Why
8,077 homes and 704 commercial properties in Southsea are at risk from coastal flooding.

What
New defences for Southsea’s 4.5km seafront to better protect the community for the next 100 years. Stimulate regeneration, enhance the public realm and improve the setting of historic and cultural features.

How
The Outline Business Case has been approved securing £5.9m of funding from central government. The project will now move through the design phases with public consultation before construction commences.

Who
The project is being managed by PCC and ESCP. Balfour Beatty have been appointed to provide expert construction advice to the design process. Design consultants Arup and Ramboll are being commissioned to lead the technical design.

When
Design work will be starting in August 2017 with construction scheduled to commence in 2019.

Presentation Outline

• Background
• Flood Risk
• Work to date
• Option Selection
• Design Considerations
• Place Making
• Forward Plan
• Summary
Southsea Coastal Scheme

Scheme background

- The UK’s only island city
- Most densely populated city in UK outside London
- Southsea Coastline 4.5km of open coastline
- Heritage Assets: Scheduled Ancient Monuments, Registered Parks & Gardens and Listed Buildings
- Important tourist destination and economic hub
- In vicinity of Internationally designated environmental sites
- Adjacent to Bathing and Shellfish Waters
Southsea Coastal Scheme
Currently a low standard of protection
Southsea Coastal Scheme
Residual life less than 10 years
Southsea Coastal Scheme
Flood Risk – Present Day

- **8,077** Residential properties within the flood cell
- **4,114** Residential properties at risk of inundation by flood water
- **704** Commercial properties at risk
- **4** Critical access routes could flood
- **5** Scheduled Monuments and **34** listed buildings
- **16** Residential properties at risk of coastal erosion
- Over **4m depth** of water
- Over **£950 million** of damage avoided
Southsea Coastal Scheme

Scheme Timeline

Shoreline Management Plan
North Solent SMP (2010)

Coastal Strategy
Portsea Island (2012)

Outline Design Preliminary Study
Southsea (2012-2015)

Outline Business Case
(Approved 2017)

Policy: “Hold The Line”

Improve Southsea’s defences to 0.5% AEP

Option Appraisal and Concept Designs

£5.9m Design Funding Secured (April 2017)


Application for construction funding

Construction work commences

Scheme Design
(2017-2019)

Full Business Case
(2018)

Construction
(2019)
Southsea Coastal Scheme

Story so far…

Scoping and data collection

Option long list

Option short list

Preferred option

Concept Design

Steering Group

Public consultation

Statutory consultees

Economic, Environmental, Social and Technical Assessment

Figure 1: Technical notes

Figure 2: Consultation day

Figure 3: Steering group
Southsea Coastal Scheme
Public Consultation – November 2014

92.2% said they believe there is a need to reduce the risk of flooding and erosion to Southsea, with 89.3% saying there is a need for new coastal defences.

There was an overall average of 85.8% support for the leading coastal defence options.
Southsea Coastal Scheme
Option Appraisal and Steering Group…

Take no action
- Do Nothing (allow defences to deteriorate)
- Do Minimum (maintain existing defence levels)

➢ Southsea must be protected

Change the line
- Advance the line (seaward or reclamation)
- Retreat the line (landward defences)

➢ Does not fall in line with adopted policy

Soft Engineering
- Beach Management (control structures only)
- Beach Renourishment (only)

➢ Soft engineering alone will not provide a sustainable solution

Hard Engineering
- Primary Vertical Defence
- Primary Vertical Defence with setback defence
- Primary Sloping Defence
- Primary Sloping Defence with setback defence

Reactive Measures
- Demountable Defences (only)
- Flood Resilience & Individual Property Protection (only)
- Allow overtopping (pump away)

- Utilise existing infrastructure, highway or buildings as primary or secondary defence

Project Steering Group

PCC Representatives from;
- Asset Management
- Audit Performance & Improvement
- Business Support
- Community, Culture & Sport
- Community Safety
- Environment & Public Protection
- Emergency Planning
- Housing
- Parking
- Planning
- Regeneration
- Seafront Management
- Transport

External organisations represented;
- Environment Agency
- Natural England
- Heritage England
- Queens Harbour Master
- Network Rail
- Langstone Harbour Board
- Southern Water
- Intercontinental Ferry Port
- Southern Electric

Policy… Technical… Environment…

Health and Safety… Cost… Amenity…
Southsea Coastal Scheme
Concept Design

Primary sloping revetment

Secondary set back wall

Beach management, rocks armour and groynes will be required in some areas
Southsea Coastal Scheme
Design Considerations

LEGEND
- Listed lamp column
- Listed wall
- Listed building
- Ancient monument

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Southsea Coastal Scheme

Coastal Processes

SEDIMENT TRANSPORT PATHWAYS ALONG THE PORTSMOUTH FRONTAGE: SCOPAC 2004

SEDIMENT TRANSPORT PATHWAYS ALONG THE PORTSMOUTH FRONTAGE: ESCP 2016

Tracking Coastal Drift

1. Pebbles are deployed on beach and surveyed using a scanner and GPS.
2. Movement of sediment monitored by tracing pebbles along beach.

SOUTHSEA TRACER STUDY 2016: PEBBLE MOVEMENT DEPLOYMENT 05

PORTSMOUTH | EASTERN SOLENT | COASTAL PARTNERSHIP
Southsea Coastal Scheme
Environmental Impact

- Strategic Impact Assessments > Complete
- Environmental Scoping > Complete

Opportunities, Impacts and Mitigation for each element to be confirmed in full EIA to support consent applications
Southsea Coastal Scheme
Opportunities and wider benefits

Ideas from the city’s Seafront Masterplan will be incorporated where possible and appropriate.

Source: Seafront Masterplan (2013)
Southsea Coastal Scheme
Placemaking

Regeneration

Destination

Innovation
Southsea Coastal Scheme
Placemaking

Ambition

Creativity

Placemaking
Southsea Coastal Scheme
Forward Plan

Outline Business Case
(Approved 2017)

Design Development
(Autumn/Winter 2017)

Principle Design
(Spring 2018)

Full Business Case
(Autumn 2018 – Spring 2019)

Detailed Design
(Summer 2018 - Spring 2019)

Construction
(Early 2019)

**A Single Planning Application** will be made for all frontages with appropriate detail conditions, this will follow the Principle Design Phase ~12mths.
## Southsea Coastal Scheme

### Finance

#### Total whole life cash cost

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<tr>
<td>Appraisal Costs</td>
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<td>Design Costs</td>
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<td>Construction Costs</td>
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<td>Maintenance (Over 100 years)</td>
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<tr>
<td>Risk Contingency (95%ile Monte Carlo)</td>
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<tr>
<td>Total Whole Life Cost</td>
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### Contribution

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<td>Portsmouth City Council [PCC]</td>
<td>£6.0million</td>
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<tr>
<td>Total Contribution</td>
<td>£6.0million</td>
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### Partnership funding and Benefit cost

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<td>Life Benefits (£)</td>
<td>~£950million</td>
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<tr>
<td>Benefit to Cost Ratio (B:C)</td>
<td>10.72</td>
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Southsea Coastal Scheme

Summary

• This is an opportunity to construct the **next generation of sea defences** to reduce the very real and significant flood risk to life and over 8000 properties in Southsea

• We are **not** promoting a 4m high wall along the frontage

• This project looks to deliver more than flood defences, this is a **Place Making** opportunity which we hope will be the catalyst to transform the public realm