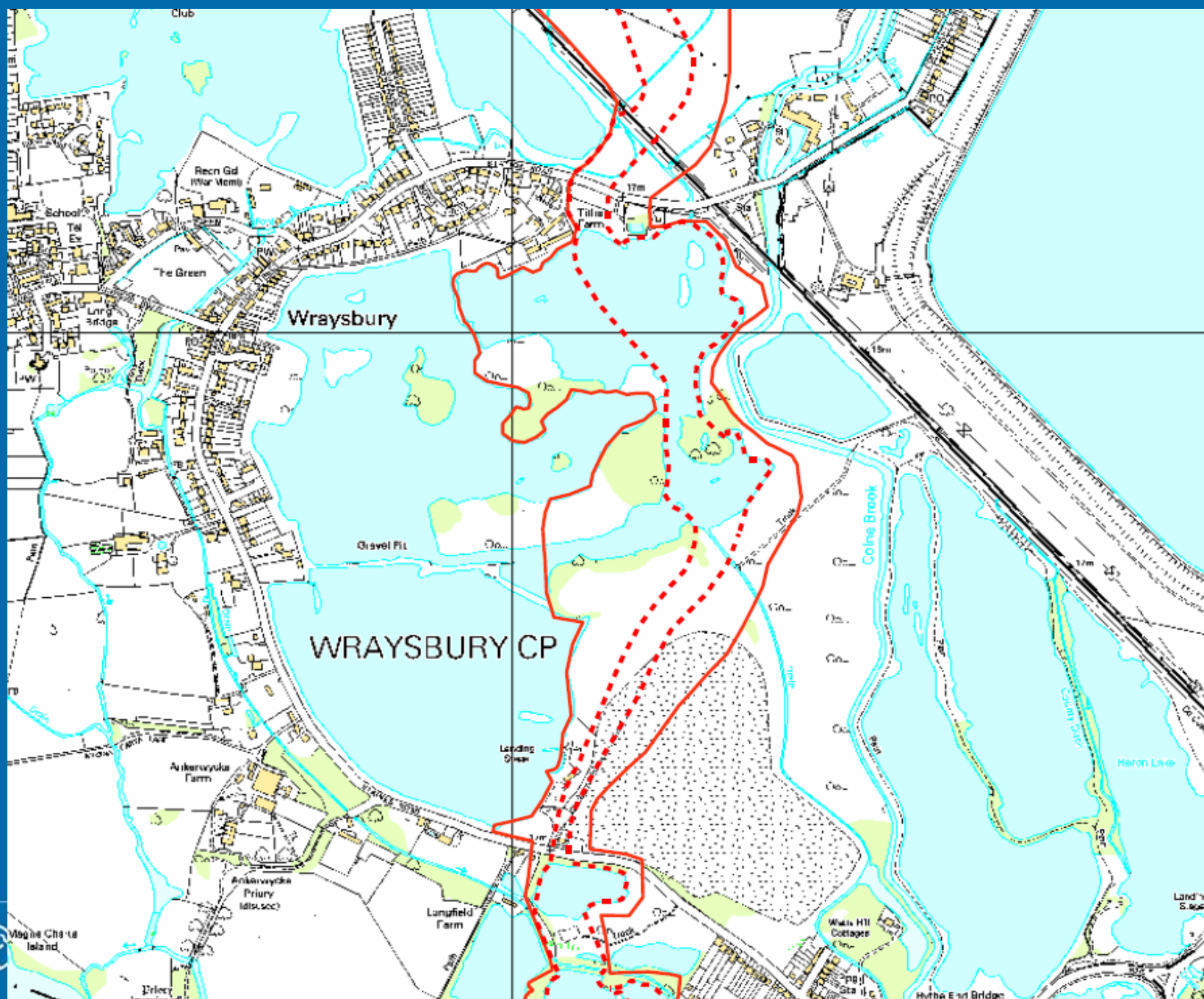


Lower Thames Strategy

Typical flood mitigation works corridor, Sections

Typical diversion channel is approaching similar size to Thames

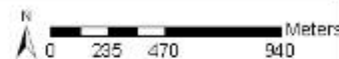






Lower Thames Strategy Phase 4
Potential Diversion Channel Routes
within the main works/mitigation corridor

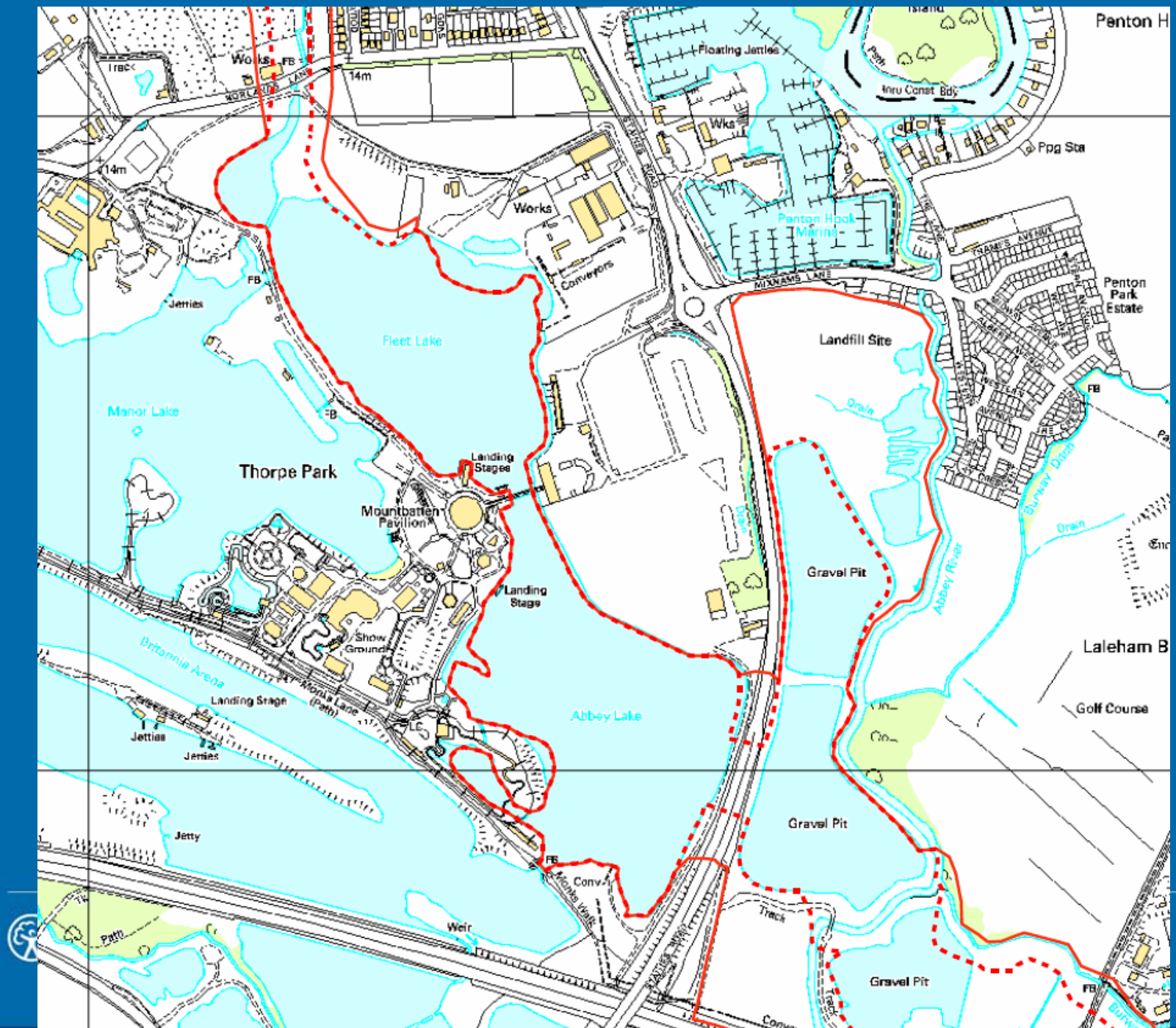
Channel 2 and 3

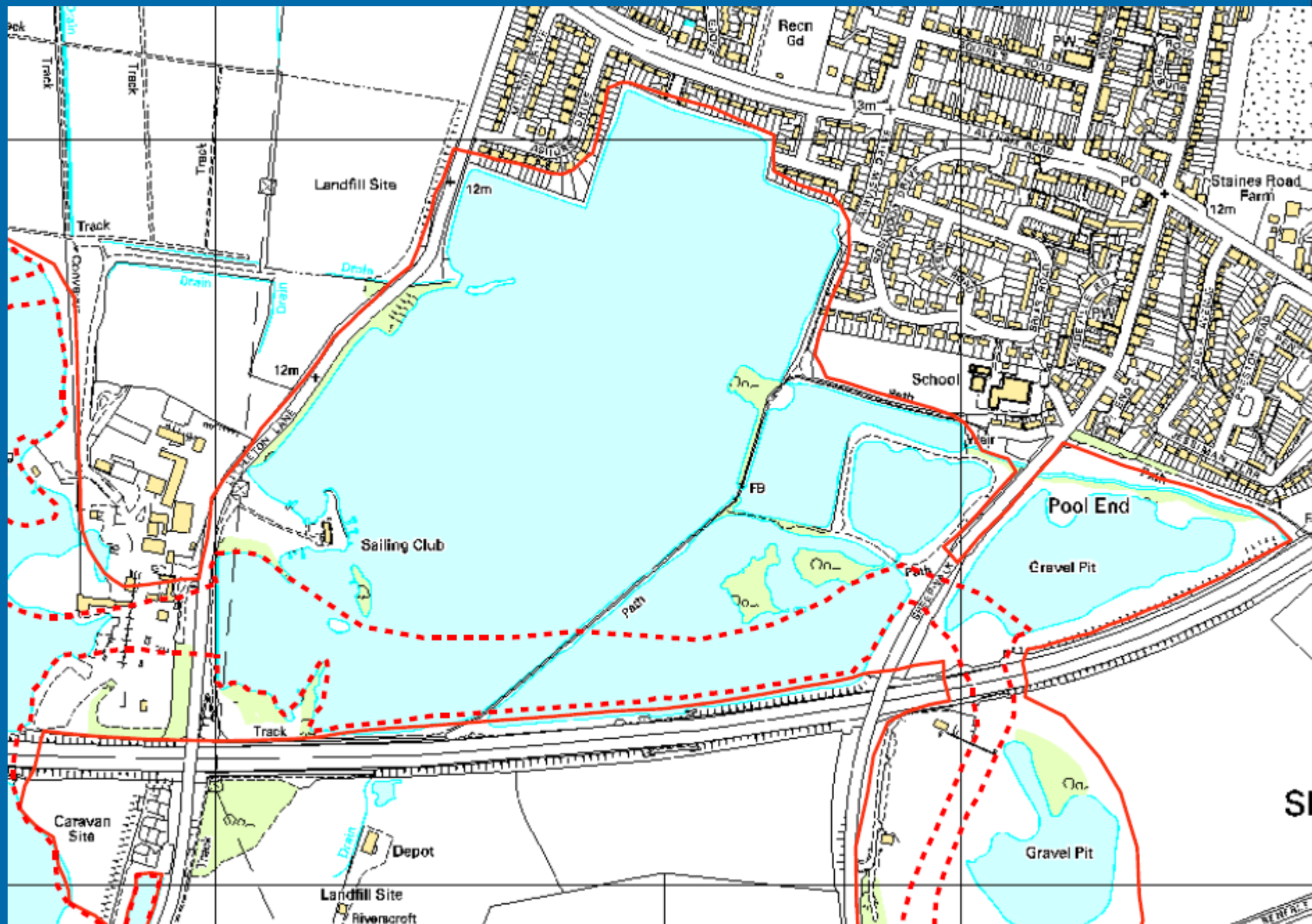


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Key to likely channel routes/corridor

- 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





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

