

TUNNEL AGENDA

AGGLOMERATION BENEFITS

LONDON PLAN:



KEY:

Growth areas:

- 1 Thames Gateway
- 2 London-Stansted-Cambridge

Co-ordination corridors:

- 3 Western Wedge
- 4 Wandle-Croydon-Gatwick
- 5 North West London-Luton-Bedford

METROTIDAL LONDON PLAN:

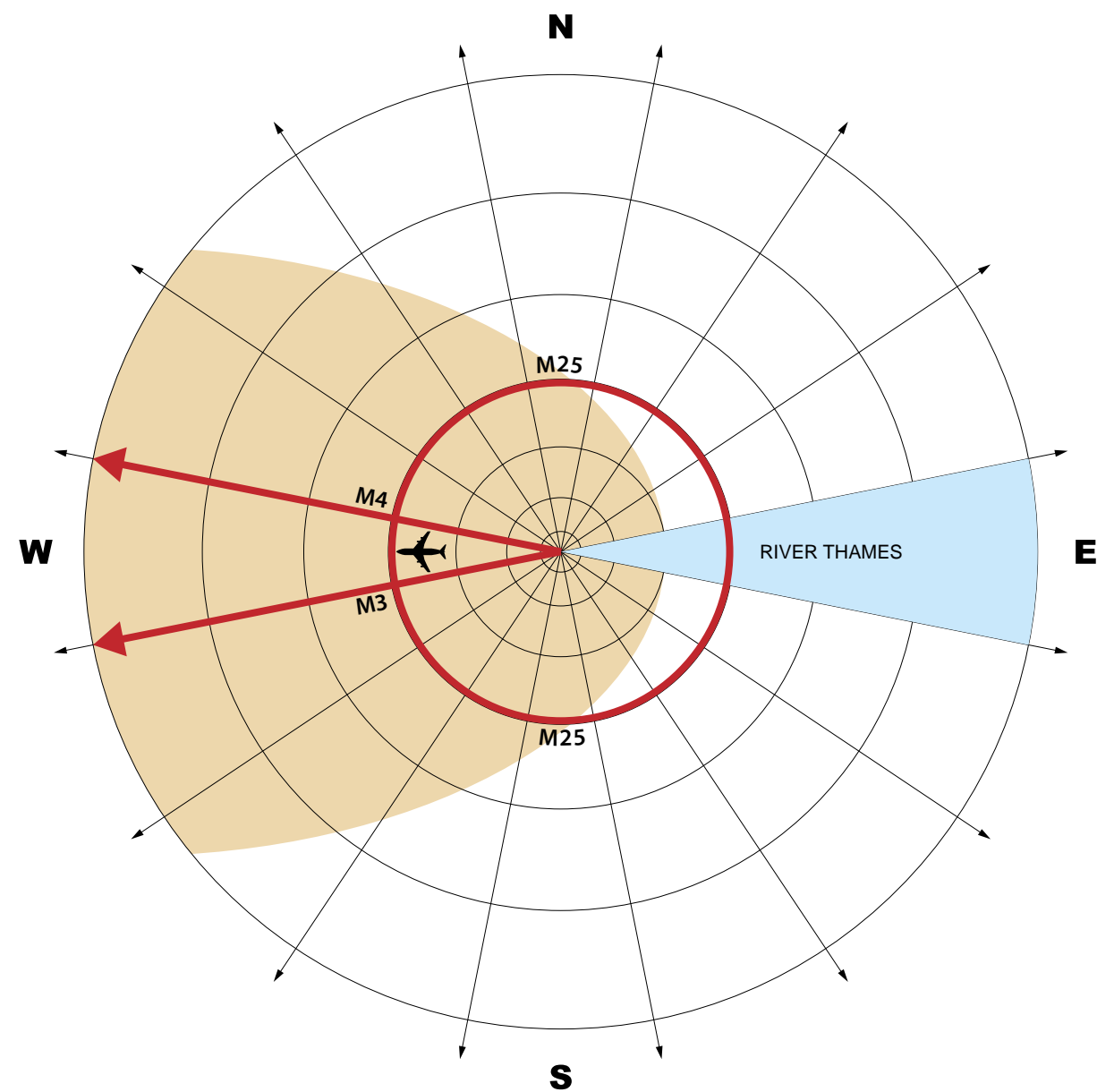


KEY:

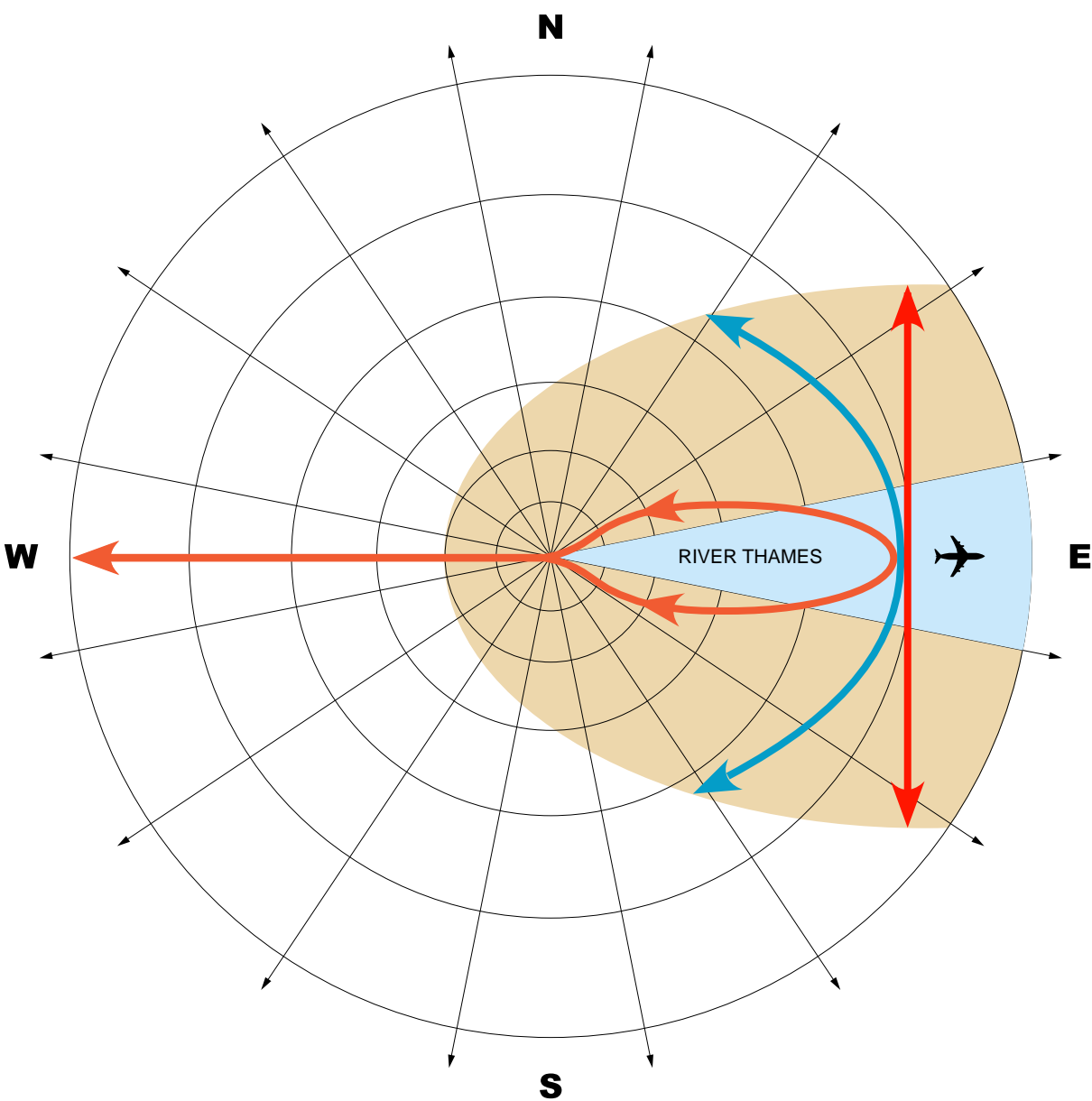
- Inner Orbital
- Outer Orbital
- North-South Links

AGGLOMERATION BENEFITS

TRANSPORT NETWORKS AND GROWTH AREAS IN LONDON

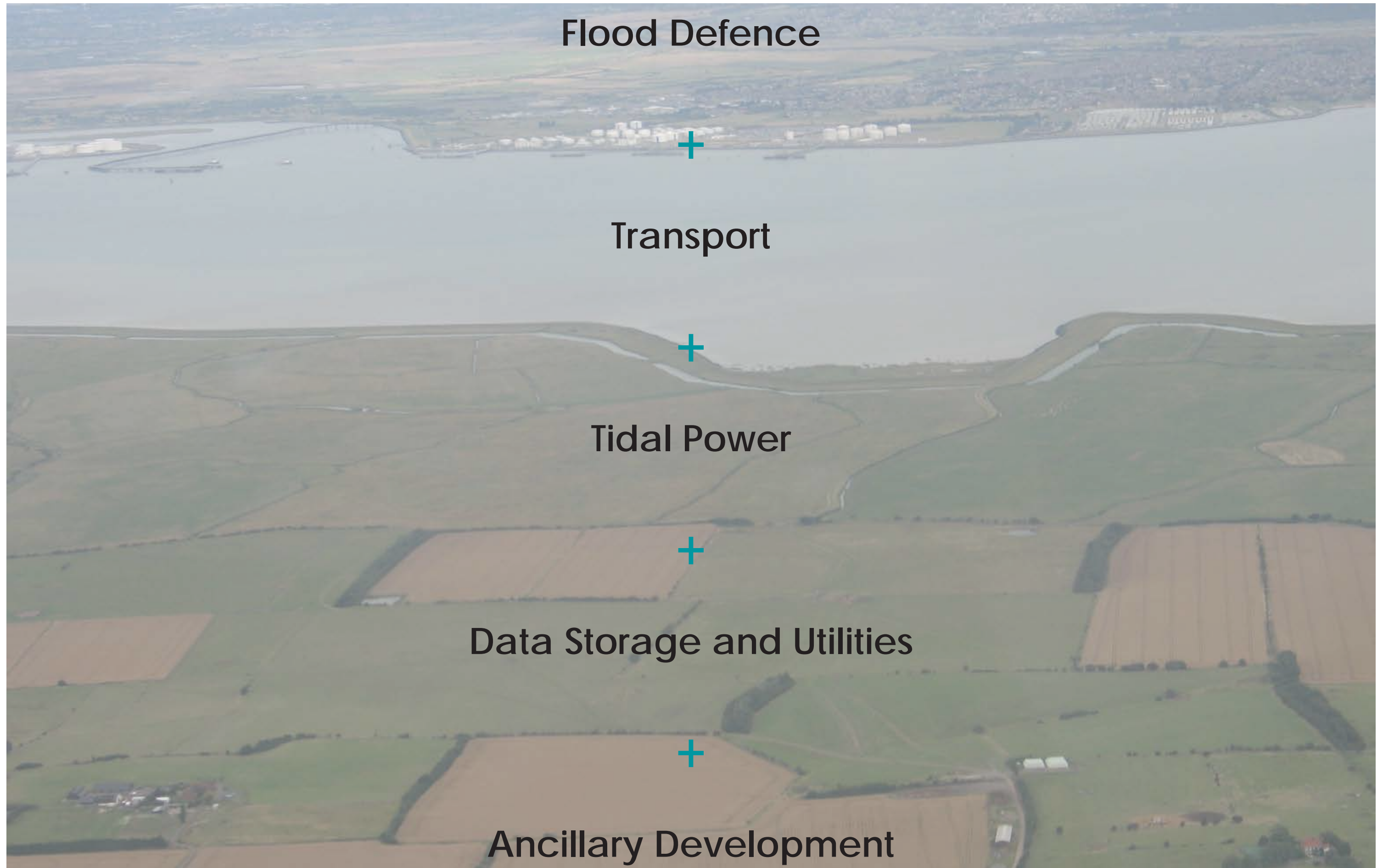


HISTORIC SYSTEM
GROWTH IN THE WEST



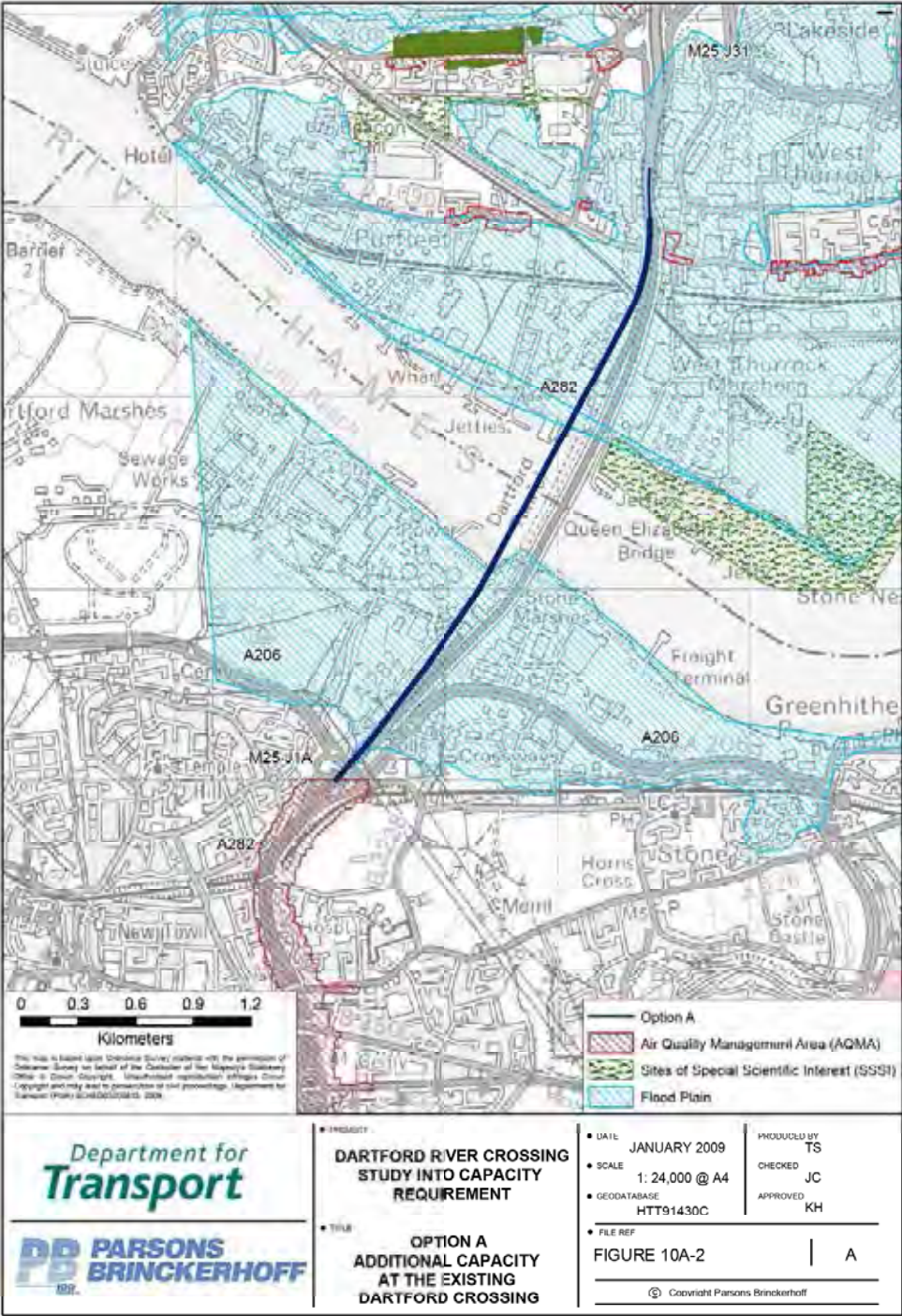
PROPOSED SYSTEM
GROWTH IN THE EAST

INTEGRATION



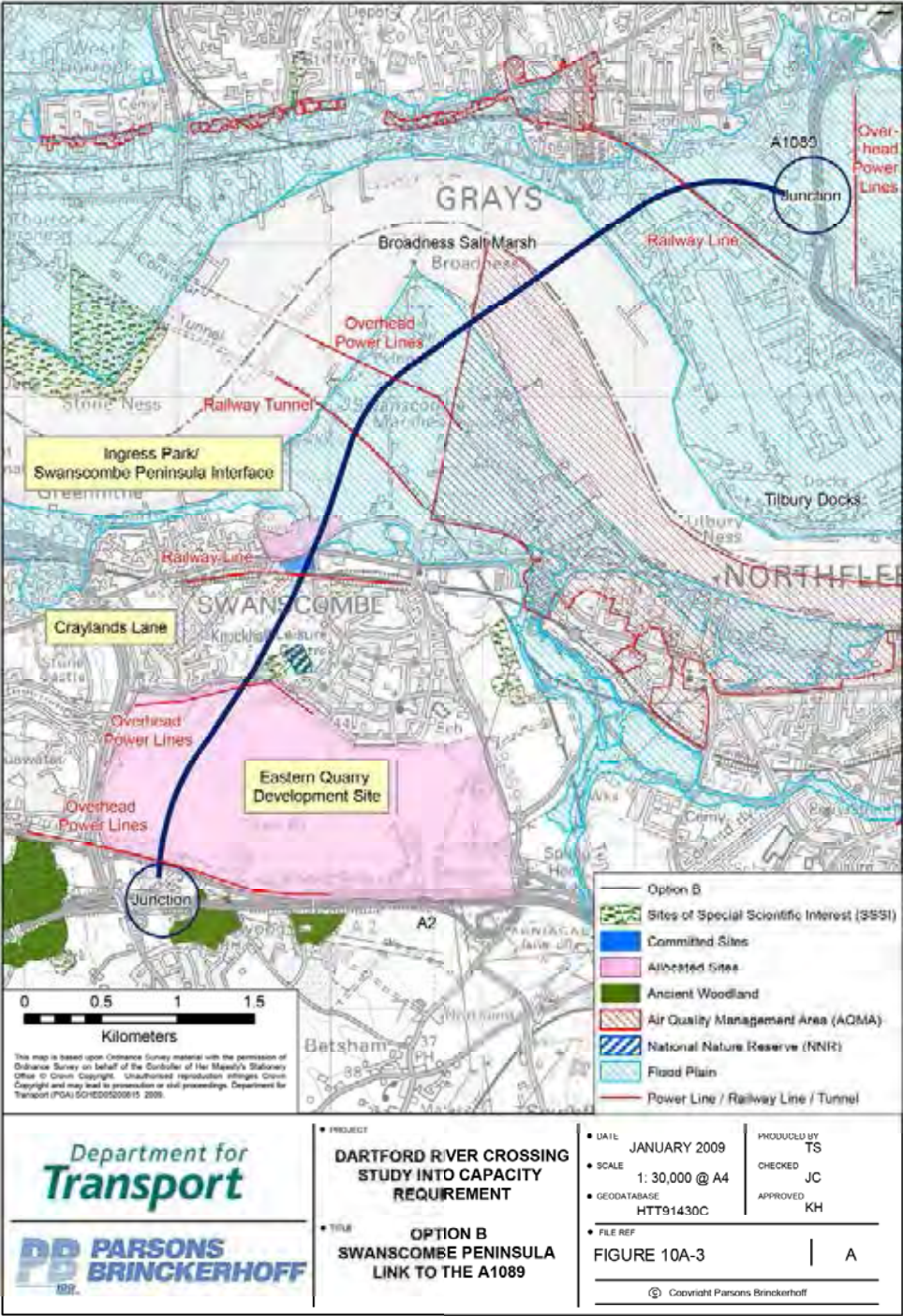
DFT ROAD BRIDGE OPTIONS

A



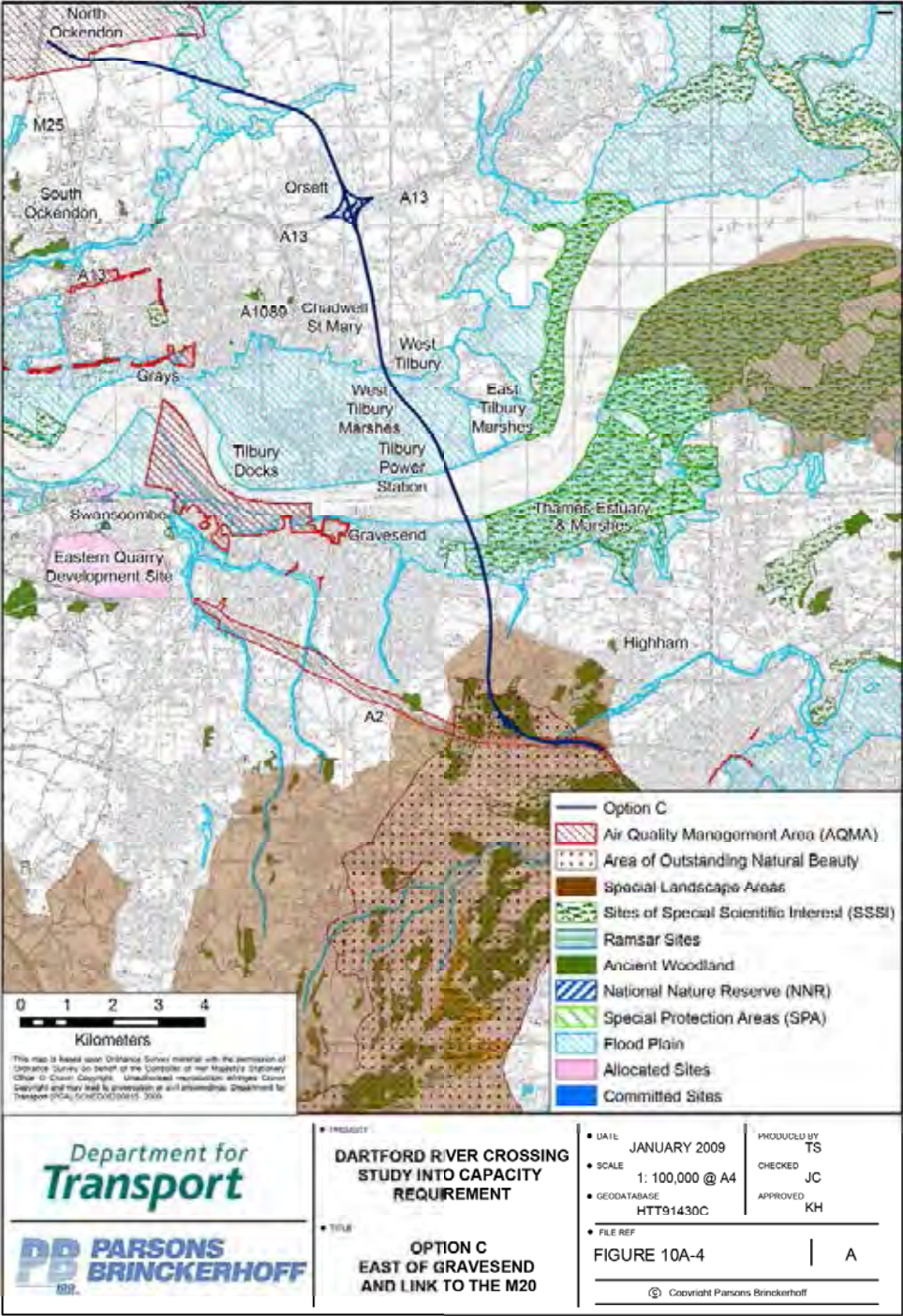
DARTFORD CROSSING

B



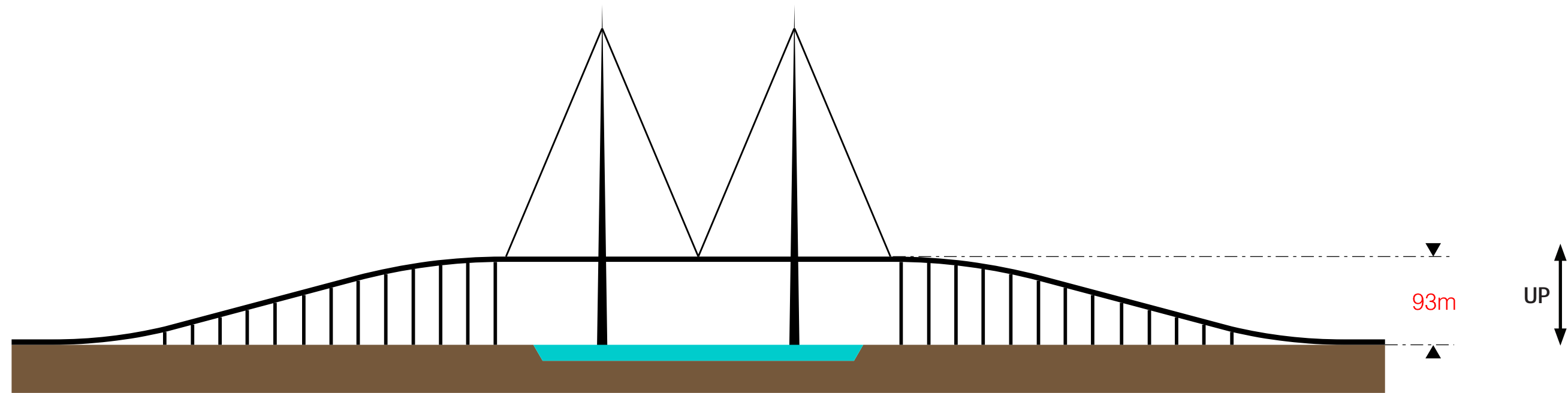
SWANSCOMBE PENINSULA

C



EAST OF GRAVESEND

MULTI-MODAL TUNNEL vs ROAD-ONLY BRIDGE



ROAD ONLY BRIDGE



MULTI-MODAL IMMERSED TUBE TUNNEL

BENEFITS:

- A road-only bridge cannot advance a green-growth agenda
- A multi-modal bridge requires long approaches and heavy structures for freight trains
- A cable stayed bridge uses more steel so costs more than a ferro-concrete tunnel
- A tunnel is more robust in adverse weather
- A tunnel has a much lower visual impact and less impact on land values
- **A tunnel results in a lower carbon audit and less air pollution once traffic movement is taken into account.**

LOWER THAMES TUNNEL OPTIONS

Tilbury & Rosherville:

Hadleigh and Allhallows:

Minimum cost and impact

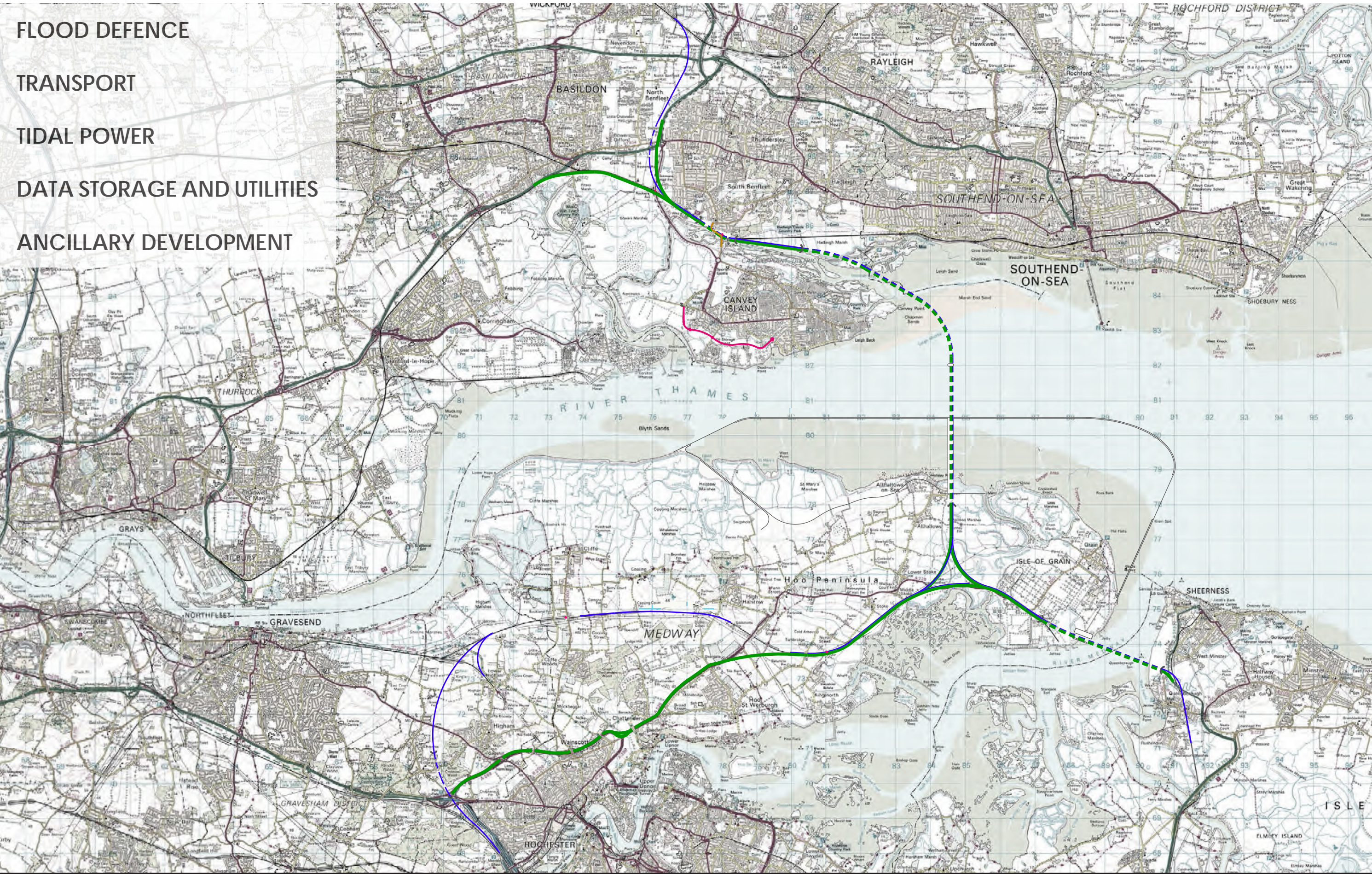
Maximum integration

KEY FOR ROUTES:

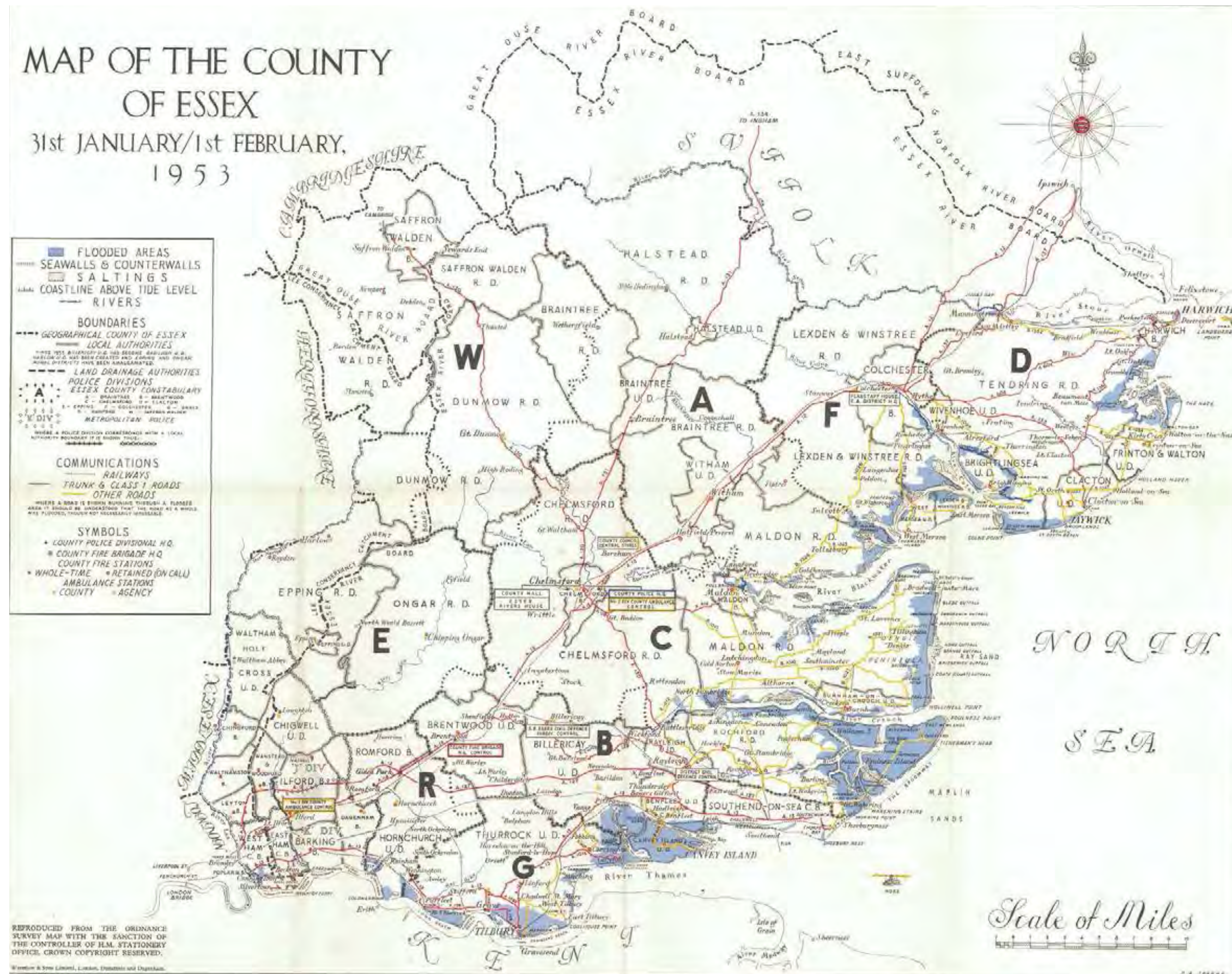
- 1 Thurrock and Swanscombe
- 2 **Tilbury and Rosherville**
- 3 Tilbury and Denton
- 4 East Tilbury Marshes and Higham Marshes
- 5 Mucking Marshes and Higham Marshes
- 6 Shellhaven and Cliffe Marshes
- 7 West Canvey and St. Mary's Marshes
- 8 East Canvey and Allhallows Marshes
- 9 **Hadleigh Marsh and Allhallows Marshes**
- 10 Southend-on-Sea and Allhallows Marshes



METROTIDAL TUNNEL (Hadleigh and Allhallows)

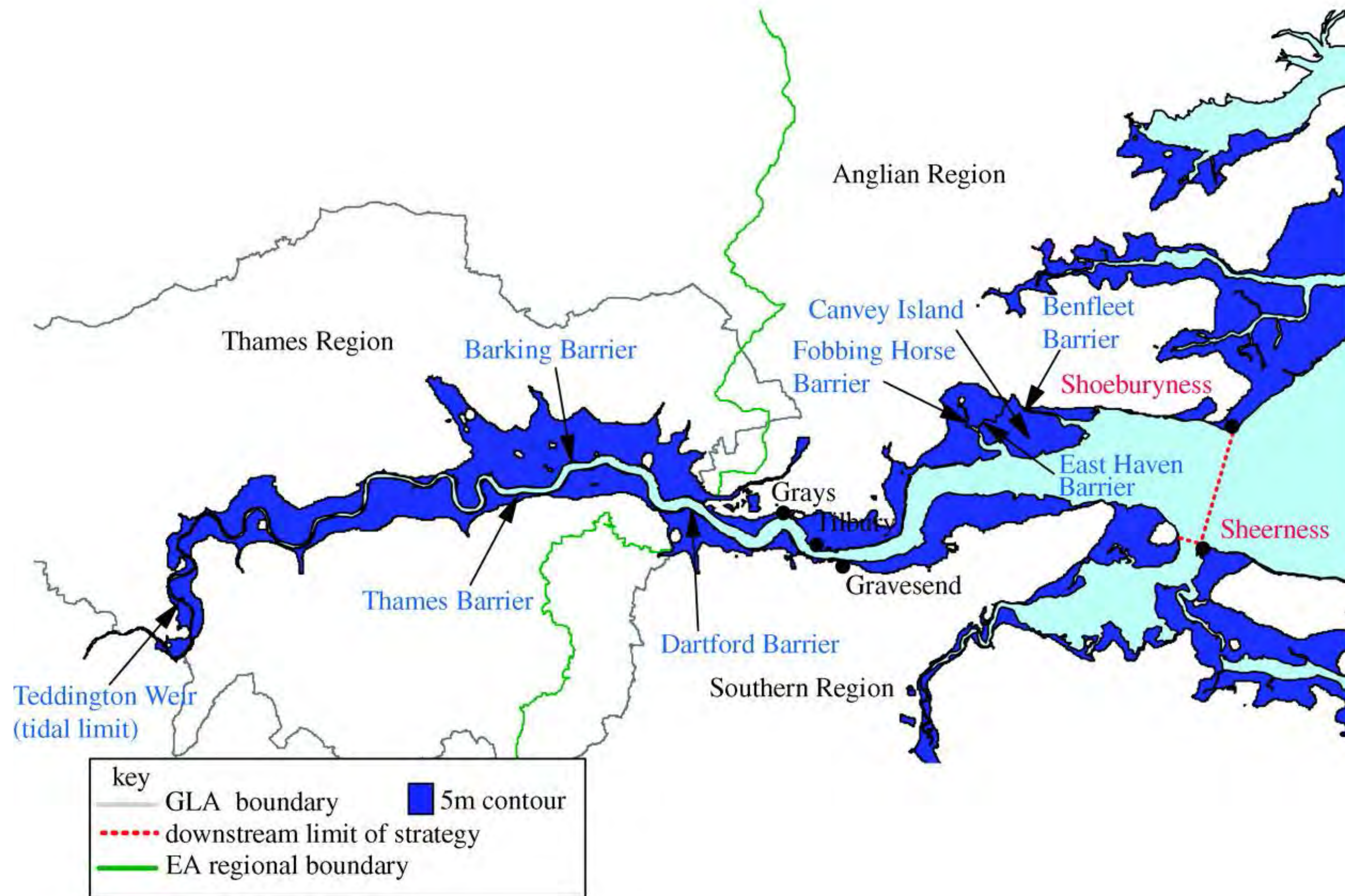


FLOOD DEFENCE



FLOOD DEFENCE

THAMES ESTUARY FLOOD RISK AREAS



FLOOD DEFENCE

FLOOD STORAGE AREAS

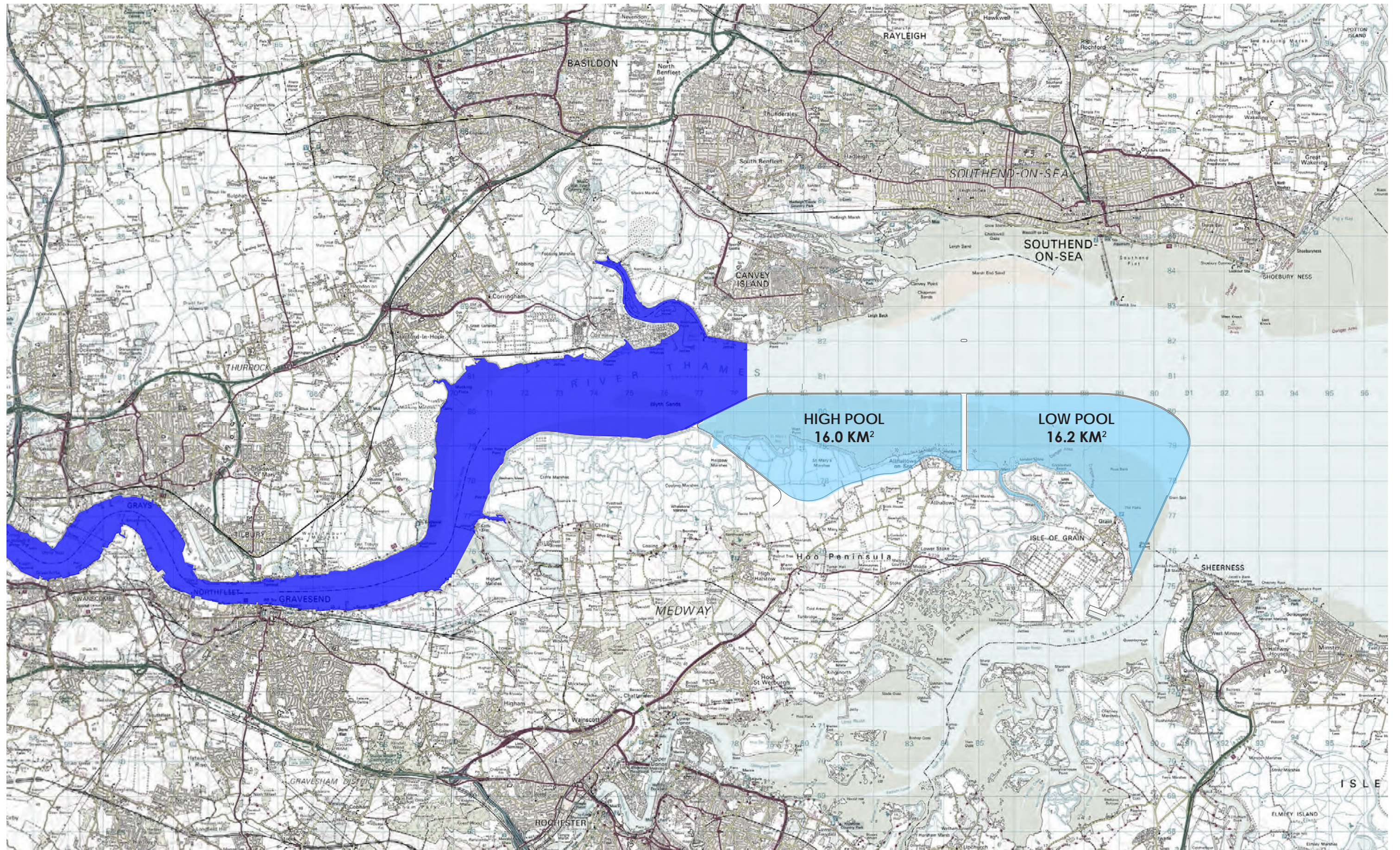
 Tideway Area (Canvey Island to Thames Barrier) - 54.0km²

 Flood Storage Area - 32.2km²

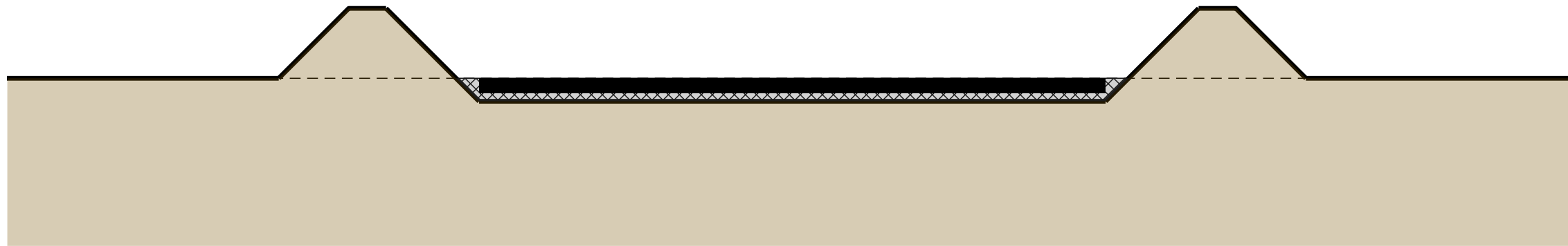


FLOOD DEFENCE

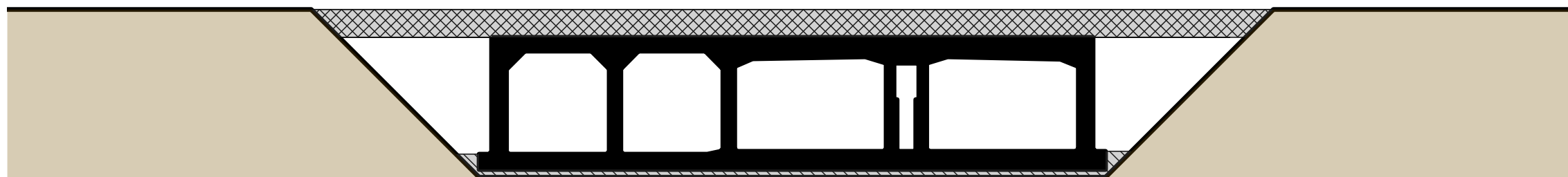
FLOOD STORAGE AREAS



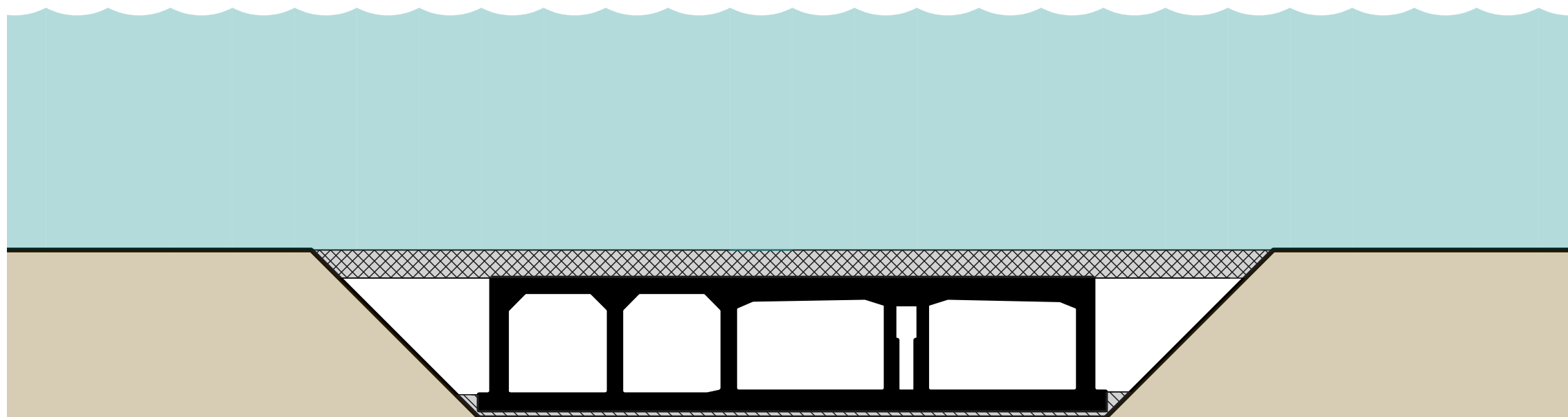
D2T2 TUNNEL CONSTRUCTION



OPEN-CUT TUNNEL APPROACHES

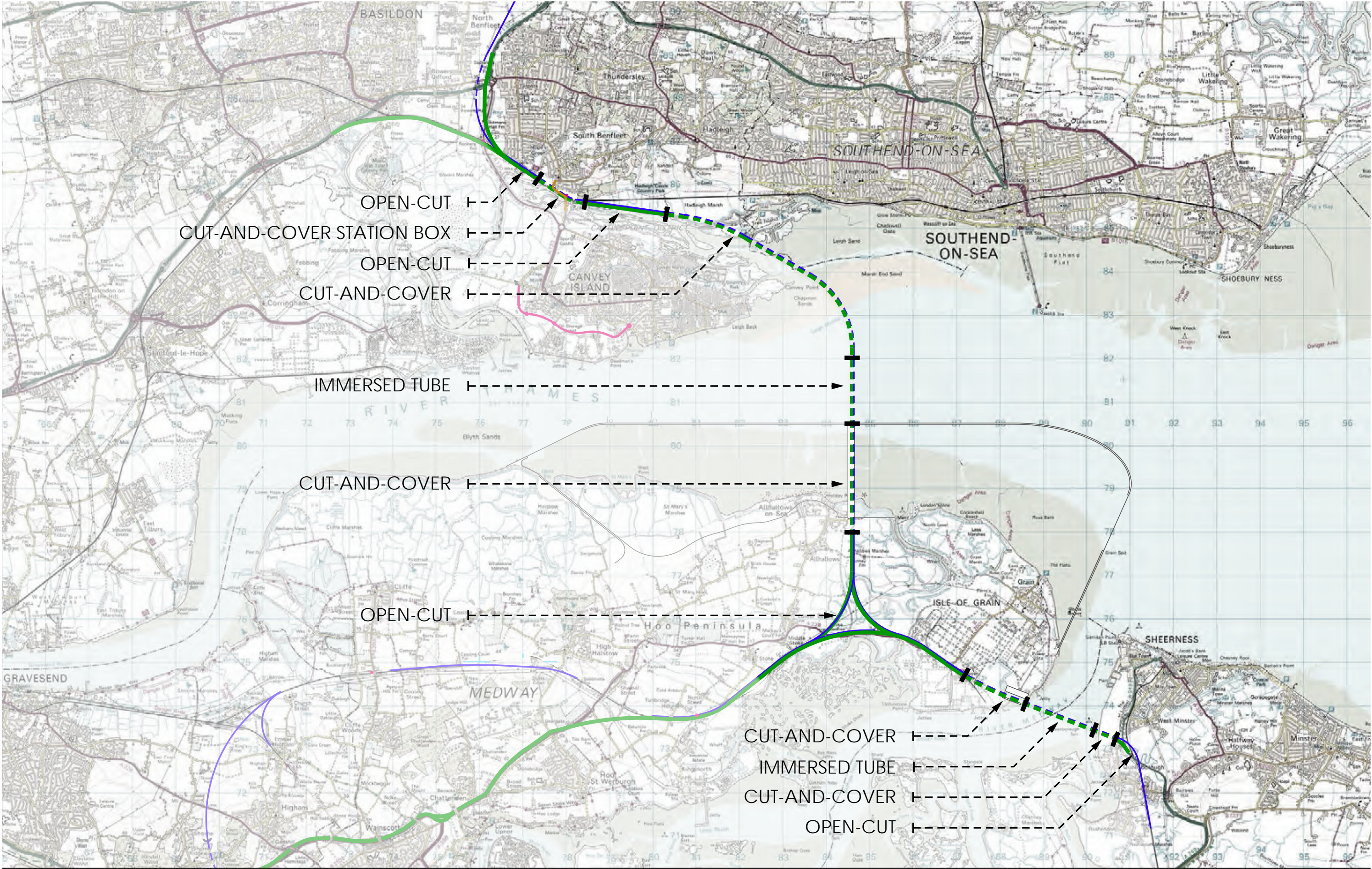


CUT-AND-COVER ACROSS INTERTIDAL AREAS

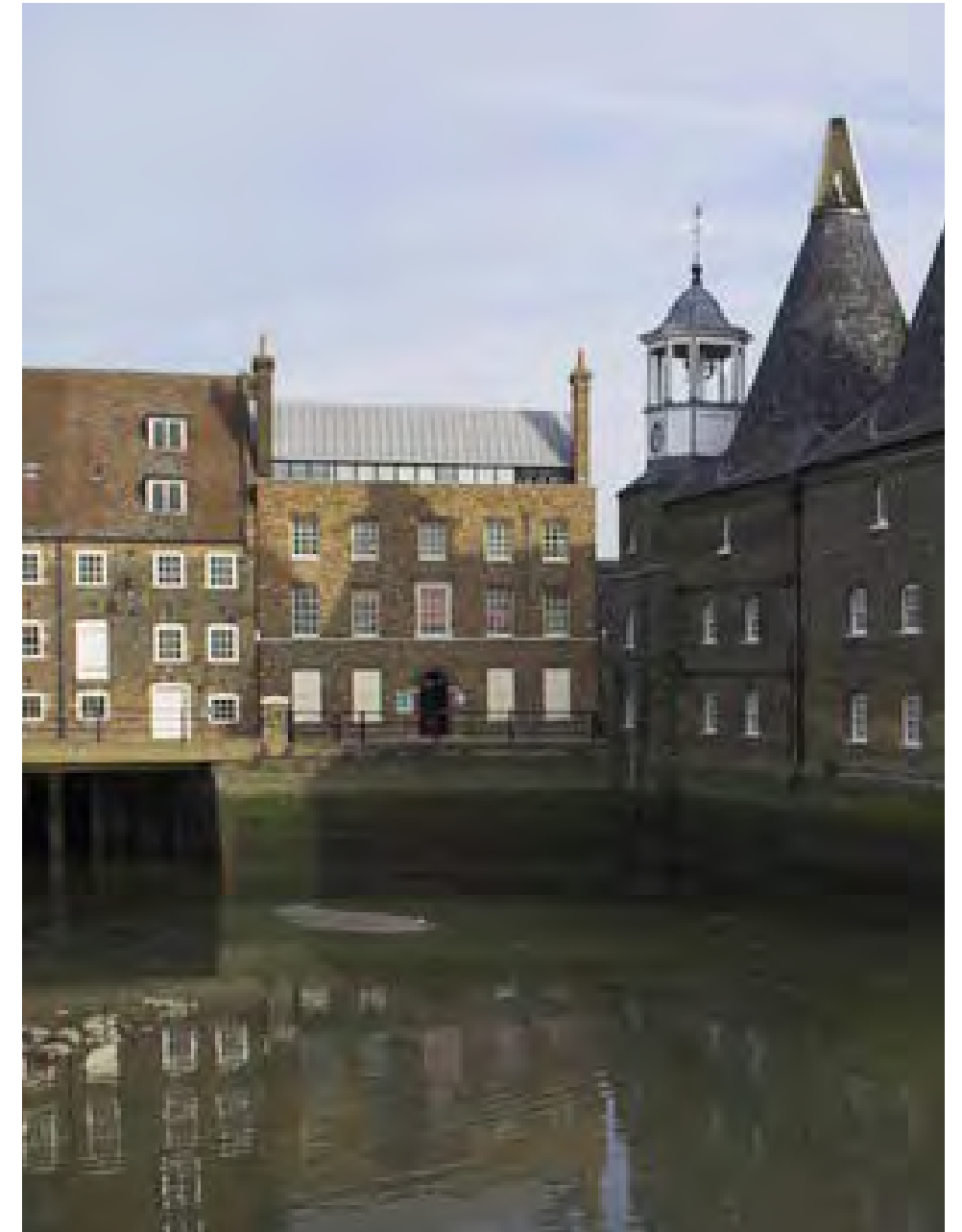


CUT-AND-COVER UNDER RIVER

TUNNEL CONSTRUCTION



TIDAL POWER



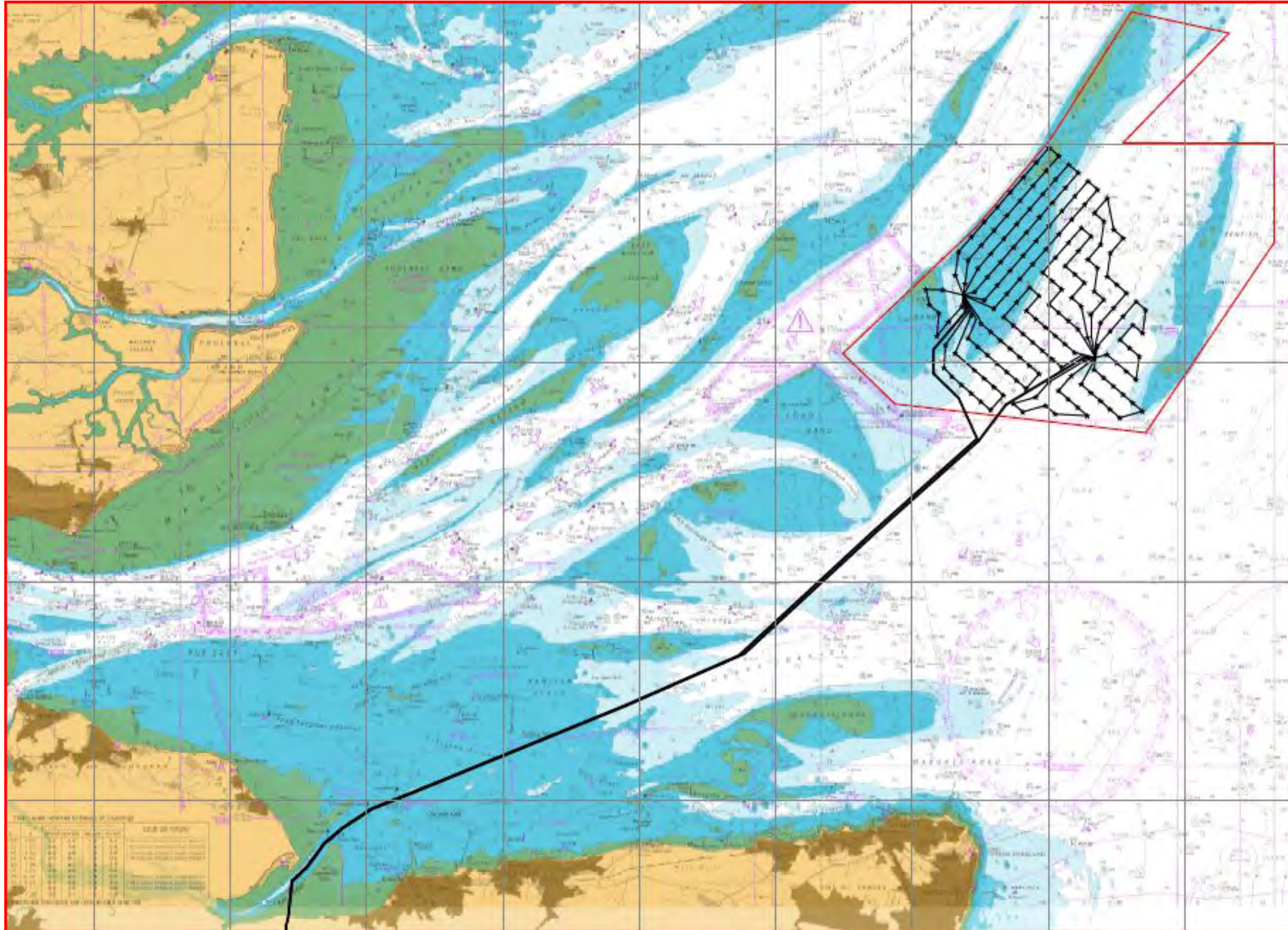
TIDAL POWER

THORRINGTON TIDE MILL, ESSEX



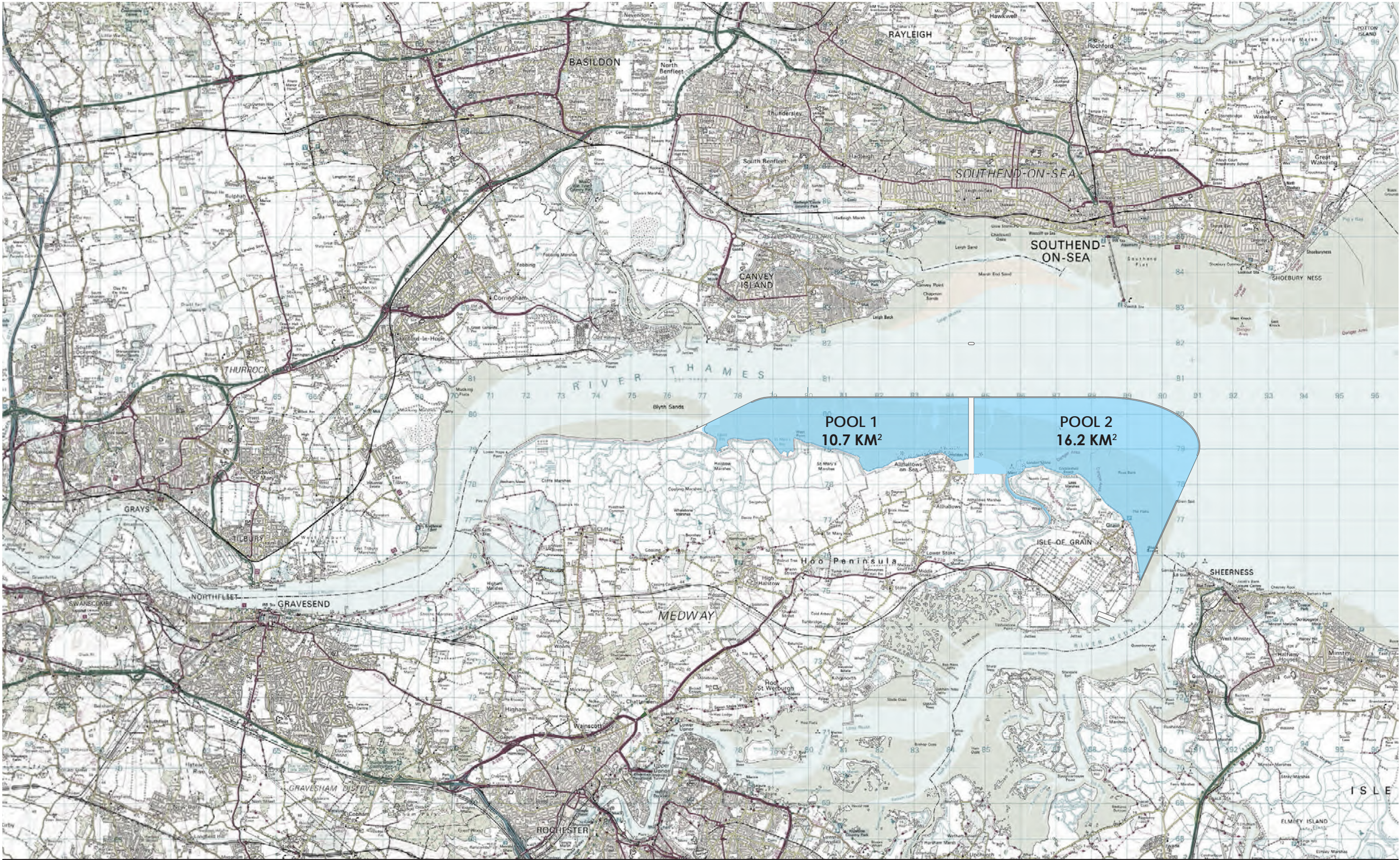
TIDAL POWER

LONDON ARRAY MAP



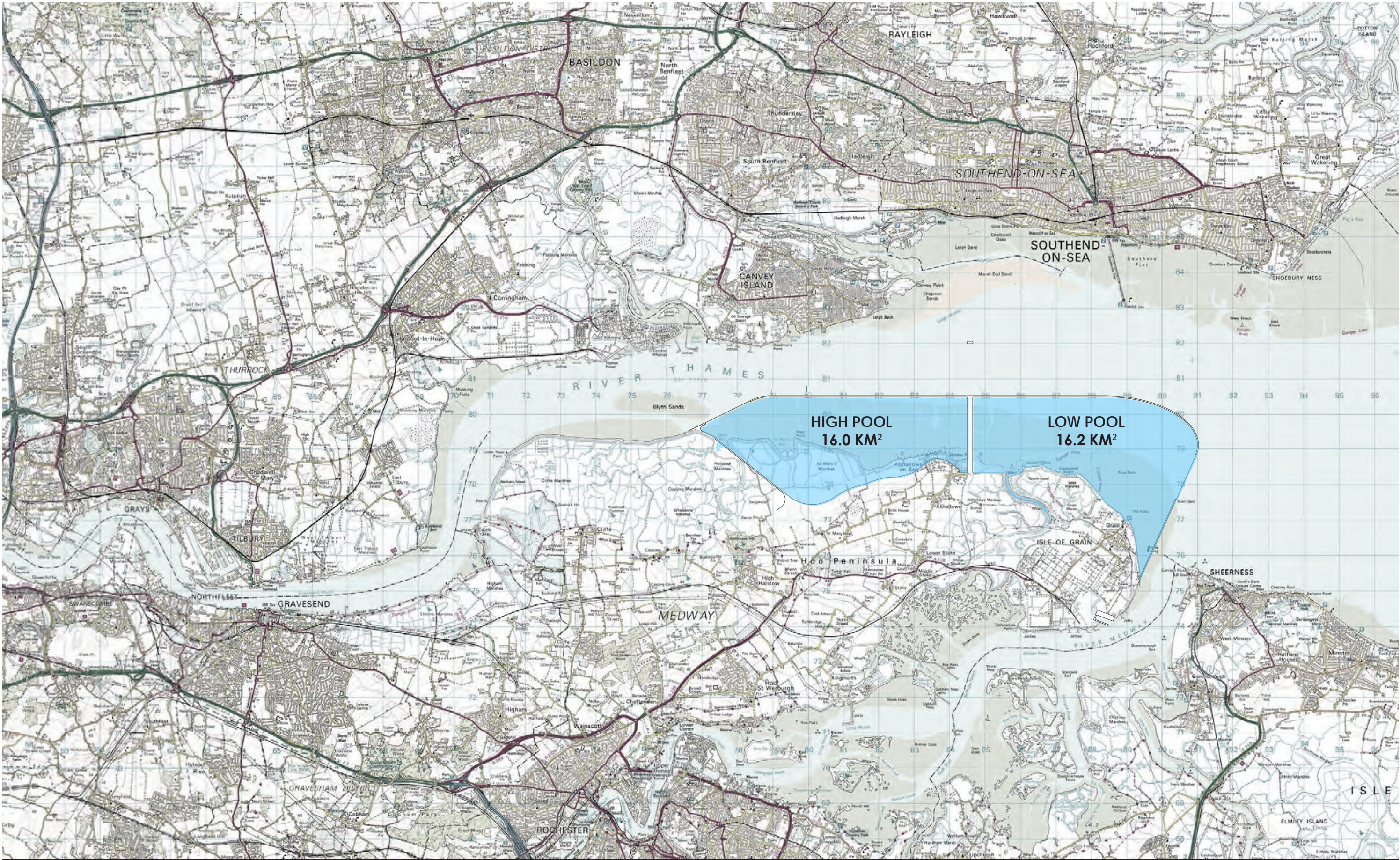
TIDAL POWER

TIDAL POOLS - EBB AND FLOW

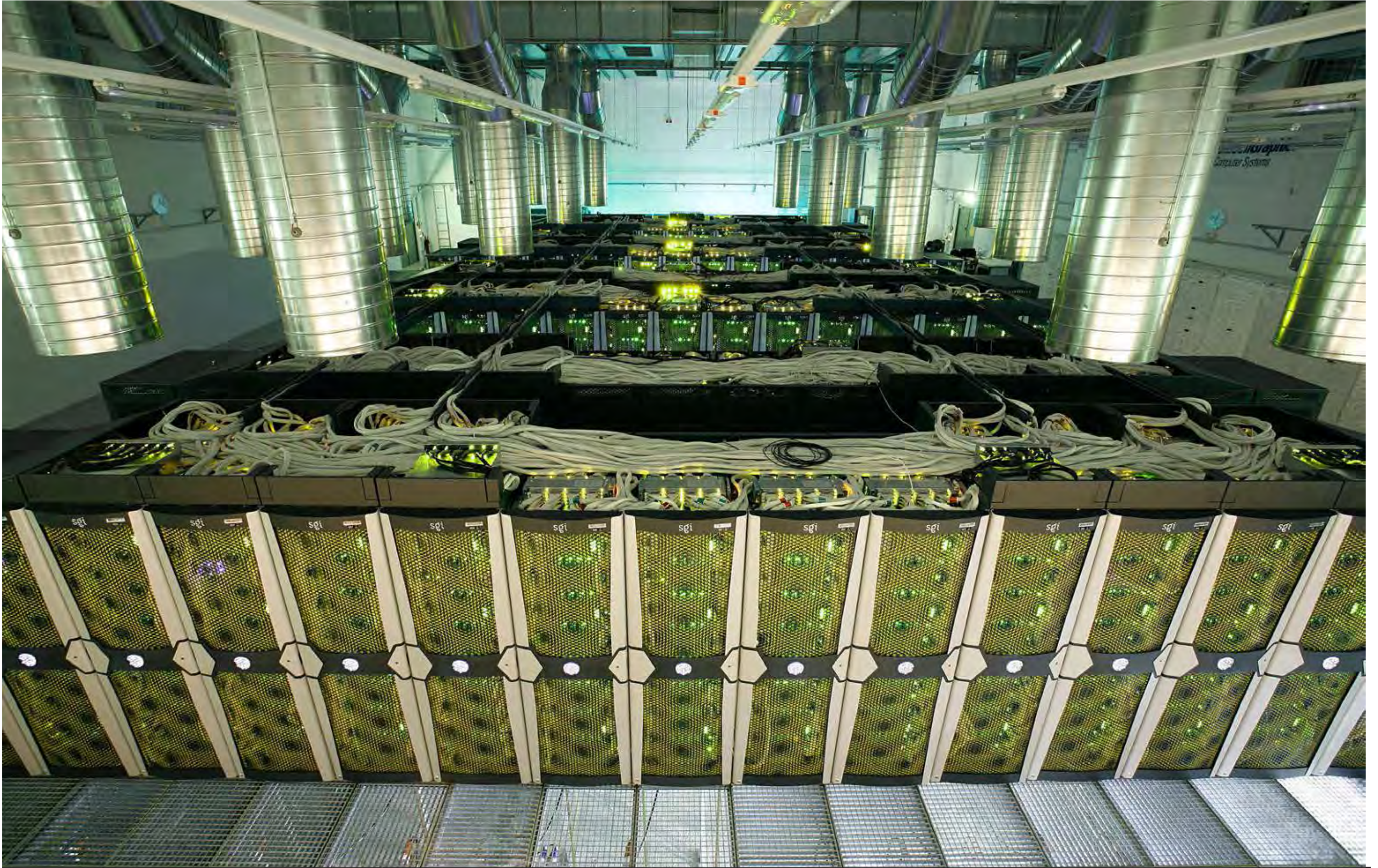


TIDAL POWER

TIDAL POOLS - PUMPED STORAGE



DATA STORAGE AND UTILITIES

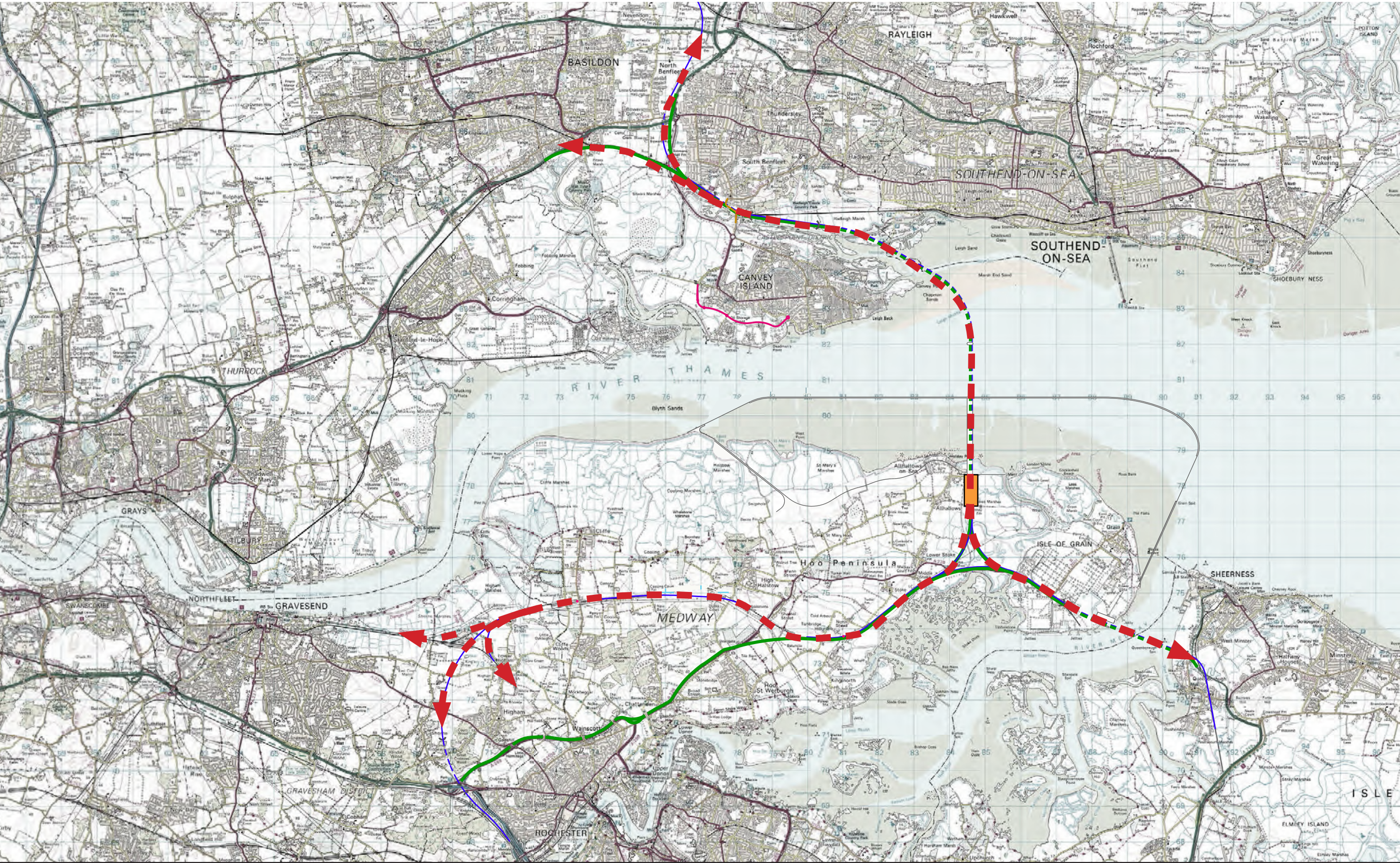


DATA STORAGE AND UTILITIES

INFRASTRUCTURE LINKS

DATA STORAGE

DISTRIBUTION



ANCILLARY DEVELOPMENT

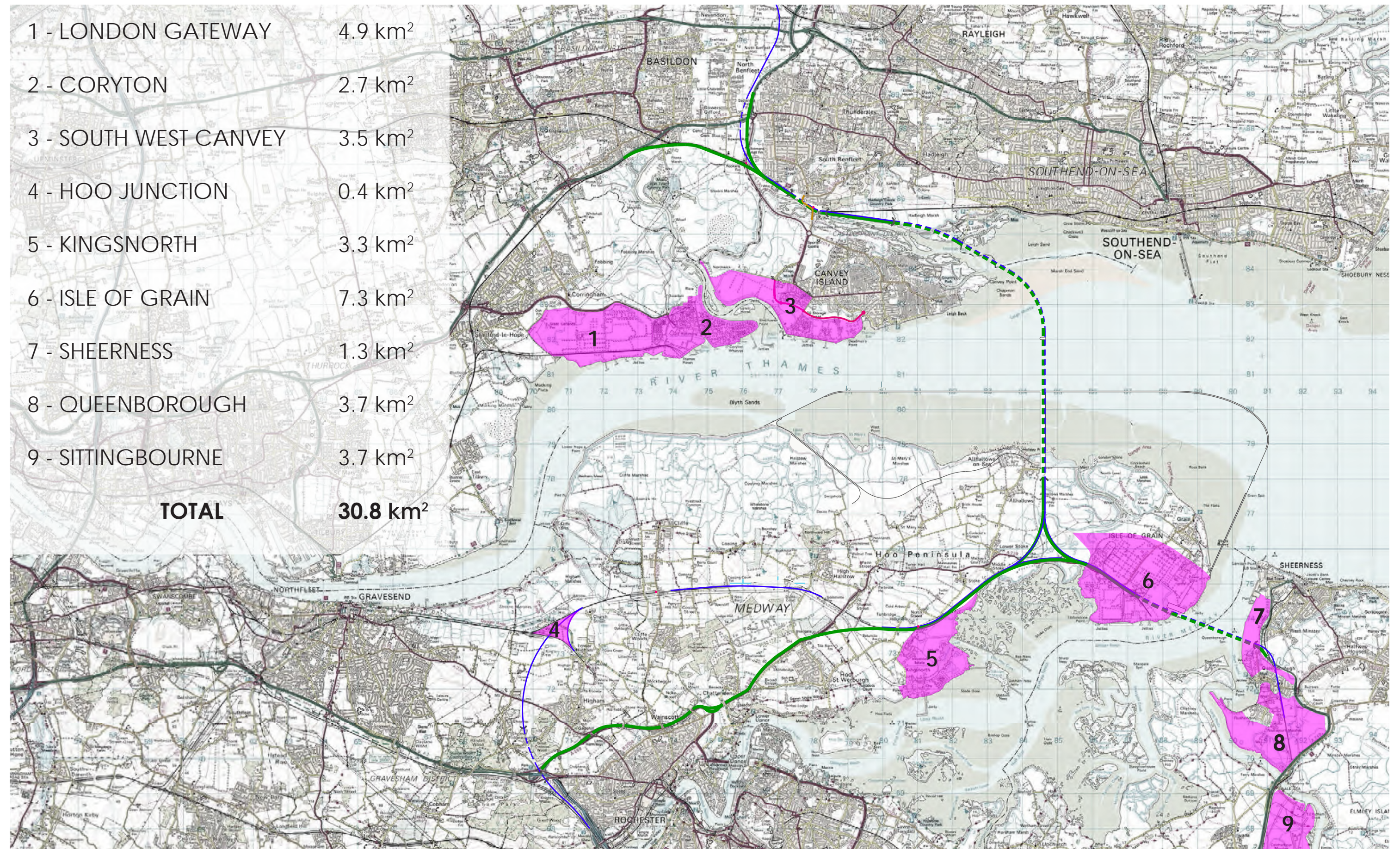
CASTING BASIN DEVELOPED AS DRY DOCK

 Horseshoe Point Dry Dock



ANCILLARY DEVELOPMENT

DEVELOPMENT ZONES



RAIL CONNECTIONS

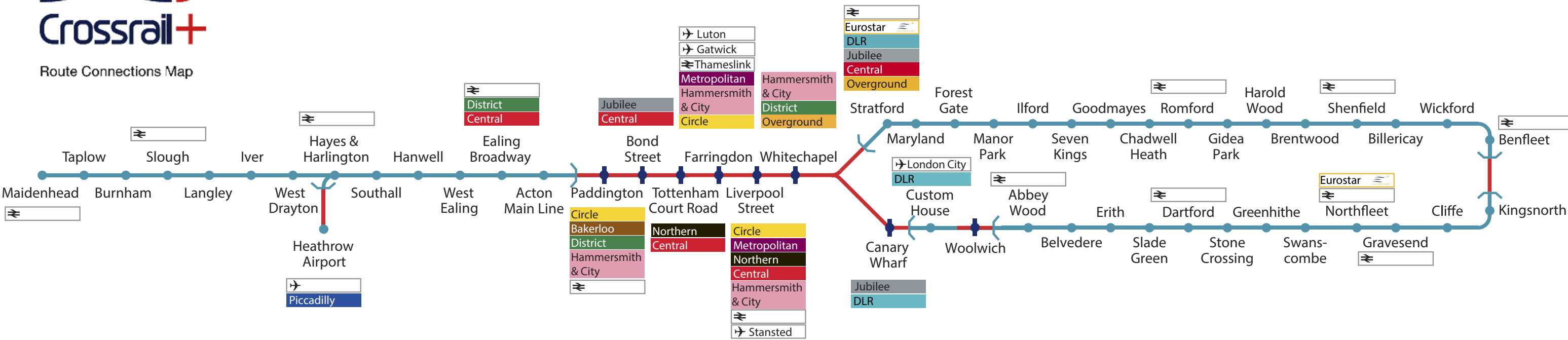


Crossrail

Route Map






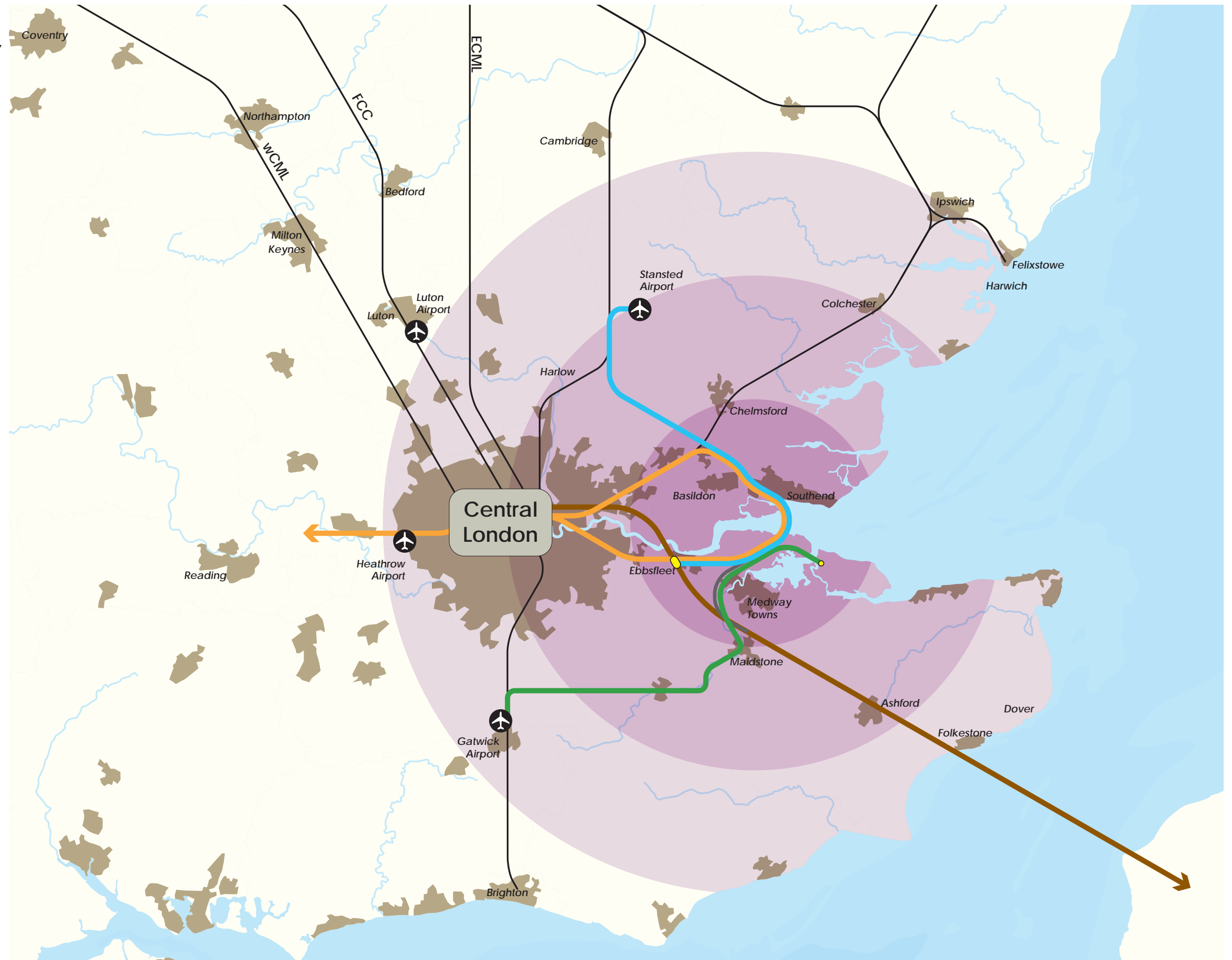
Route Connections Map



RAIL CONNECTIONS

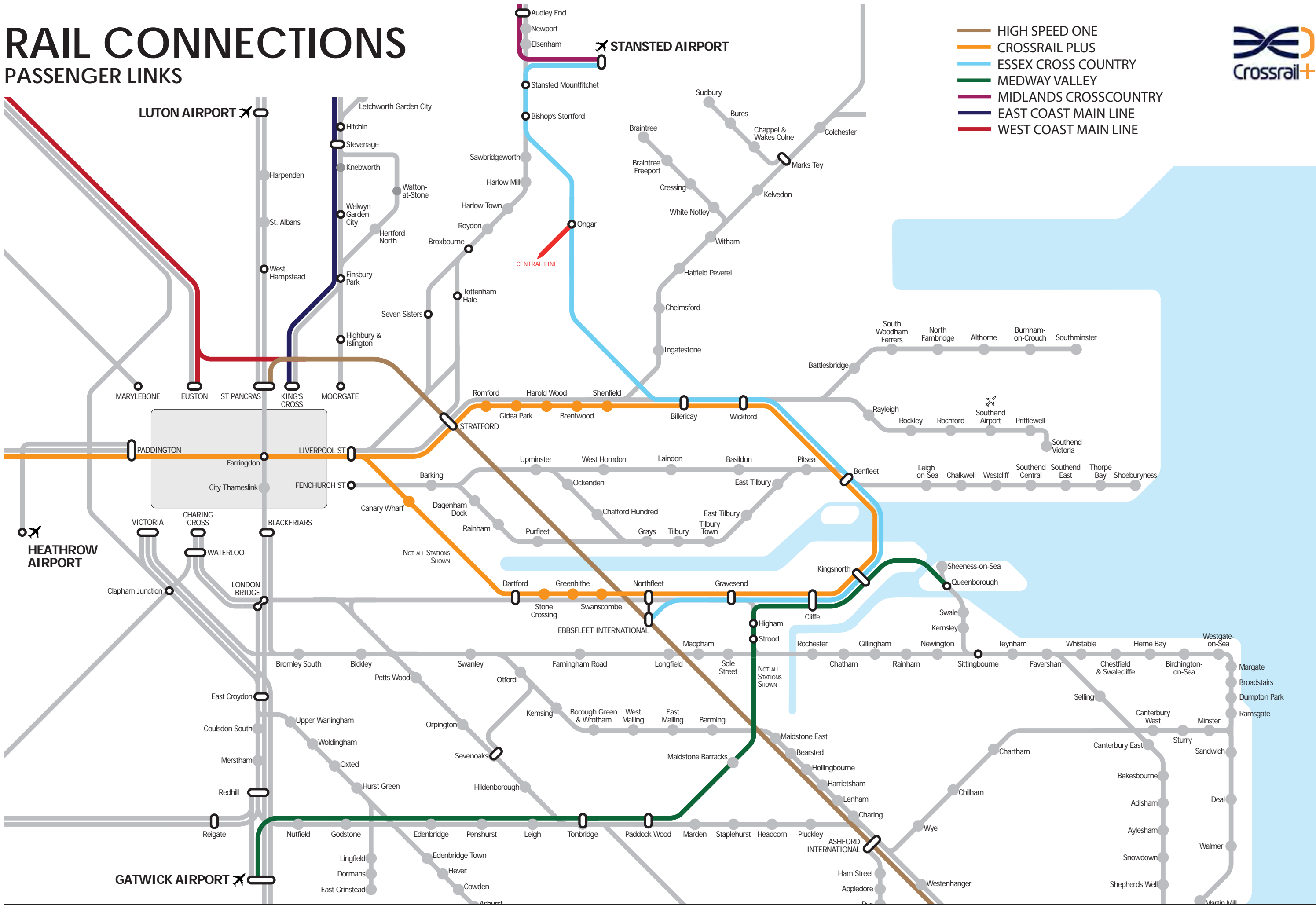
PASSENGER LINKS

-  CROSSRAIL PLUS
-  ESSEX CROSS COUNTRY
-  MEDWAY VALLEY LINE



RAIL CONNECTIONS

PASSENGER LINKS



RAIL CONNECTIONS

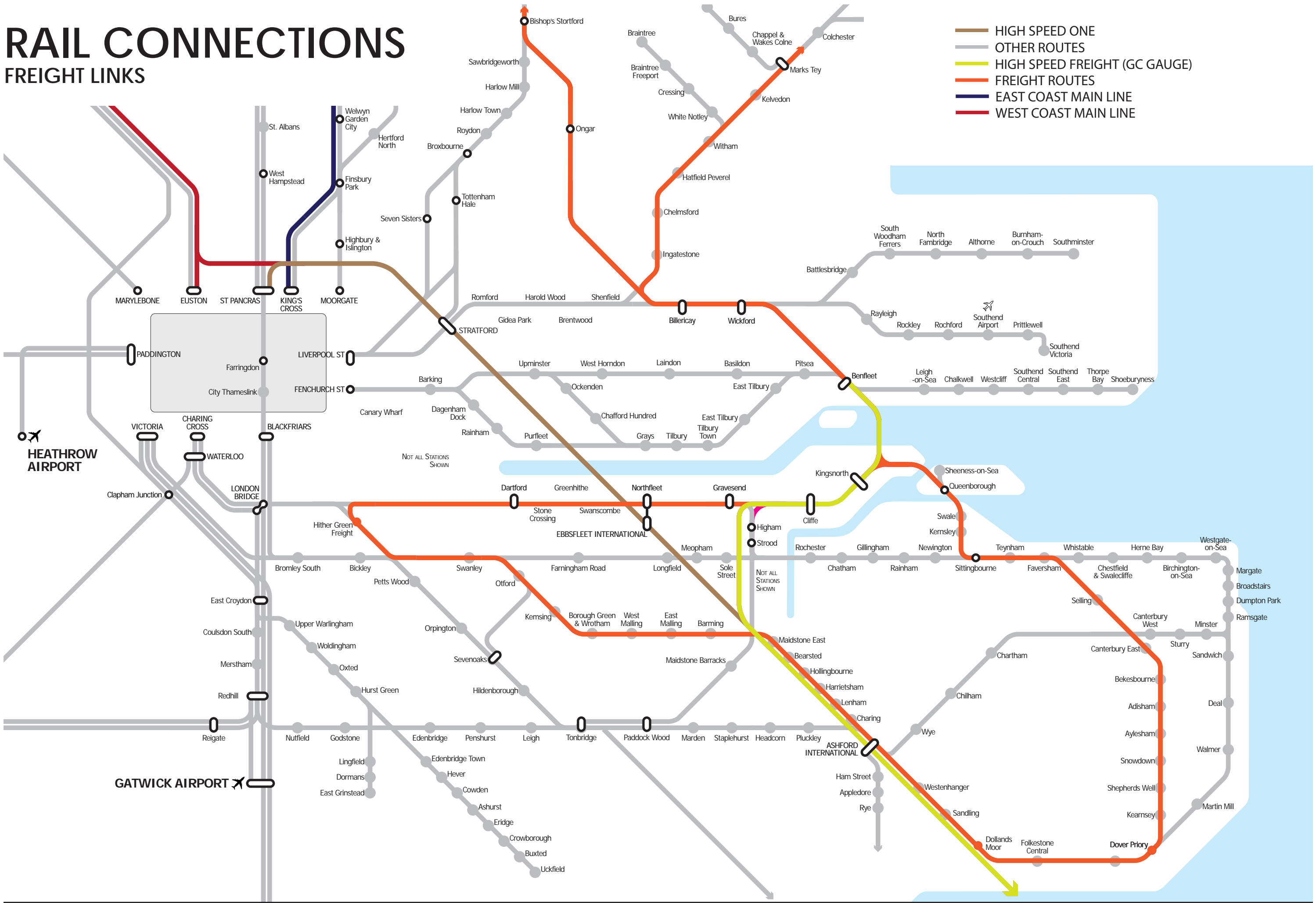
FREIGHT LINKS

- HIGH SPEED 1
- FELIXSTOWE TO NUNEATON ROUTE
- METROTIDAL LINKS






RAIL CONNECTIONS

FREIGHT LINKS

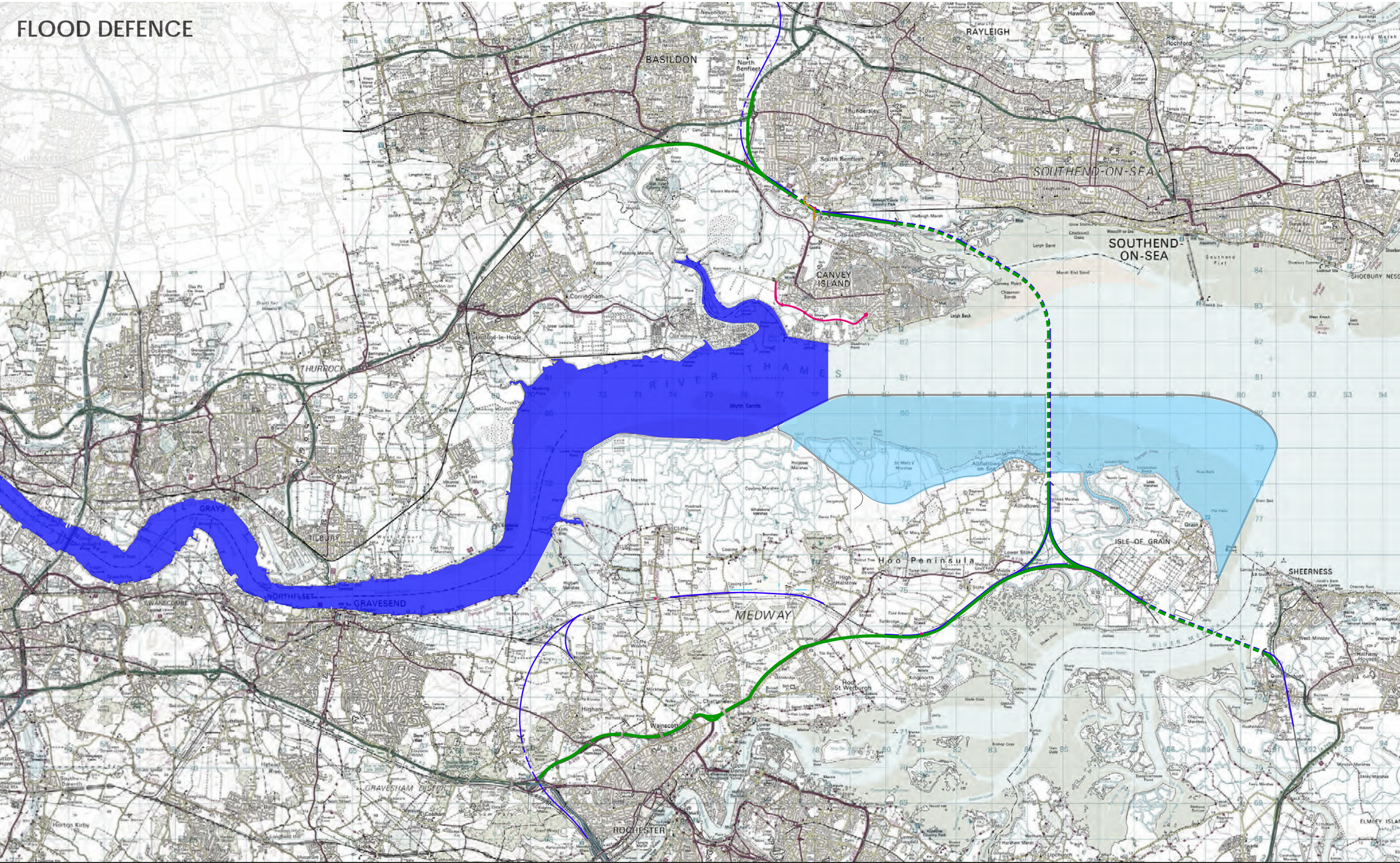


ROAD CONNECTIONS

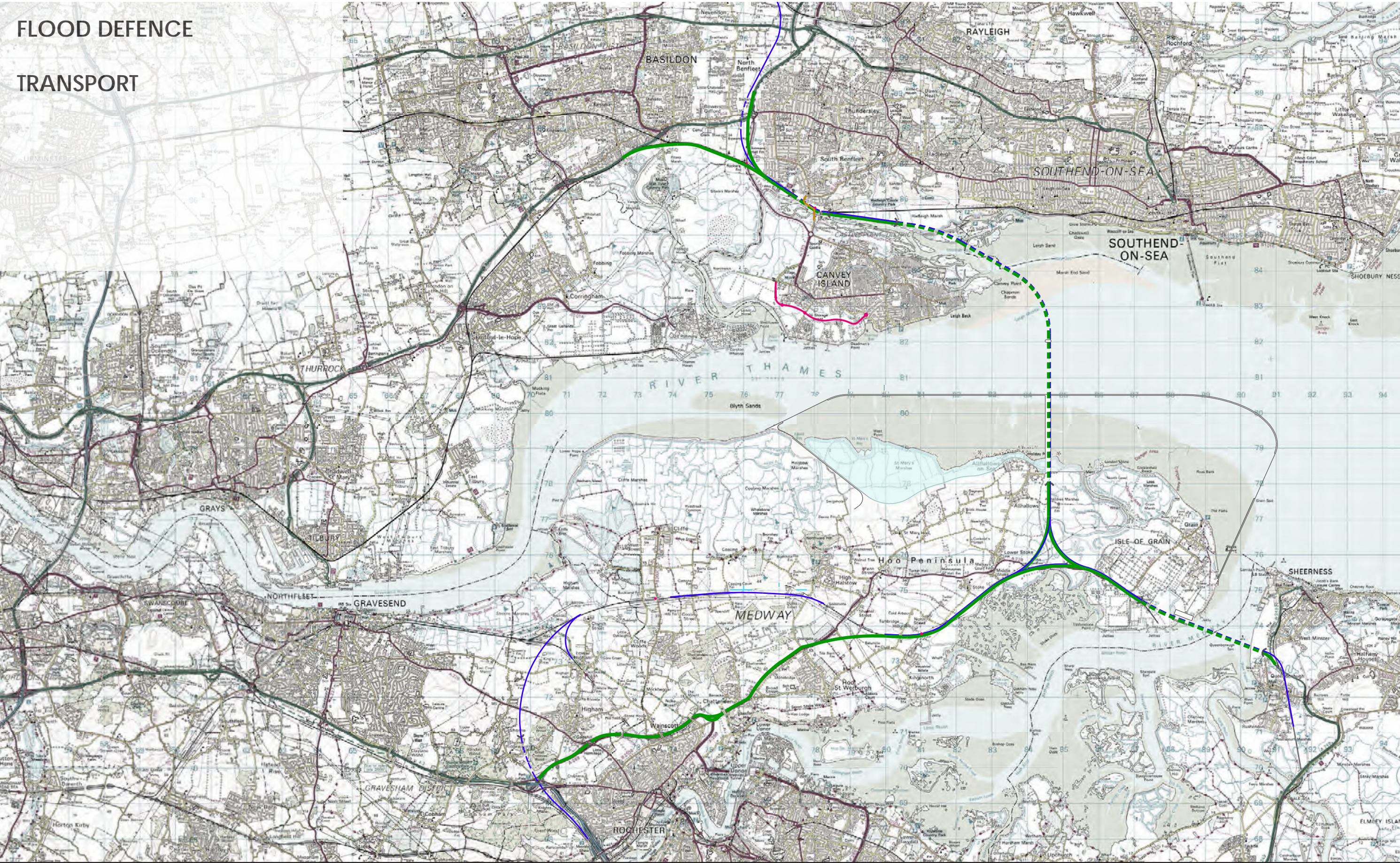
-  MOTORWAYS
-  MAIN ROADS
-  METROTIDAL LINKS



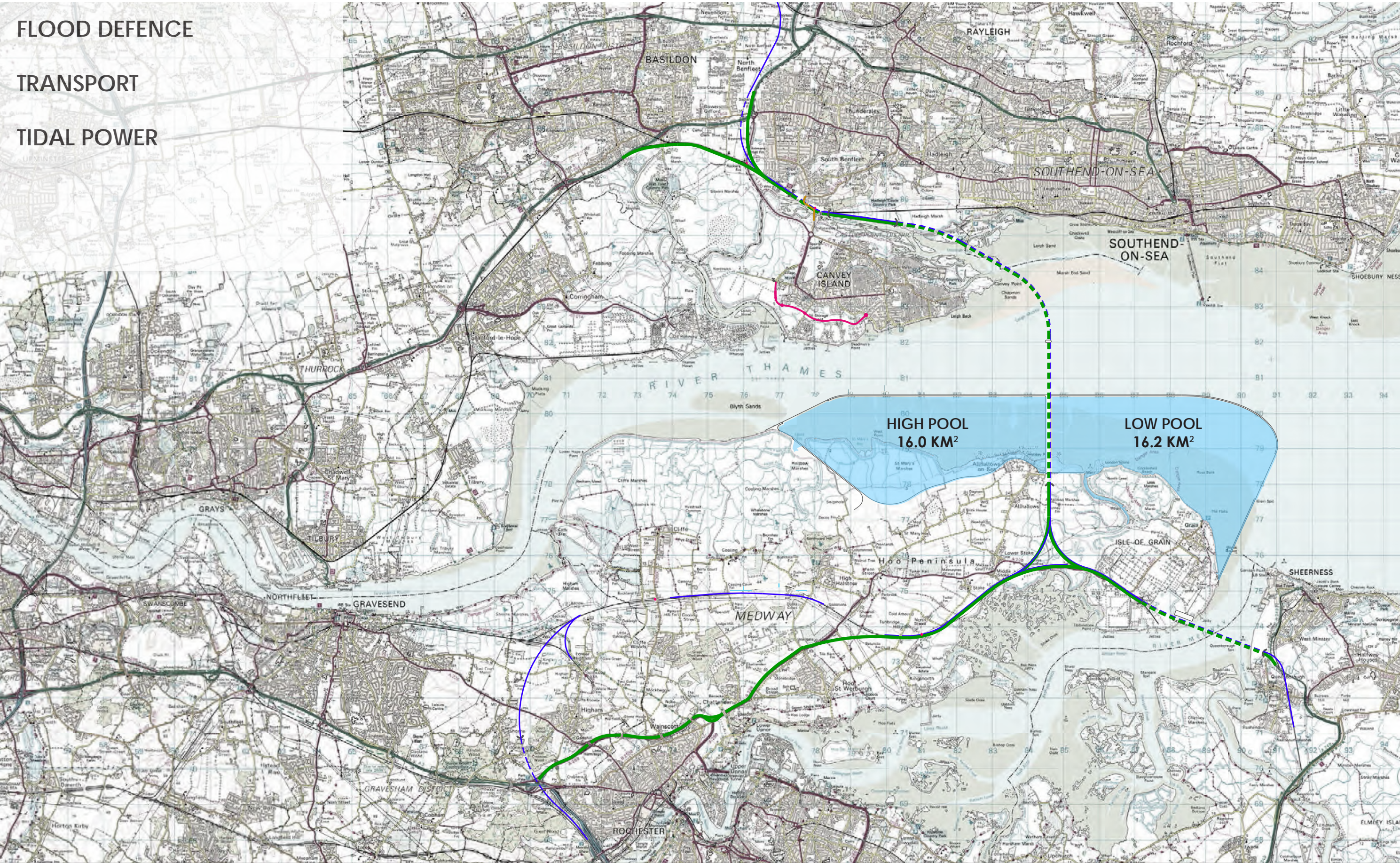
INTEGRATION SUMMARY



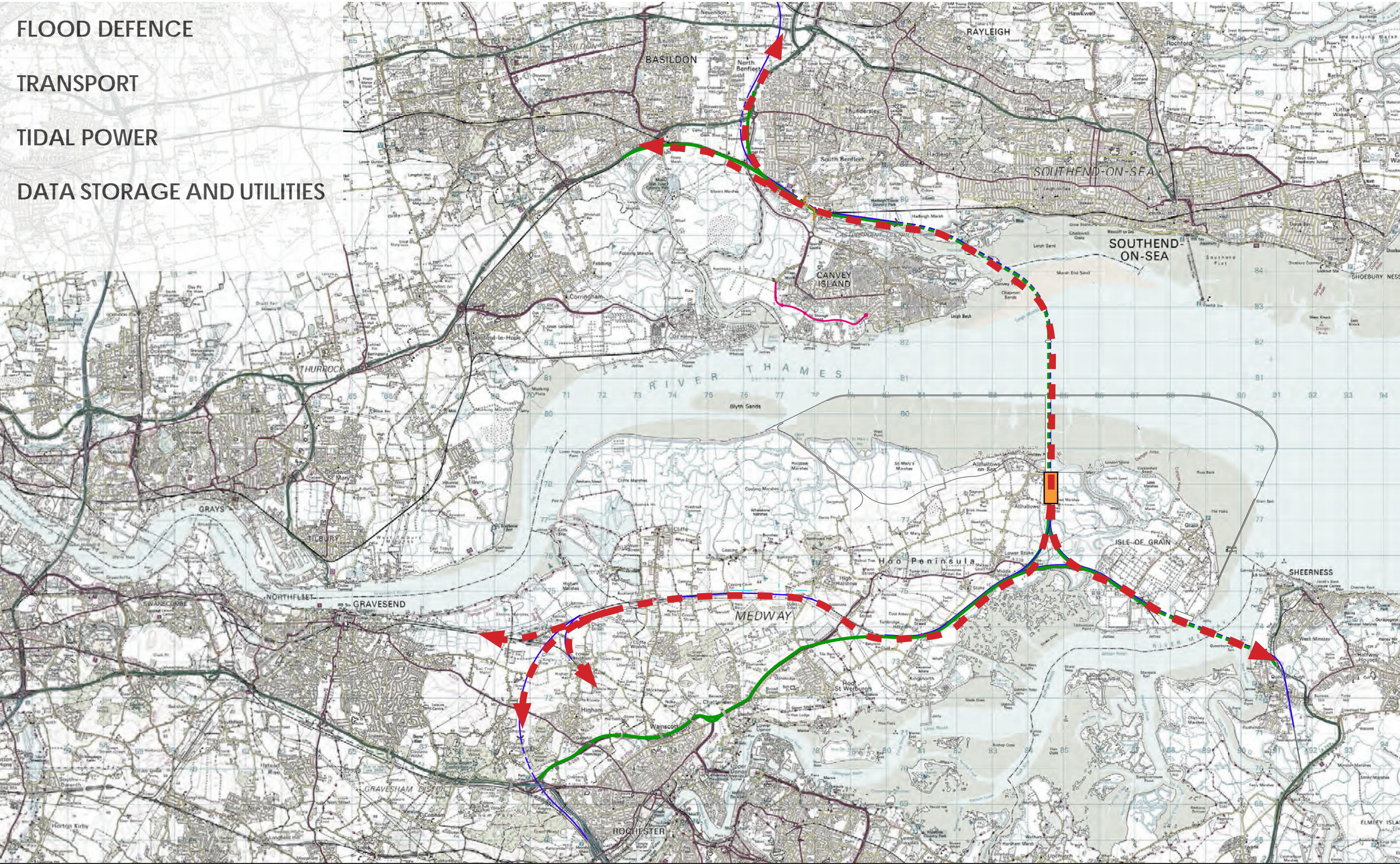
INTEGRATION SUMMARY



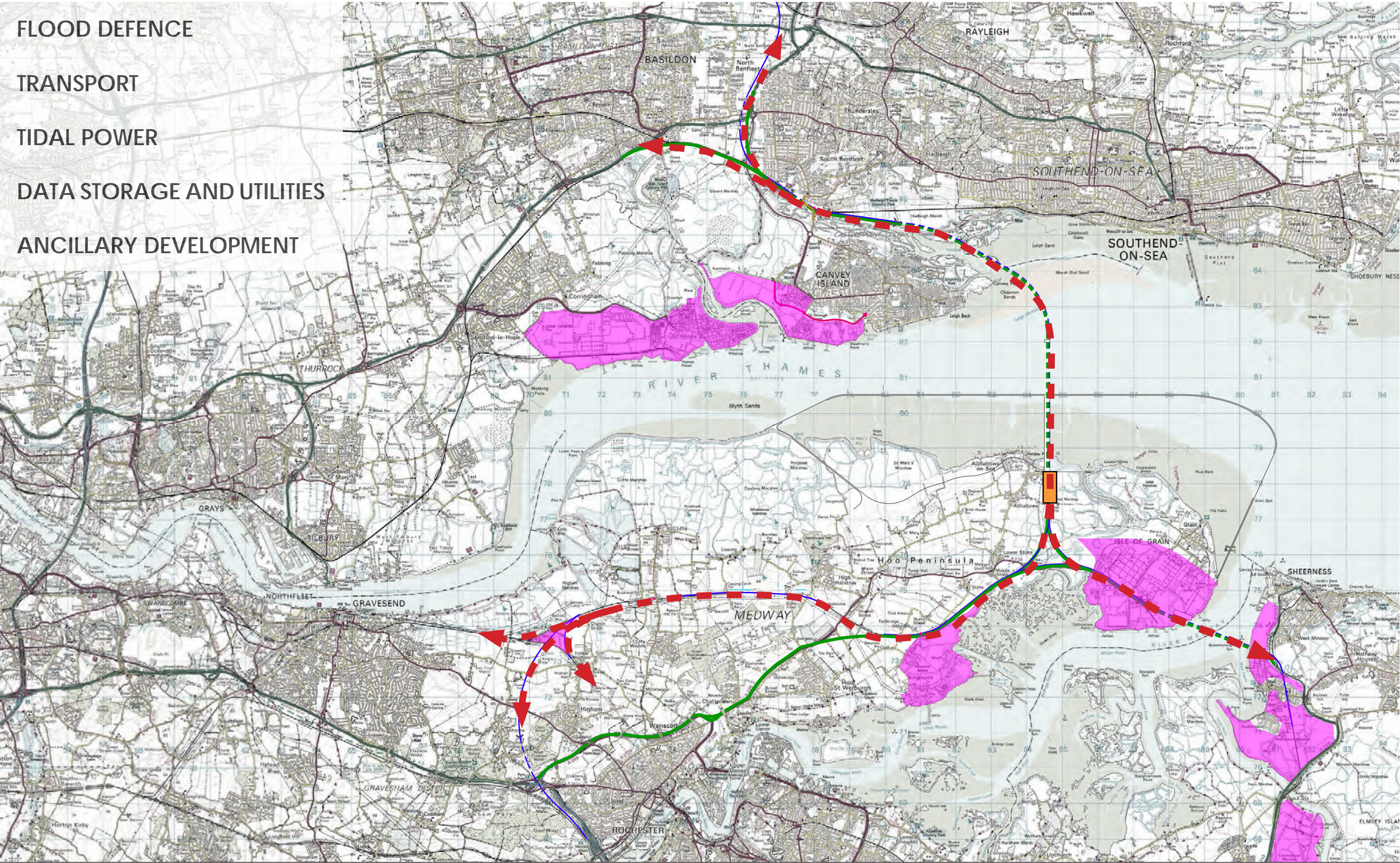
INTEGRATION SUMMARY



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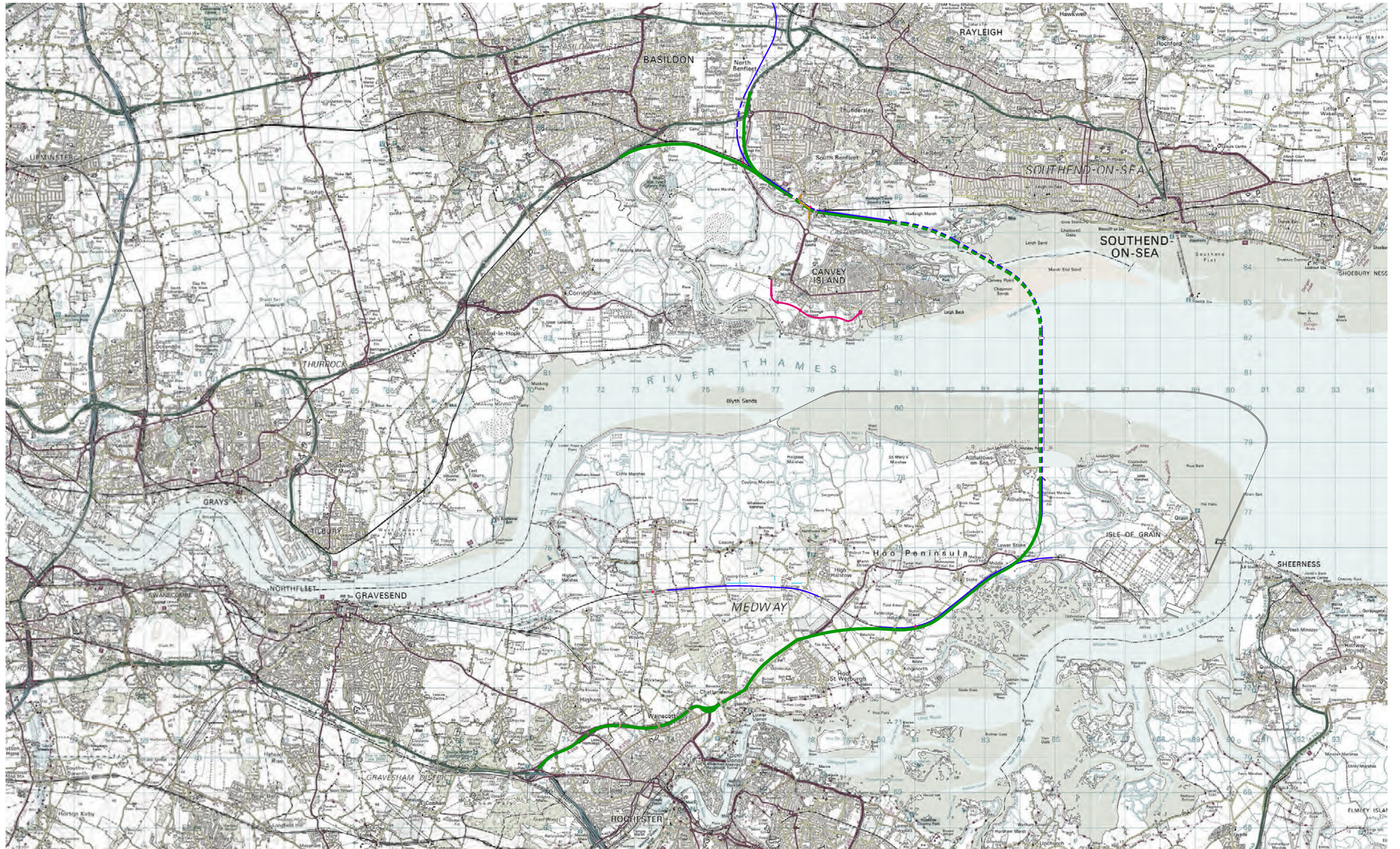


INTEGRATION SUMMARY



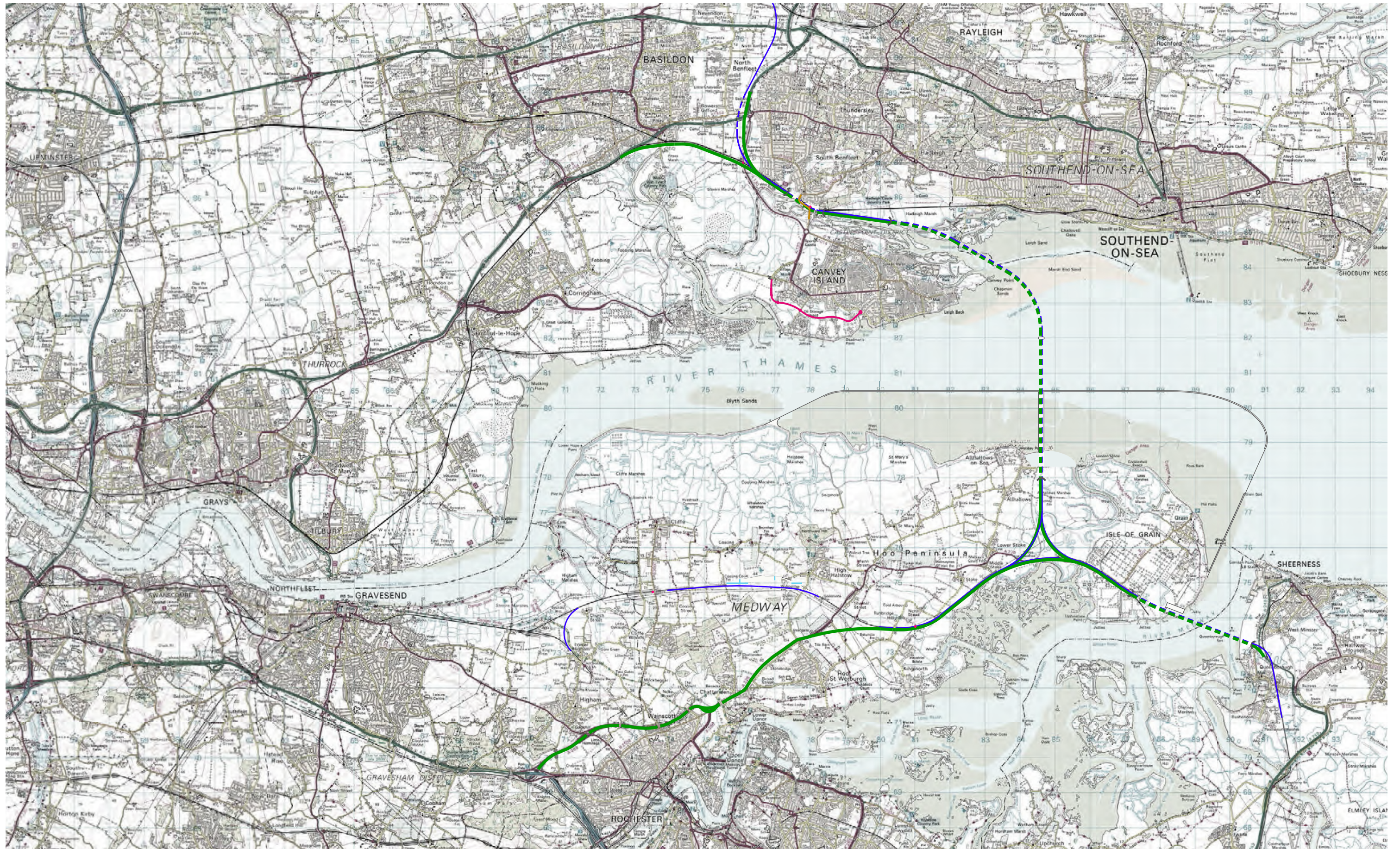
PHASING SUMMARY

METROTIDAL PHASE 1



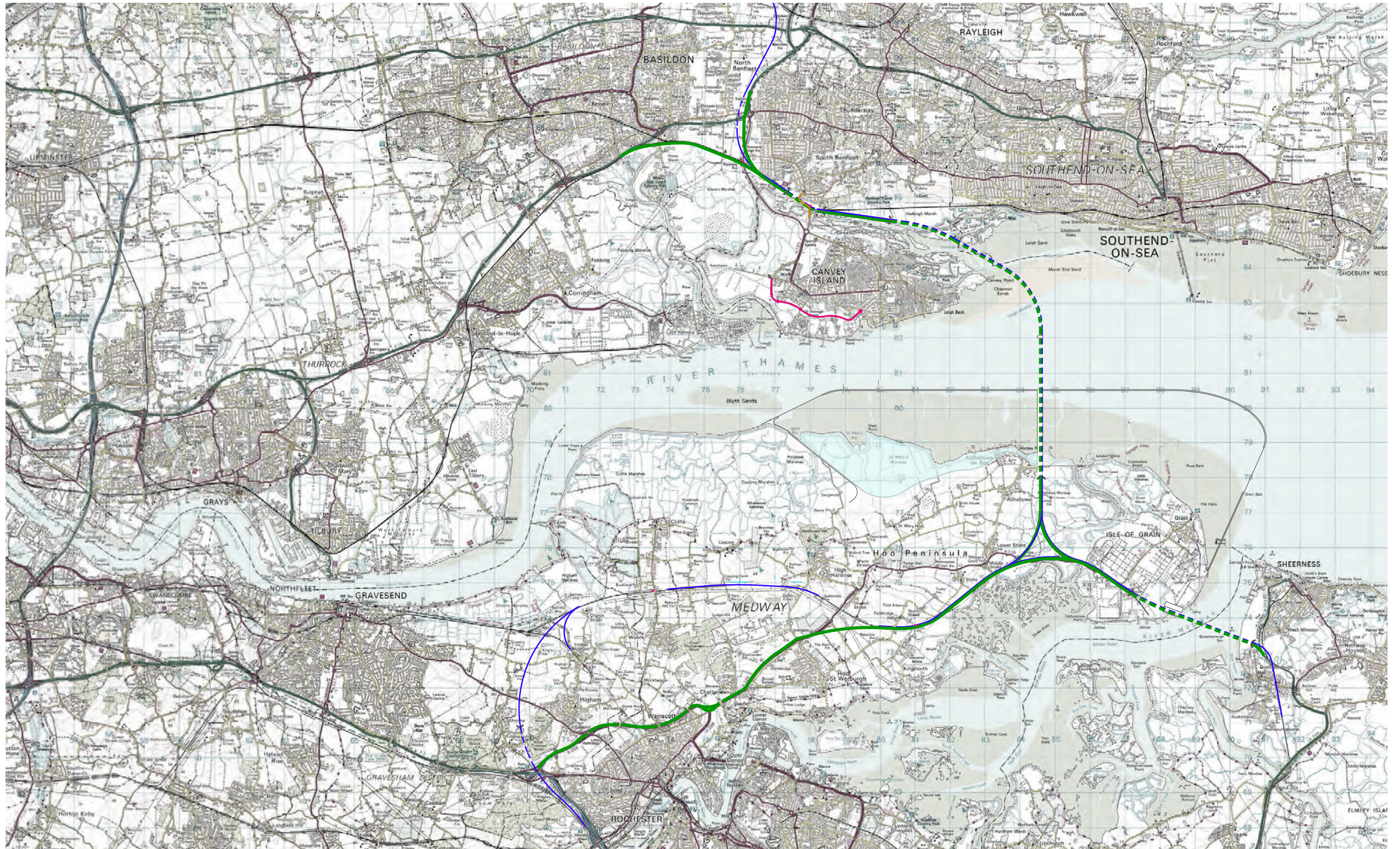
PHASING SUMMARY

METROTIDAL PHASE 2

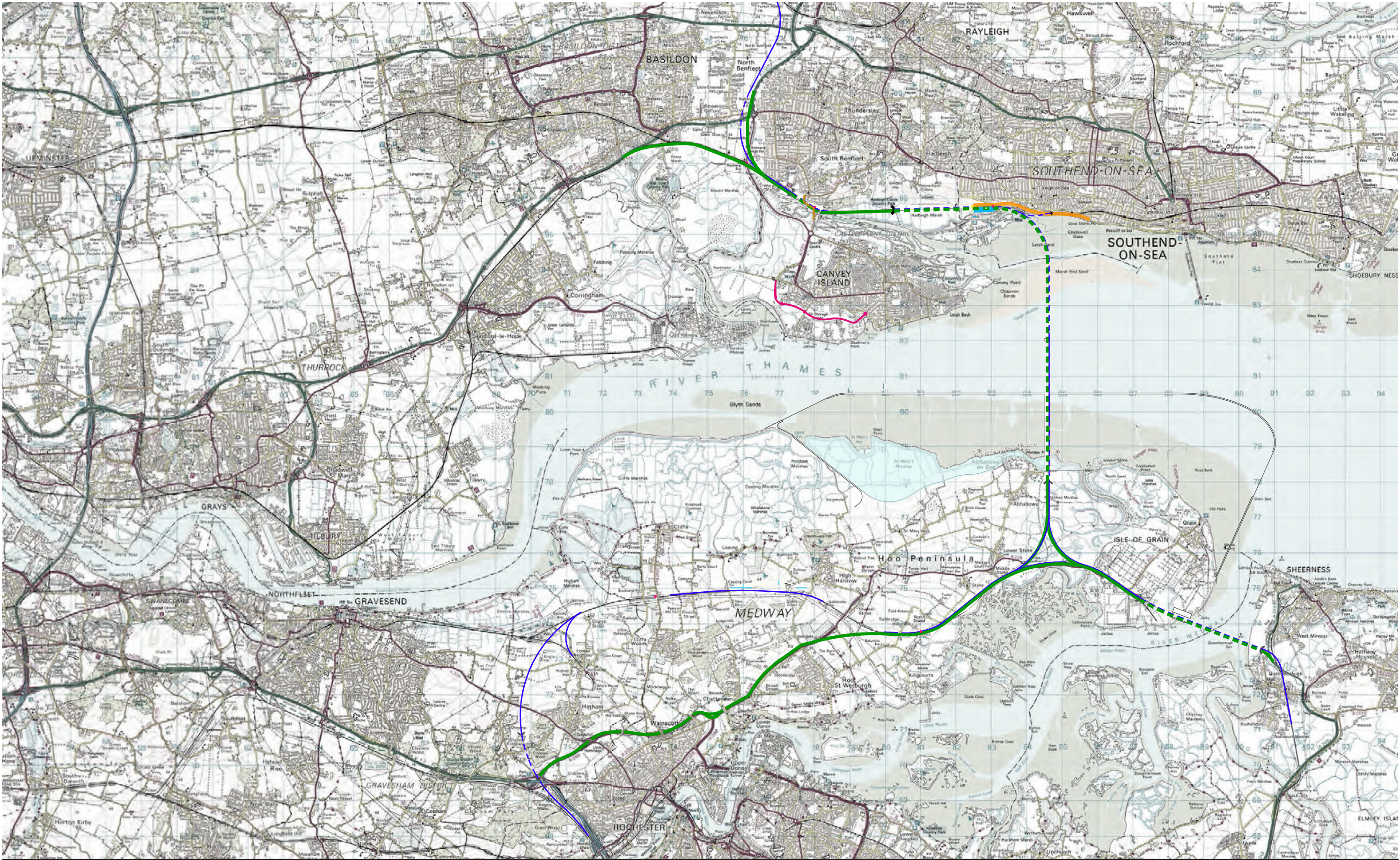


PHASING SUMMARY

METROTIDAL PHASE 3



LEIGH-ON-SEA OPTION



LEIGH-ON-SEA DETAIL

SOUTHEND PARK-AND-RIDE

 SOUTHEND PARK AND RIDE

 LEIGH ESPLANADE

