

TE2100 action plan: action zone 3 – east London

Action plan for zone 3 – table A.3.

10 actions identified

Description of the policy units

- Isle of Dogs & Lea Valley
- Greenwich
- Royal Docks

Table A.3. describes the 10 actions for zone 3 – east London which have been identified through the TE2100 Plan. The actions are described under the following headings:

- TE2100 recommended actions (and whether or not costs for this have been included in the TE2100 Plan)
- Implementation partners
- How this will be achieved
- How your response can help us finalise the TE2100 Plan



Do you consider that we have identified the right strategic options for managing tidal flood risk in the Thames estuary, and do you agree with the final preferred options?



Do you agree with the actions identified in the action plans and the timing of those actions?



Do you agree with the mechanisms we have set out to deliver the action plans?



Have we identified the right partner organisations to deliver the action plans and are you, or your organisation, able to contribute to these actions?

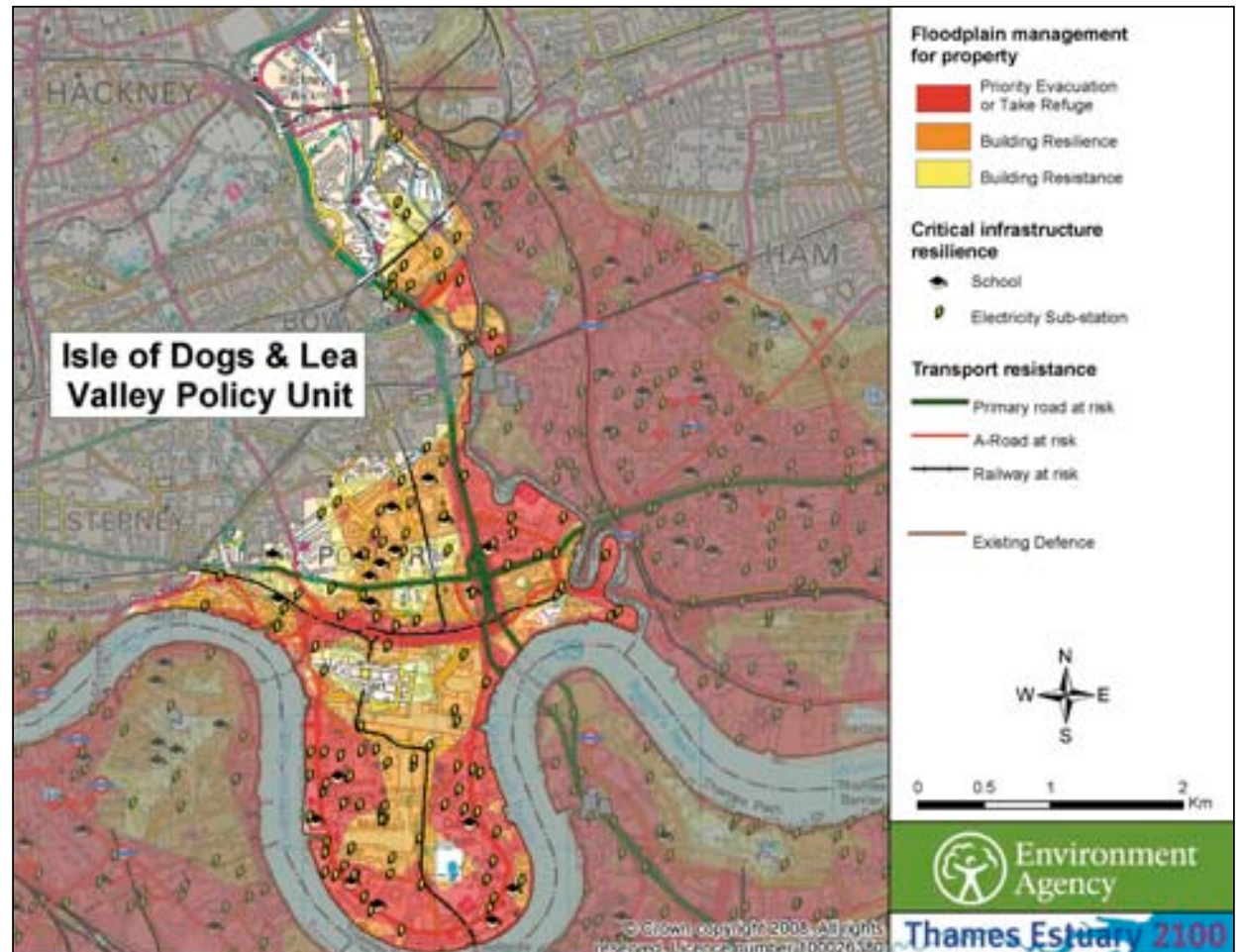
Policy unit – Isle of Dogs & Lea Valley

Policy: The recommended policy for Isle of Dogs is policy **P5** to take further action to reduce flood risk.

Description

The Isle of Dogs & Lea Valley policy unit has a very high density of development. It includes the Canary Wharf business district and the developing Olympic Park in the Lea Valley. It also contains extensive residential and industrial areas, and West India and Millwall Docks. Apart from the docks there are few open spaces, and the river frontage is almost continuously developed.

In the flood risk area there are over 100 electricity substations, the Docklands Light Railway, 19 schools and the Canary Wharf underground station. The Blackwall tunnel with its southbound approach roads and the northern entrance to the Greenwich foot tunnel are also in the flood risk area. There are no care homes or major hospitals here. This is former industrial land which has seen major changes in the past 20 years with the development of the Canary Wharf Docklands commercial area. It is anticipated that the investments associated with the Olympic site in the Lea Valley will be the catalyst for regeneration in the northern part of this unit. This policy unit



At risk in Isle of Dogs & Lea Valley policy unit

TE2100 action plan: action zone 3 – east London

also includes local choices for the River Lea, which forms the boundary between Isle of Dogs and the adjacent Royal Docks policy unit.

Sources of flooding

- Tidal from the Thames upriver of the Thames Barrier (probability 0.1% per annum or less frequent, Thames Barrier controlled), flood depths up to 3 m if the Thames Barrier failed.
- Tidal from the River Lea (probability 0.1% per annum or greater, Thames Barrier controlled).
- Fluvial from the River Lea (probability 1.5 to 3% per annum).
- There is a medium risk of flooding from pluvial and urban drainage sources in the areas between the docks and the defences.
- The docks provide a potential pathway for tidal flooding (but could also store fluvial floodwater – this has not been investigated by TE2100 but forms part of the local choices for further investigation).

Existing flood risk management system

- The Thames Barrier, to control tidal water levels.
- Secondary tidal flood defences along the Thames frontage and the River Lea.

- Fluvial flood defences on the River Lea (including the Lea Flood Relief Channel).
- The Lea system includes channels which could provide pathways for floodwater, for example the Limehouse Cut.
- Five combined sewer overflows (CSOs) for urban drainage flood mitigation.
- Flood forecasting and warning.



Looking over London Docklands and Canary Wharf

Policy context

The Isle of Dogs & Lea Valley policy unit lies within the Thames CFMP (Catchment Flood Management Plan) area. There is a separate flood risk strategy for the River Lea. There are locations where development is planned on or near the Estuary frontage. These provide opportunities to enhance the frontage and the defences. Like Greenwich on the south bank, this policy unit is the first major area of redevelopment on the north bank when travelling east from the centre of London. It is therefore covered by Thames Strategy East in addition to the Thames Gateway Parklands vision.

Vision

Our vision for the Isle of Dogs & Lea Valley policy unit is for a defence system that can provide an increasing level of protection against climate change. The defences should be integrated with new development wherever possible, blending with the modern and rapidly changing urban environment. There are some opportunities for set-back and environmental enhancement, for example at the old East India Dock site.

TE2100 action plan: **action zone 3** – east London

There is also a need to raise awareness of the flood risk for residents, business groups, commuters and tourists. Frequency of fluvial flooding on the Lea is greater than from tidal flooding, and the Lea should be a priority area for floodplain management. Flood risk should also be taken into account in land use planning and new development.

Local issues and choices

Where flood risk management Policy **P5** applies, a higher standard of protection is justified. This will be provided by the Thames Barrier for tidal flood risk for the foreseeable future. Fluvial flooding from the Thames is unlikely to be a problem for this policy unit because fluvial flood levels would not overtop the defences.

Some erosion of the river bed is occurring in the south east corner of the Isle of Dogs, and the bend in the river at Limehouse. It may be necessary to set the defence line back when the defences are upgraded to avoid erosion damage to them. Accretion of the river bed is occurring on the east and south sides of the Isle of Dogs.

Measures will be needed for tributary flooding from the River Lea and the associated channels. The flood relief channel and tidal Lower Lea are intended to contain high tidal water levels and





Docklands Commercial area

fluvial flows, but fluvial flooding may also occur from the Lea navigation and the associated channels (including the Limehouse Cut).

Work on the Lea is being undertaken as part of the Olympics development. This includes the new control structure and lock at Prescott Weir, river and floodplain restoration. This should be taken into account when planning flood risk management responses for the River Lea.

There is a risk of tidally influenced fluvial flooding from the River Lea. Choices for managing tidal and fluvial flood risk on the Lea are set out in our zone 3 action plan table A.3.

 Do you understand our assessment for the Isle of Dogs & Lea Valley policy unit?

 Do you agree with it?

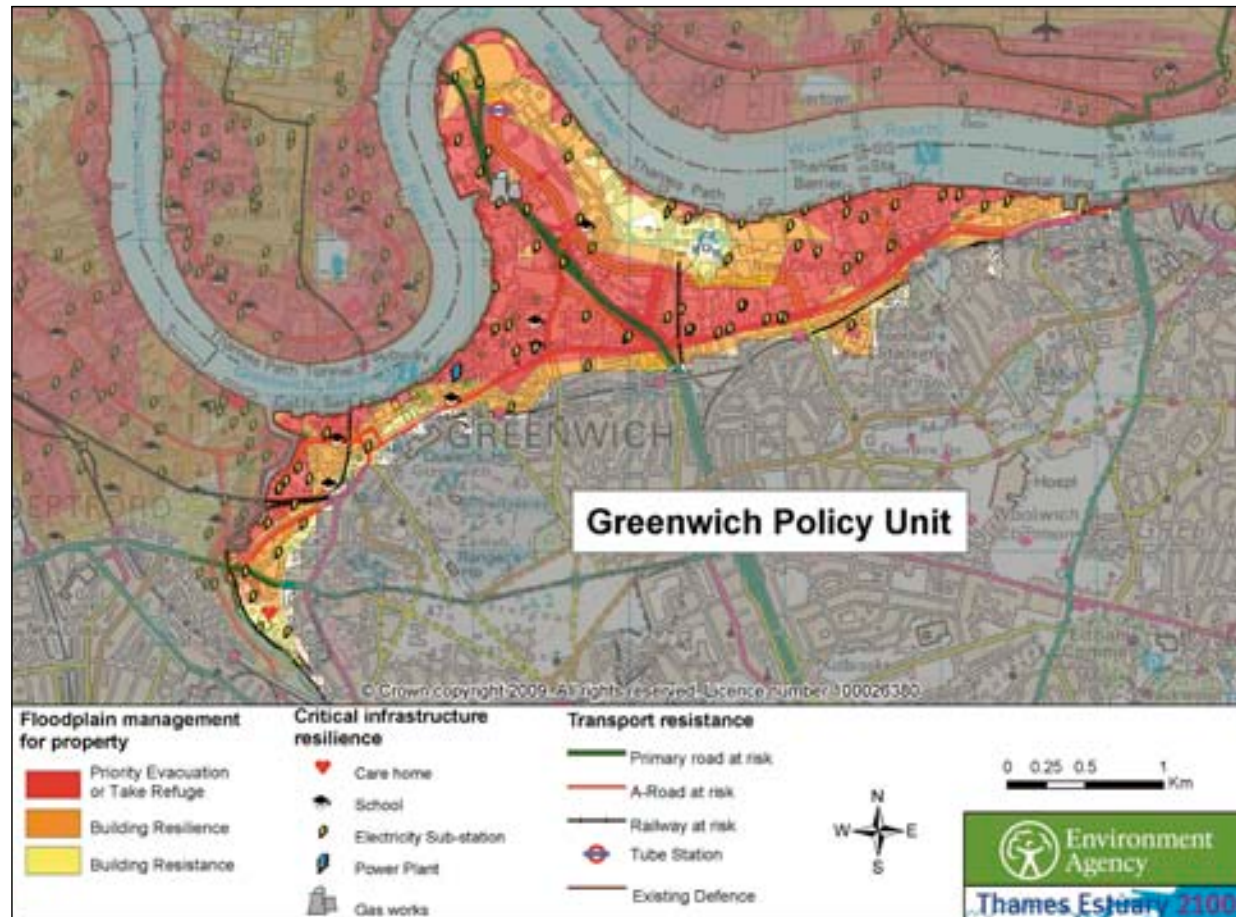
Policy unit – Greenwich

Policy: The selected policy is policy **P5** to take further action to reduce flood risk.

Description

The Greenwich policy unit includes the Millennium village and other redevelopment areas on Greenwich peninsula including the O₂ arena, together with North Greenwich underground station and bus terminus. The policy unit is a mixture of residential, urban and industrial areas. It also contains important historic buildings including part of maritime Greenwich, which is a World Heritage Site. The Thames Barrier including its south bank operational area is in this policy unit. There are also 70 electricity substations and a power station (currently mothballed), five schools and one care home. The A101(M) is raised but drops down to flood level as it approaches the Blackwall tunnel. The main road from Greenwich to Woolwich runs along the southern edge of the Greenwich policy unit.

A key feature of this policy unit is that it straddles the Thames Barrier so when the barrier is closed against high tides, there is a difference of up to 2 metres either side of the barrier. To accommodate this difference in water levels, the flood defences downstream of the Thames Barrier are up to 3 metres higher than those upstream.



At risk in Greenwich policy unit

Sources of flooding

- Tidal from the Thames upriver of the Thames Barrier (probability 0.1% per annum or less frequent, Thames Barrier controlled), flood depths up to 3 m if the Thames Barrier failed.
- Tidal from the Thames downriver of the Thames Barrier (eastern part of the policy unit) (probability 0.1% per annum or greater, flood depths up to 5 m).
- Fluvial and tidal/fluvial from the Ravensbourne River (probability 1–2% per annum).



The Greenwich peninsula

- There is a risk of urban drainage flooding, particularly, where the capacity of the urban drainage system is low. This risk is exacerbated by tide locking of outfalls.

Existing flood risk management system

- The Thames Barrier, to control tidal water levels upriver of the barrier.
- Secondary tidal flood defences upriver of the barrier on the Thames and the Ravensbourne River/Deptford Creek.
- Tidal flood defences downriver of the barrier on the Thames.
- Fluvial flood defences on the Ravensbourne River (enlarged channel).
- Three combined sewer overflows (CSOs) for urban drainage flood discharge.
- Flood forecasting and warning.

Policy context

Like the Isle of Dogs on the north bank, this policy unit is the first major area of redevelopment on the south bank when travelling east from the centre of London. It is covered by Thames Strategy East in addition to the Thames Gateway Parklands vision. Requirements that should be taken into account in the design of flood risk management interventions in order to achieve local planning objectives are based largely on the proposals in these documents.



Terraces at the O₂ – cheaper to build, subsequently increased value of the land and enhanced local ecology

Vision

Our vision for the Greenwich policy unit is to provide a flood risk management system keeps pace with climate change and improves on the defence standards provided. The defence system is integrated with new development and takes advantage of the space available to achieve a river frontage which is safe and is part of the regenerated cityscape. In some areas the defences could be integrated into the landscape. An example of how this can be done is provided on in this policy unit by the Greenwich peninsula intertidal habitat terraces.

Redevelopment and the existence of iconic sites such as the Thames Barrier, the O₂, the Cutty Sark historic ship site (now undergoing major refurbishment) and the Greenwich frontage provide opportunities for creative integration of the defences into the urban landscapes.

Flooding remains unlikely in this part of the Thames estuary but there is always a risk. We must engage with the community, local businesses and other groups to raise awareness of the flood risk. Our approach to floodplain management should be used to guide local decisions about i) what's vulnerable and how can it be protected or made resilient, ii) where to prioritise redevelopment and iii) considerations for emergency planning.


Local issues and choices


We are recommending a policy **P5** for this policy unit so a higher standard of protection is justified. This will be provided by the Thames Barrier for tidal flood risk upriver of the Thames Barrier. Downriver of the Barrier, policy **P5** will be introduced by increasing the amount of defence raising in 2070. Prior to 2070, defences will be raised to keep pace with climate change. The first of these raisings is likely to be around 2040.

Accretion of the river bed is occurring at Greenwich. This may provide opportunities to improve the ecological capacity and appearance of this frontage. Erosion of the river bed is occurring downriver of the Thames Barrier. It may be necessary to set the defence line back when the defences are upgraded to avoid erosion damage to the defences.

Measures will be needed for tributary tidal and fluvial flooding on the Ravensbourne River (Table A.3.).

There is a risk of urban drainage flooding in this policy unit, particularly in areas where the capacity of the urban drainage system is low. This risk is exacerbated by tide locking of outfalls. Measures for managing this source of flooding have not been investigated in detail by TE2100 but this is an action which must be picked up by the teams responsible.

 Do you understand our assessment for the Greenwich policy unit?

 Do you agree with it?

Policy unit – Royal Docks

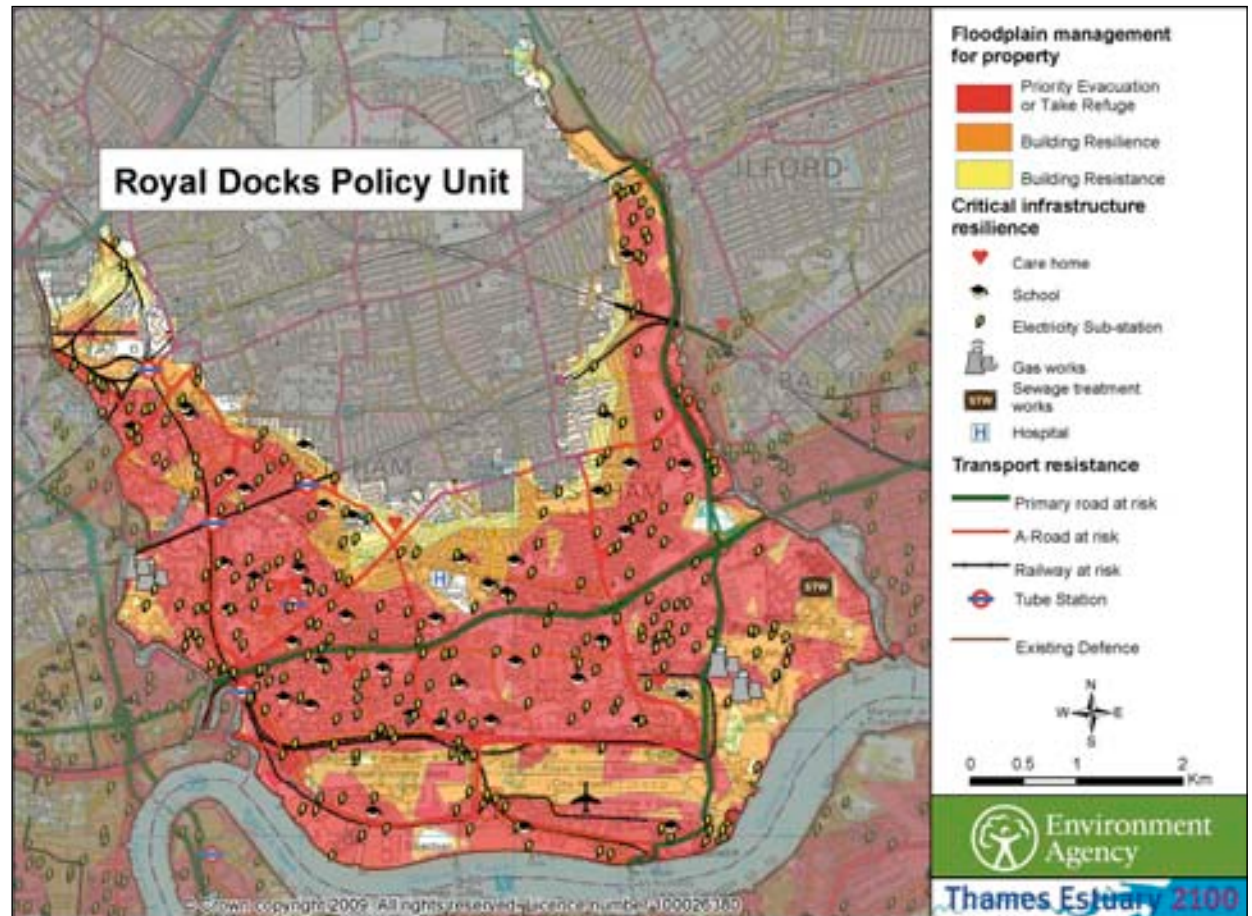
Policy: The recommended flood risk management policy is policy **P4** to take further action to sustain the current level of flood risk into the future (responding to the potential increases in risk from urban development, land use change and climate change)

Description

The Royal Docks policy unit includes extensive and established residential and industrial areas. It also contains the three Royal Docks, which are a focus for redevelopment and which form a raised strip of land parallel to Woolwich Reach on the River Thames. It is anticipated that the investments associated with the Olympic site in the Lea Valley will be the catalyst for regeneration in the north western part of this policy unit.

The unit includes City Airport and associated new developments as well as the north bank of the Thames Barrier. There are also five underground stations, 36 schools, seven care homes and a hospital. Two power stations, over 200 electricity substations and the major Beckton sewage treatment works are also in the tidal flood risk area. The A13 arterial route cut across this policy unit from west to east.

The ground level in much of the Royal Docks policy unit is low (at 1 m AOD or less), whereas the levels



at the docks and the Thames frontage are higher (3 m to 5 m AOD). Thus there would be great difficulty evacuating floodwater should flooding occur. This also means that this area is vulnerable to pluvial (heavy/prolonged rainfall) flooding.

The options for the Royal Docks policy unit do not include the River Lea or the River Roding, which form the west and east boundaries of the unit and are covered in the Isle of Dogs & Lea Valley and Barking & Dagenham policy units respectively. A key feature of this policy unit is that it straddles the Thames Barrier so when the barrier is closed against high tides, there is a difference of up to 2 m metres either side of the barrier. To accommodate this difference in water levels, the flood defences downstream of the Thames Barrier are up to 3 m metres higher than those upstream.

Sources of flooding

- Tidal from the Thames upriver of the Thames Barrier (probability 0.1% per annum or less frequent, barrier controlled), flood depths up to 5 m if the Thames Barrier failed.
- Tidal from the Thames downriver of the Thames Barrier (probability 0.1% per annum or less frequent), flood depths up to 5 m but very variable.



The Thames Barrier has remained a constant feature in the rapidly changing urban landscape over the past 25 years

- There is a serious risk of pluvial and urban drainage flooding, particularly in areas where the capacity of the urban drainage system is low. This risk is exacerbated by tide locking of outfalls.
- Flooding on the River Lea is covered by the Isle of Dogs & Lea Valley policy unit.
- Flooding on the River Roding is covered by the Barking & Dagenham policy unit.

Existing flood risk management system

- The Thames Barrier, to control tidal water levels upriver of the barrier.
- Secondary tidal flood defences upriver of the barrier on the Thames.
- Tidal flood defences downriver of the Barrier on the Thames.
- Floodgates on lock entrances to the docks at King George V lock and Gallions sluice.

- Four Combined sewer overflows (CSOs) for urban drainage flood mitigation.
- Flood forecasting and warning.

Policy context

The Royal Docks policy unit forms part of the Thames Gateway regeneration area and is covered by Thames Strategy East in addition to the Thames Gateway Parklands vision.

There are extensive areas of redevelopment planned in this policy unit including much of the area to the south of the Royal Docks. This provides opportunities to improve flood risk management arrangements including floodplain management to achieve safer floodplains, and defences that enhance the riverfront environment.

The Thames Barrier has remained a constant feature in the rapidly changing urban landscape the past 25 years.

Requirements that should be taken into account in the design of flood risk management interventions in order to achieve local planning objectives are based largely on the proposals in Thames Strategy East and the Thames Gateway Parklands vision.

Vision

The extent of expected future development in this policy unit provides opportunities to modify the

layout of the flood defences and integrate them into new developments wherever possible, in order to improve the appearance of the river frontage and provide environmental enhancement and amenity opportunities.

New development should be safe, particularly in areas where the ground level is low and flood depths could be potentially high. Public awareness should be raised to facilitate emergency planning and response.

Local issues and choices

Accretion of the river bed is occurring at between Silvertown and the River Roding. This may provide opportunities to improve the ecological capacity and appearance of this frontage.

Erosion of the river bed is occurring near the River Lea confluence. It may be necessary to set the defence line back when the defences are upgraded to avoid erosion damage to the defences.

The docks provide a potentially important pathway for flooding. They are protected using flood control gates that form part of the tidal defences. The King George V flood gate is to be replaced by a new structure in the near future. As the sea level rises, this gate would have to be closed more and more frequently to prevent flooding via the docks.

There may be a practical limit to the number of closures of the dock flood control gates, and other flood mitigation measures might be needed. Possibilities include raising the quay levels or closing the docks (or parts of the docks) to navigation.

The Royal Docks policy unit is large and low-lying, and there is potentially a high risk of pluvial and urban drainage flooding, particularly in areas where the urban drainage system has relatively low capacity and/or is prone to tide locking. Choices for local flood risk management have not been designed or addressed in detail, and will be specified for further investigation in our action plans.



Do you understand our assessment for the Royal Docks policy unit?




Do you agree with it?

TE2100 action plan: action zone 3 – east London


Table A.3. – Policy units

Isle of Dogs & Lea Valley P5
 Greenwich P5
 Royal Docks P4


[Note that all dates are based on government’s current guidance on climate change – the TE2100 Plan will be reviewed and updated if these predictions change]

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.1. TE2100 Plan informs the development and revision of local authority strategic flood risk assessments (SFRAs) and flood plans.</p> <p><i>(Cost of implementing this action not included in TE2100 Plan, but TE2100 data and information will be available to assist)</i></p>	<p>Environment Agency</p> <p>London Boroughs in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Local Resilience Fora:</p> <ul style="list-style-type: none"> • Central London • South East London • North East London 	<p>TE2100 information is provided to local authorities preparing flood plans and capability testing.</p> <p>Local Authority flood plans are developed with an understanding of TE2100 recommendations and data.</p> <p>Local Resilience Fora take ownership of the flood plans and all responders have confidence in them.</p> <p>A community engagement programme to ensure the public, businesses and other groups understand, are involved in and supportive of the flood plans.</p>	<p>Implementation partners: Do your flood plans include the findings and recommendations from TE2100? Do you have enough information from us to develop your flood plans so that they can be informed by TE2100? Your response will guide the development of our implementation blueprint during 2009 and improve arrangements for partnership working.</p> <p>Landowners, the public, business and other interested groups: The Thames Barrier and the downstream defences provide highly reliable protection to the east London zone against surge tides and when the Thames Barrier is not closed, the river walls provide protection to low-lying areas. But should there be a failure of a defence or an extreme event which overtops the defences, low-lying areas of this zone would be at risk</p> <p style="text-align: right;">(continued)</p>

TE2100 action plan: action zone 3 – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	A.3.1. (continued)			as shown on the policy unit “at risk” maps. The flood plans will set out arrangements for managing this sort of emergency. If you have views on this, please let us know and we will share your views with those responsible for preparing the flood plans.
	<p>A.3.2. To agree a programme to provide local flood protection, resilience and emergency plans for vulnerable key sites in action zone 3.</p> <p>[Note: The “at risk” maps show the particular sites and key infrastructure that would be particularly vulnerable in the TE2100 area in the event of a failure or overtopping of the defences. Underground areas and tunnels, particularly those where large numbers of people congregate will require evacuation plans]</p> <p><i>(Cost of implementing this action not included in TE2100 Plan, but TE2100 data and information will be available to assist)</i></p>	<p>Environment Agency</p> <p>London Boroughs in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Local Resilience Fora:</p> <ul style="list-style-type: none"> • Central London South East London • North East London <p>Transport for London</p> <p>Canary Wharf Group</p> <p>EDF Energy</p> <p>Managers/ owners of vulnerable sites</p>	<p>We will discuss with implementation partners to agree strategic scope of measures required, informed by information from TE2100 (see at risk maps).</p> <p>Agreement between implementation partners on the strategic approach, and roles and responsibilities for achieving it.</p> <p>All site owners must be supportive of approach and confidence of public and users maintained. Local floodplain management measures in place or planned within 25 years.</p>	<p>Implementation partners: Are you aware of the risks and particular vulnerability of key sites in this action zone? Do you have arrangements in place for initiating the discussion concerning the scope of works required for the properties/areas in which you have an interest? Can the Environment Agency assist with this through implementation of action A.3.2?</p> <p>Landowners, the public, business and other interested groups: We would be interested to hear your views to assist us in planning the implementation of this action A.3.2. particularly if you live, work or have interests in this area.</p>

TE2100 action plan: action zone 3 – east London




	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.3. To agree partnership arrangements and principles to ensure that new development in the east London zone is safe, and that where possible the application of PPS25 reduces the consequence of flood risk – particularly in the areas where large numbers of people congregate or there is aggregation of flood risk.</p> <p>For flood risk management to be factored into the planning process at all levels for the first 25 years from 2010 to 2034.</p> <p>There is need for greater clarity over methods and procedures for safety in new development behind defences. Environment Agency and local authority staff are providing advice to developers and responding to difficult planning applications.</p> <p><i>(Cost of implementing this action not included in TE2100 Plan, but TE2100 data and information will be available to assist)</i></p>	<p>Environment Agency GLA, LDA, Thames Gateway London Partnership and Development Corporations Local Authority spatial and emergency planners in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Developers & Architects</p>	<p>TE2100 Plan and associated information informs London Plan and Local Development Frameworks (LDF) and future revisions.</p> <p>Local authorities and our planning staff require guidance for applying the principles of PPS25⁸ to the complexities of London defended tidal floodplain.</p> <p>We along with implementation partners and CLG will develop guidance for development in London defended tidal floodplain.</p>	<p>Implementation partners: Are your Local Development Frameworks supported by sustainability appraisals that include local tidal flood risk and the implications of climate change? If not, does the TE2100 Plan provide you with the information you need to do this? If we draft guidance on the interpretation of PPS25 in a defended area, what sort of information would be most helpful to you? Would you be able to assist the Environment Agency in preparing this guidance – and would it be useful to you?</p> <p>Landowners, the public, business and other interested groups: We would be interested to hear your views to assist us in planning the implementation of this action A.3.3. particularly if you have had experience (good or bad) of dealing with us and other authorities over planning and building by the river and in the east London tidal floodplain.</p>

Greenwich



Royal Docks

⁸ Planning Policy Statement No. 25 Development and Flood Risk (CLG 2006)

TE2100 action plan: action zone 3 – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
 <p>Middle 35 years</p>	<p>A.3.4. To review and maintain from 2035 to 2069 the partnership arrangements and principles for development and flood risk management established in the first 25 years of our Plan.</p>	As above	Guidance is updated to reflect changing needs. The TE2100 10-yearly update to include review of action A.3.3. and recommend any changes or developments.	We cannot know what institutional arrangements will be in place during this period or what pressures there will be on the environment. We do know that for the east London zone to continue to thrive, flood risk management must continue to be integrated into the spatial planning process. If you would like to help shape the development of these arrangements during the middle years (2035 to 2069) of our Plan, then please let us have your views.
 <p>Up to 2100</p>	<p>A.3.5. To review and maintain from 2070 and into the 22nd century the partnership arrangements and principles for development and flood risk management established in the middle years of the Plan.</p>	As above	TE2100 10-yearly update to include review of action A.3.4. and recommend further action. Guidance is updated to reflect changing needs.	Flood risk management continues to be integrated into the spatial planning process into the 22nd century. If you have views on how the relationship between spatial planning and flood risk management should be developing in the east London zone as we prepare for the 22nd century, then please respond to this Action A.3.5.
 <p>First 25 years</p>	<p>A.3.6. To maintain, enhance, improve or replace the river defence walls and active structures through east London over the first 25 years of the Plan from 2010 to 2034.</p>	<p>Environment Agency</p> <p>Local Authority spatial in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Land Owners</p> <p>Developers</p>	<p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p> <p>Our Asset System Management teams will promote these schemes. However, the method of improving the defences is different from the present day approach.</p>	<p>This is the work which we do now in the Environment Agency. We will continue with our programme of operations, maintenance and replacement but we are looking for ways of working better and more effectively.</p> <p>We are also seeking opportunities for environmental and recreational enhancements which will create a better place through our east London zone, and for partnerships which will help us achieve this.</p> <p>We would welcome any comments that you or your organisation can provide which assist us in these aims.</p> <p style="text-align: right;">(continued)</p>


TE2100 action plan: action zone 3 – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
 <p>First 25 years</p>	<p>A.3.6. (continued)</p> <p>[Note: This is a continuation of our current activities to ensure that confidence in the Thames tidal flood risk management system is maintained and that opportunities for environmental enhancements and partnership through planning are actively sought and carried out]</p> <p><i>(Cost of implementing this action is included in TE2100 Plan)</i></p>		<p>It involves greater maintenance and repair work in addition to replacement. Promotion of schemes through the capital programme may not be appropriate for maintenance and repair, and a different way of working may be required.</p>	<p>Our TE2100 Technical Report and local choices documents provide our assessment of the choices which are available in east London in the short term. If you would like to comment on these in more detail, please contact the project team.</p>
 <p>Middle 35 years</p>	<p>A.3.7.</p> <p>To maintain, enhance and improve or replace the defence walls and active structures through east London during the 30 year period of the Plan from 2035 to 2069.</p> <p>[Note: Continuing our activities to ensure that confidence in the Thames tidal flood risk management system is maintained and that opportunities for environmental enhancements and partnership through planning are actively sought and carried out]</p> <p><i>(Cost of implementing this action is included in TE2100 Plan)</i></p>	<p>Environment Agency</p> <p>Local authority spatial and emergency planners in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Landowners</p> <p>Developers</p> <p>GLA</p>	<p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p> <p>Our Asset Systems Management teams will promote schemes through capital programme and they will form part of strategic and investment plans subject to replacement/repair working arrangements as A.3.6. above.</p> <p>There are major opportunities for reshaping the local landscape as part of these works.</p>	<p>Our aims remain as A.3.6. above, but during this period, there will be a major programme of rebuilding and refurbishment of the river walls and defences through east London. This provides many opportunities for creating a better place and to plan for a better riverside environment. If you would like to help shape the future environment in this area, then please let us have your views.</p> <p>During this period we will be preparing for the “end of the century” wall works – see A.3.8. below and any decisions made as part of Action A.3.7. must recognise that there may be major changes from 2065.</p> <p>Our TE2100 Technical Report and local choices documents provide our assessment of the choices which are available in east London in the medium term (2035 to 2069). If you would like to comment on these in more detail, please contact the project team.</p>

Greenwich


Royal Docks

TE2100 action plan: action zone 3 – east London



	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.8. To Implement a programme of defence raising through east London from 2065 to 2070 (with defences upriver of the Thames Barrier being raised by 2065 and downriver in 2070).</p> <p>These are the TE2100 “End of the Century” Raising of defence levels in east London to provide continuing tidal flood risk management for all options (except our end of the century option 4 – a downriver barrier with locks which will not require defence raising upriver of the Thames Barrier). They are in two sections, upriver and downriver of the Thames Barrier.</p> <p>Upriver of the Thames Barrier The defences will require raising for tidal flood risk management for all options except a downriver barrier with locks. This includes the tidal defences on the River Lea. The timing of defence raising will depend on the rate of sea level rise, but a maximum raise of 1m is envisaged for landscape reasons.</p> <p>There will be opportunities to realign defences along the River Lea to create space for the river and enhance the river frontage.</p>	<p>Environment Agency</p> <p>Landowners</p> <p>London Boroughs in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>Developers</p> <p>The public</p> <p>Local interest groups</p> <p>GLA</p> <p>Floodplain users</p> <p>Thames Estuary Partnership</p>	<p>The timing of defence raising will depend on the rate of sea level rise, but a maximum raise of 1 m is envisaged.</p> <p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p> <p>We will promote schemes through capital programme.</p> <p>There are major opportunities for reshaping the local landscape as part of these works.</p> <p>The TE2100 10-yearly update will include a review of Action A.3.8. and recommend further whether the end of the century recommendations have changed.</p>	<p>2065 is a long way ahead but a decision needs to be made on the TE2100 “end of the century” option. This will enable us to finalise our Plan. The end of the century options (see estuary-wide action plan – action zone 0) affect the requirements for wall raising upriver of the Thames Barrier.</p> <p>Our end of the century options 1, 2, and 3 would mean we would need a wall raising through east London in 2065. Our end of the century option 4 (a barrier with locks – or “open” barrage) would mean that the walls through London upriver of the Thames Barrier could stay at the current levels. This is the most expensive one for the estuary as a whole and it would cause significant damage to the estuary environment.</p> <p>It is not currently one of our front runners identified through the appraisal process.</p> <p>So if you have views about the value of east London’s riverside and the effect of raising the walls by as much as a metre, please share them with us in submitting your response to this action (A.3.8.).</p> <p>We will make recommendations based on conditions now, in 2009, but the final decision of “end of the century” option to be adopted is likely to be made between 2050 and 2060, and the “front runners” may or may not change.</p>

(continued)

TE2100 action plan: **action zone 3** – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.8. (continued)</p> <p>This is because much of the Lower Lea valley is likely to be redeveloped, including the creation of the Park corridor.</p> <p>A flood control gate may also be needed on the entrance to the West India and Millwall Docks.</p> <p>Downriver of the Thames Barrier</p> <p>The defences downriver of the Thames Barrier will require raising during the period covered by the Plan for options that continue to rely on the Thames Barrier. The amount of raising will depend on the rate of sea level rise. If a new downriver barrier is constructed, this defence raising will not be needed and there will be an opportunity to lower the defences.</p> <p>Defence raising will include a new flood control gate at the KGV lock entrance to the Royal Docks, as the existing gate would not be suitable for raising.</p> <p><i>(Cost of implementing this action is included in TE2100 Plan)</i></p>			<p>It is important to send us your views because the responses we receive during this consultation will set the baseline for establishing public attitudes to the east London riverside environment. This “2009 snapshot” of east London stakeholder views will form a starting point for measurement of public attitudes in the future.</p>

TE2100 action plan: action zone 3 – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.9. To maintain, improve, enhance or replace the river defence walls and active structures through central London post 2070 and into the 22nd century.</p> <p>Whether or not defences are raised, all defences will still require ongoing maintenance, repair and replacement (and hence engineering works) and this has been allowed for in our Plan investment profile.</p> <p><i>(Cost of implementing this action is included in TE2100 Plan)</i></p>	<p>Environment Agency Land Owners Developers London Boroughs in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham <p>GLA Thames Estuary Partnership</p>	<p>Our Planning Liaison and Development Control staff will promote these works as part of ongoing development applications.</p> <p>Our Asset Systems Management teams will promote schemes through capital programme and they will form part of strategic and investment plans – subject to replacement/repair working arrangements as A.3.6. above.</p> <p>There are major opportunities for reshaping the local landscape as part of these works.</p>	<p>We cannot now what institutional arrangements there will be as we approach the 22nd century, but our TE2100 vision imagines an environment where the east London riverside complements the cityscape and is increasingly enjoyed and respected by the people who live, work and visit. This means that the actions established in A.3.6. and A.3.7. will be continued by whoever is looking after our environment at that time. If you have views about the long-term future management of east London’s riverside, we would like to hear them.</p> <p>This consultation provides an opportunity for you to have these views recorded and presented as part of an ongoing vision statement to those who follow us 60 to 100 years from now.</p>
	<p>A.3.10. To agree a programme of managing flooding from other sources in the defended tidal floodplain.</p> <p>Large areas of east London zone are low-lying, and there is potentially a high risk of pluvial and urban drainage flooding, particularly in areas where the urban drainage system has relatively low capacity and/or is prone to tide locking.</p>	<p>Environment Agency London Boroughs in action zone 3:</p> <ul style="list-style-type: none"> • LB Greenwich • LB Tower Hamlets • LB Newham 	<p>We will discuss with implementation partners to agree strategic scope of measures required.</p> <p>Agreement between implementation partners on the strategic approach, and roles and responsibilities for achieving it.</p>	<p>Implementation partners: Are you aware of the risks and particular vulnerability of people and property to flooding from sources other than tidal? Flooding from other sources is far more likely than tidal flooding. Do you have arrangements in place for the scope of works required for the properties/areas in which you have an interest? Can the Environment Agency assist with this through implementation of action A.3.10?</p> <p style="text-align: right;">(continued)</p>

TE2100 action plan: **action zone 3** – east London

	TE2100 recommended actions	Implementation partners	How this will be achieved	How your response can help us finalise the TE2100 Plan
	<p>A.3.10. (continued)</p> <p>There is also fluvial flood risk from the River Lea and the Ravensbourne River. Choices for local flood risk management have not been designed or addressed in detail in TE2100 but this is identified as an action in the Plan.</p> <p><i>(Cost of implementing this action is not included in TE2100 Plan, but TE2100 data, information and recommendations are available to support the successful implementation of the action)</i></p>	<p>Internal Drainage Boards</p> <p>Sewage and water undertakers</p> <p>Land Owners</p> <p>Developers & Architects</p>	<p>All site owners must be supportive of approach and confidence of public and users maintained. Local measures for management of flooding from other sources to be in place or planned within 25 years.</p>	<p>Landowners, the public, business and other interested groups:</p> <p>We would be interested to hear your views to assist us in planning the implementation of this action A.3.10. particularly if you live, work or have interests in this area and are concerned about flooding from sources other than tidal. This includes pluvial and urban drainage and fluvial flooding from the River Lea and the Ravensbourne River.</p> <p>Our TE2100 Technical Report and local choices documents provide further information on these matters and the choices which are available to assist with problems. If you would like to comment on these in more detail, please contact the project team.</p>

Greenwich

Royal Docks

TE2100 action plan: **action zone 3** – east London

Greenwich

Royal Docks

