

Tidal Lagoon Swansea Bay

Project update: PINS and NRW-MLT
14 May 2013



Agenda

1. Project update
 - Design freeze
 - Consultation
 - Onshore masterplanning
 - EIA progress
2. Planning programme
3. Schedule of consents
4. Schedule of DCO documents

Project update

Design freeze

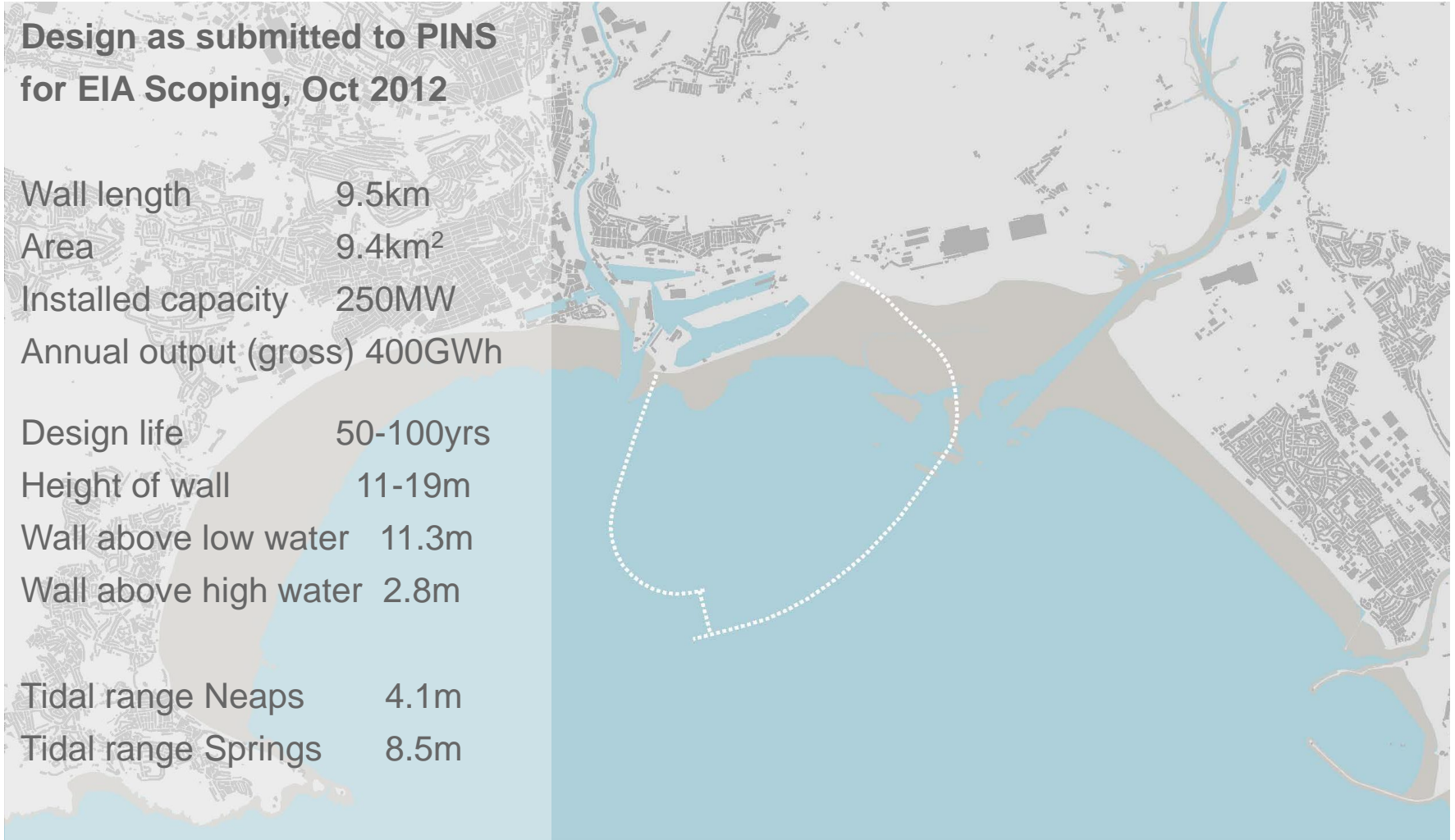
Swansea Bay Tidal Lagoon, Oct 2012

Design as submitted to PINS for EIA Scoping, Oct 2012

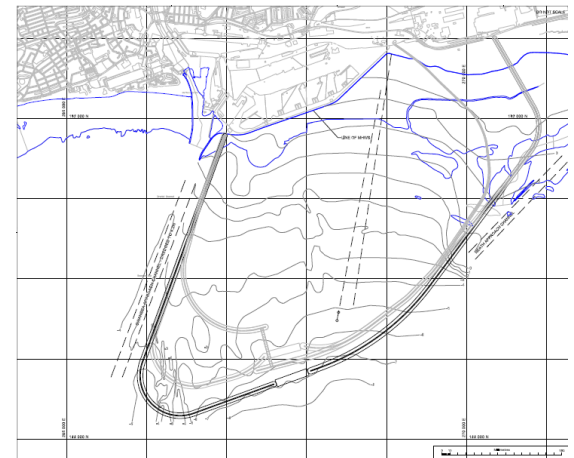
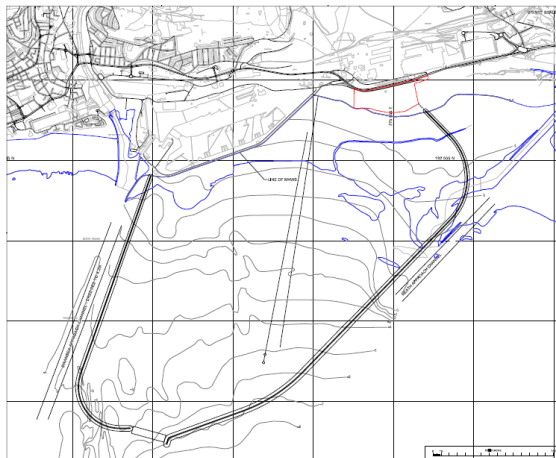
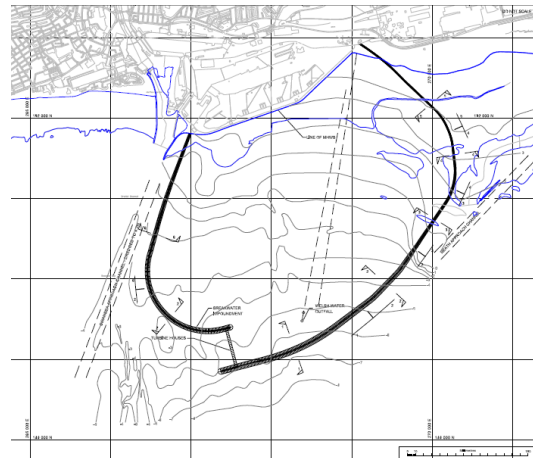
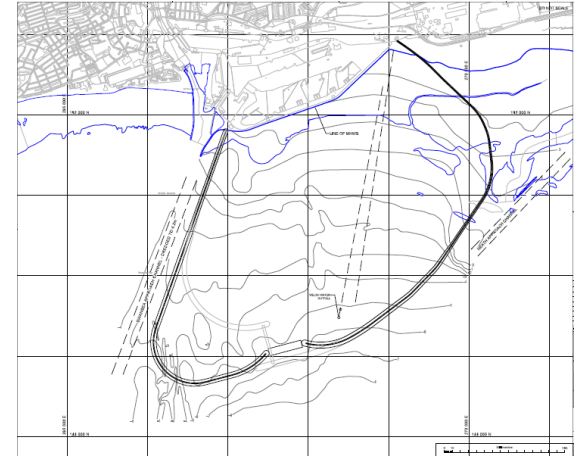
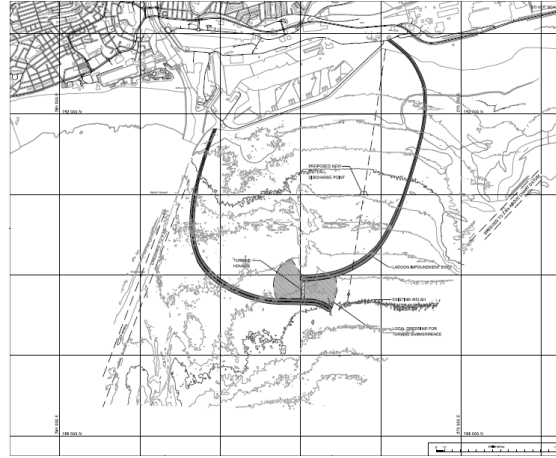
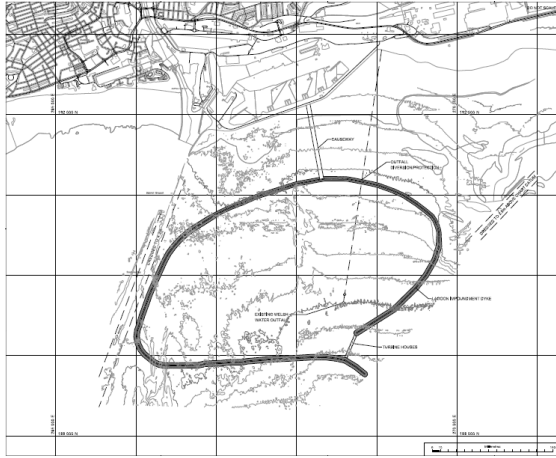
Wall length 9.5km
Area 9.4km²
Installed capacity 250MW
Annual output (gross) 400GWh

Design life 50-100yrs
Height of wall 11-19m
Wall above low water 11.3m
Wall above high water 2.8m

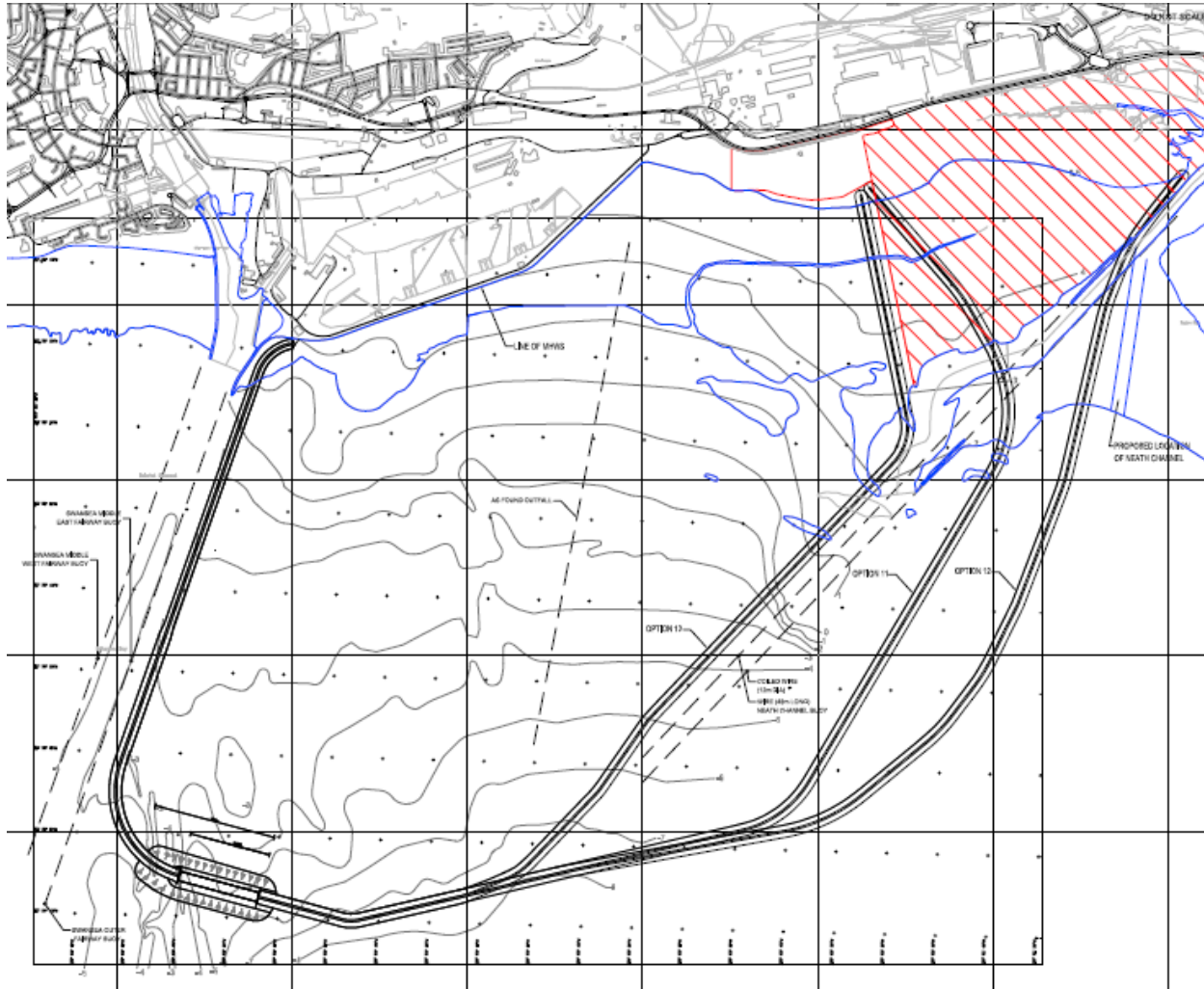
Tidal range Neaps 4.1m
Tidal range Springs 8.5m



Summary of lagoons considered to date



Towards a design freeze – options J, K & M



After EIA scoping, three larger lagoon options have been considered:

J – SSSI avoided

K – Neath channel moved

M – Neath channel moved, Crymlyn SSSI encompassed

High level coastal process & WQ modelling undertaken

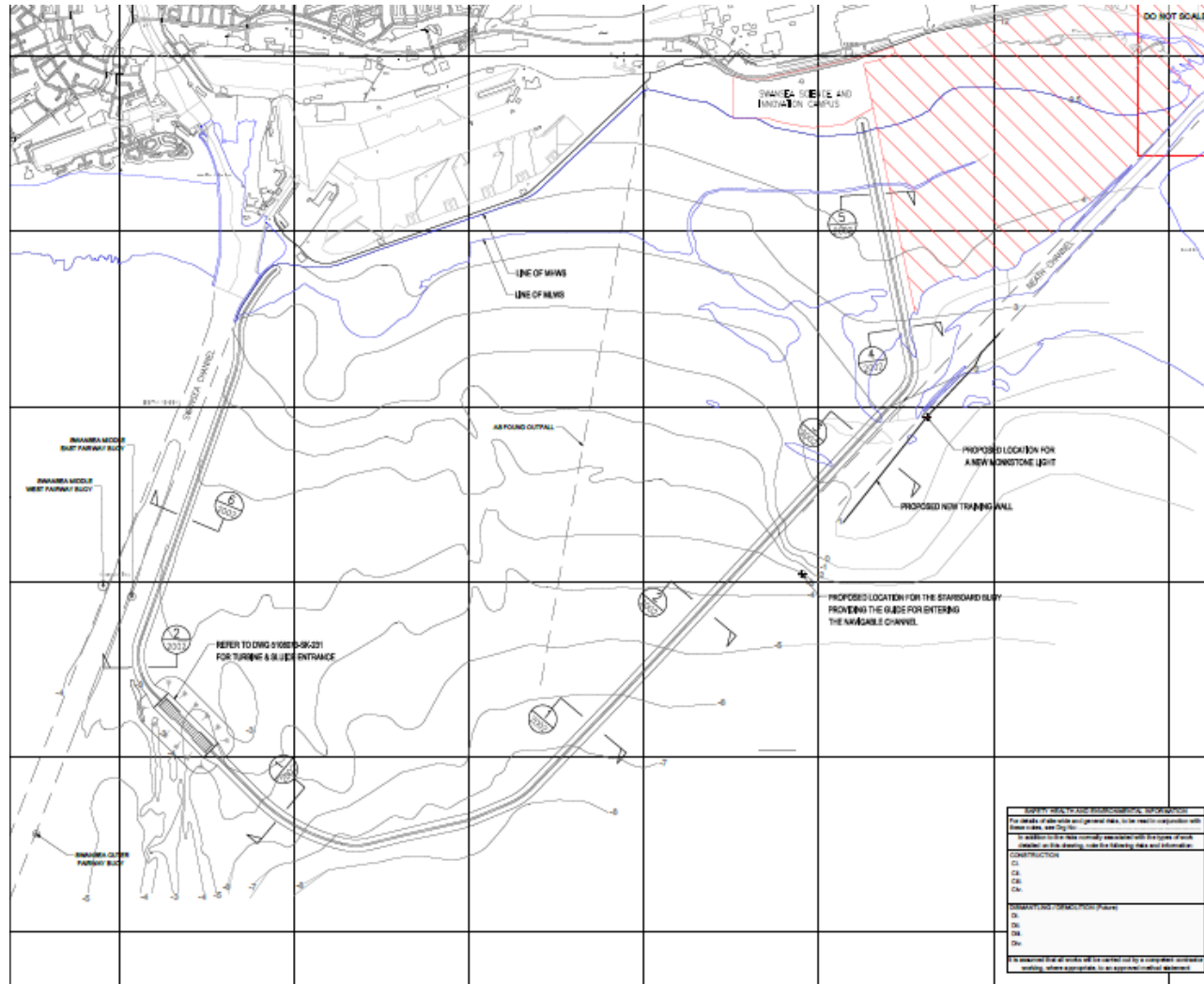
Design freeze – option J3

Option J had least effect on coastal processes & WQ. Additional consultation undertaken:

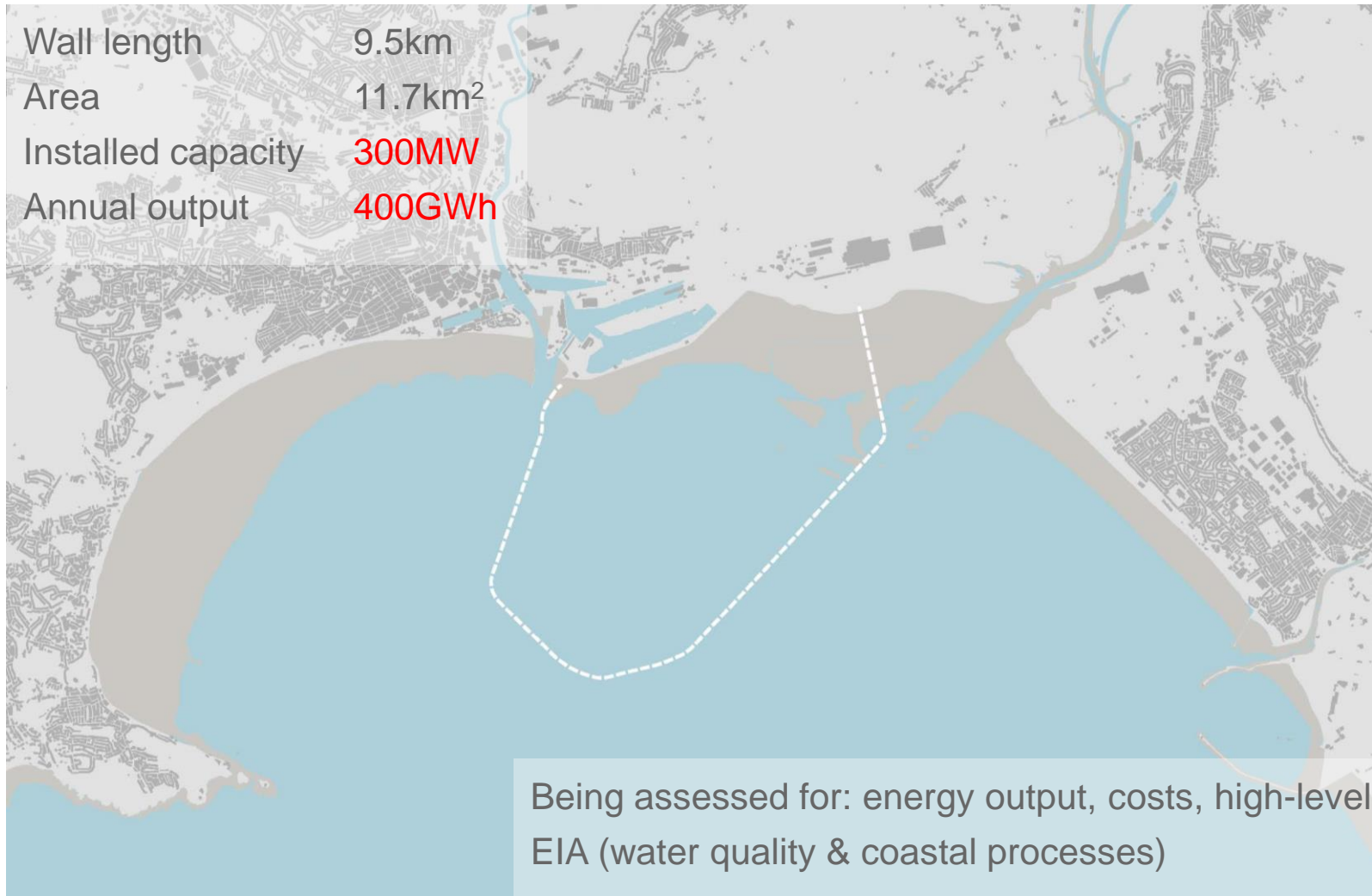
- Concerns raised about encompassing Crymlyn Burrows (M)
- Neath Port Authority opposed to moving the Neath dredged channel (K)
- Further discussion with NPA re: aligning lagoon wall J with Neath channel
- NPA requested lagoon wall forms new training wall for channel and that channel is widened at mouth

So we end up with... option J3

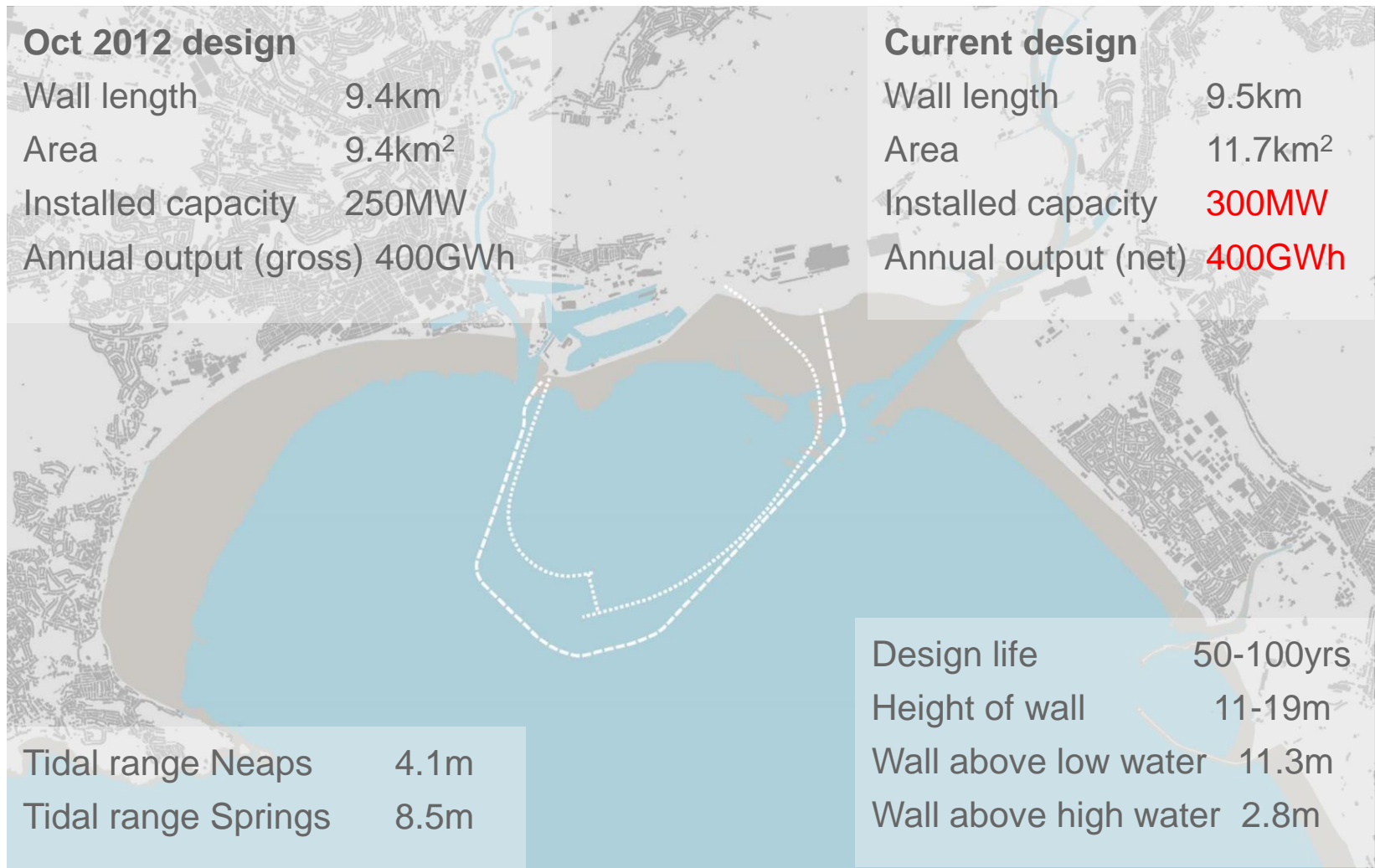
Design freeze – option J3



Current preferred option under review



Design comparison



Ongoing EIA, viability & design refinement

18 months of development work suggests Swansea Bay offers great potential for lagoon construction. Key ongoing work streams:

- **EIA** – scope agreed with regulators, EIA now underway, with collaborative input from statutory consultees (including NRW and LPAs). PEIR due in July.
- **Hydrodynamic modelling** – multiple lagoon shapes/sizes tested for water quality, sediment transport and sand erosion/deposition impacts
- **Value engineering** – reduce cost of sea wall, turbine housing, construction methods
- **Turbine design** – leading manufacturers Voith and Alstom (plus Turbo Institute) refining specifications for low-head bulb turbines
- **Grid** – pre-application discussions with National Grid & Western Power Distribution to identify likely grid connection, network capacity and timescales
- **Leasing & consents** – engagement with landowners including The Crown Estate, ABP Swansea & Swansea University
- **Onshore masterplanning** – maximising onshore opportunities with ABP & University.

Project update

Consultation

Consultation Strategy / SoCC

- Formally submitted to CCS, NPTCB, PINS and MLT on 15 April
- Deadline for responses, 15 May
- Formal consultation programme revised – min. 28 days
- Consultation zones being refined with reference to:
 1. Wards within Reg.9 community council areas
 2. Seafront wards in CCS and NPTCB
 3. Wards within 1km of the onshore cable route and substation
 4. Wards with significant views of the lagoon within the 15km Zone of Theoretical Visibility (ZTV)

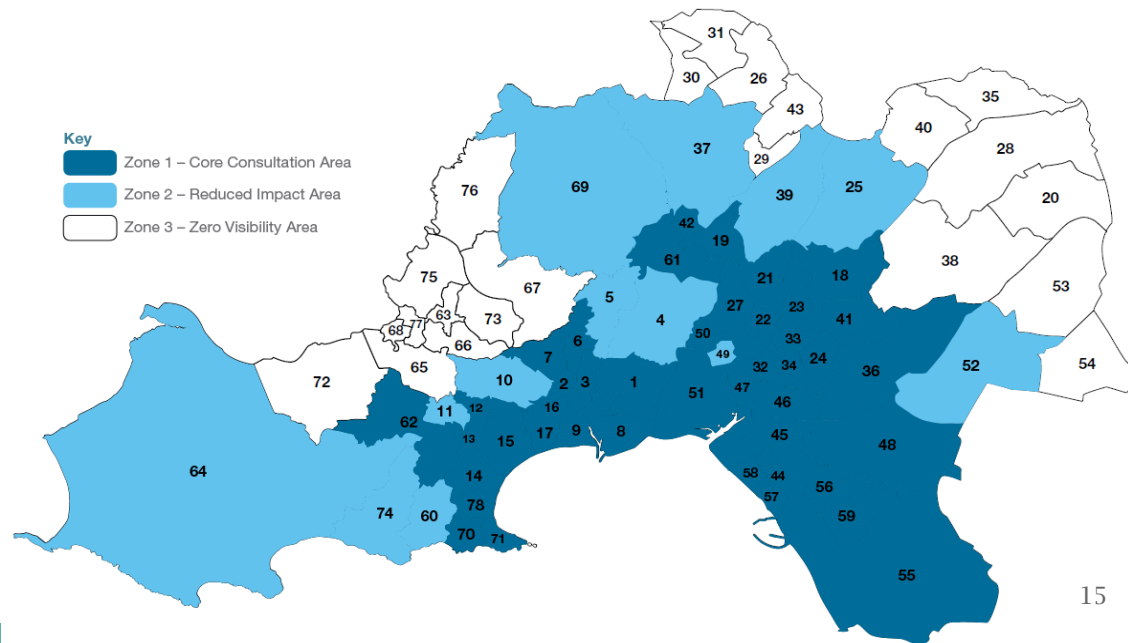
Consultation phasing

“To manage the tension between consulting early, but also having project proposals that are firm enough to enable consultees to comment, applicants are encouraged to consider an iterative, phased consultation consisting of two (or more) stages... Applicants might wish to consider undertaking informal early consultation at a stage where options are still being considered. This will be helpful in informing proposals and assisting the applicant in establishing a preferred option on which to undertake formal statutory public consultation.” DCLG Pre-App. Guidance, Para 52.

- **Phase 1, informal consultation (s42 & s47 groups): ‘Issues and Options’**
 - Phase 1a (basic project intro): autumn 2011 to February 2013
 - Phase 1b (refined project intro/design): March 2013 to Phase 2
- **Phase 2, formal consultation, s42 & s47: ‘Preferred Option and the PEIR’**
 - From 3 July for minimum 28 days
 - Closing date: 31 July (TBC)

Formal consultation – zoning

- **Zone 1, core consultation area** – seafront & other wards with significant visibility of the Project – flagship events & focus of all communications
- **Zone 2, reduced impact area** – wards with limited visibility of the Project – targeted communications where the Project is most visible, promoting attendance at Zone 1 events & encouraging response via questionnaire/online
- **Zone 3, zero visibility area**
 - mass media/public relations & letters to Community Councils to promote participation, online response, & attendance at Zone 1 events



Consultation to date – issues/response

KEY ISSUE	RESPONSE
Coastal processes/sediment transport – impact on beaches in the Bay and further afield	EIA / iterative design process to minimise impact – e.g. changes to lagoon shape
Ecology – impact on fish, birds, marine mammals, other marine organisms	EIA / iterative design process to minimise impact – e.g. fish-friendly turbine design
Water quality – impact on designated bathing beaches, shellfish areas, other water uses	EIA / iterative design process to minimise impact – e.g. provision of storm water treatment
Visual impact	Increase no. of CGI views in EIA (LVIA)
Energy – how much energy, and when?	Energy optimisation studies / iterative design process to maximise energy production – e.g. changes to lagoon size/shape, number/size of turbines

Consultation to date – issues/response

KEY ISSUE	RESPONSE
Navigation – impact on large & small vessels	EIA / consultation with port owners & users / iterative design process to minimise impact – e.g. changes to lagoon shape
Traffic & transportation – during construction, operation, events	EIA and masterplanning study. Aim to maximise use of rail/sea transport during construction
Planning – the process by which consent will be sought	Provision to include description in consultation materials
Deliverability – will it ever happen?	Provision to include company background, consultants' credentials, & project finance info in consultation materials

While a wide range of issues have been raised by stakeholders and the public, the balance of responses has been very positive.

Informal public consultation: April 2013

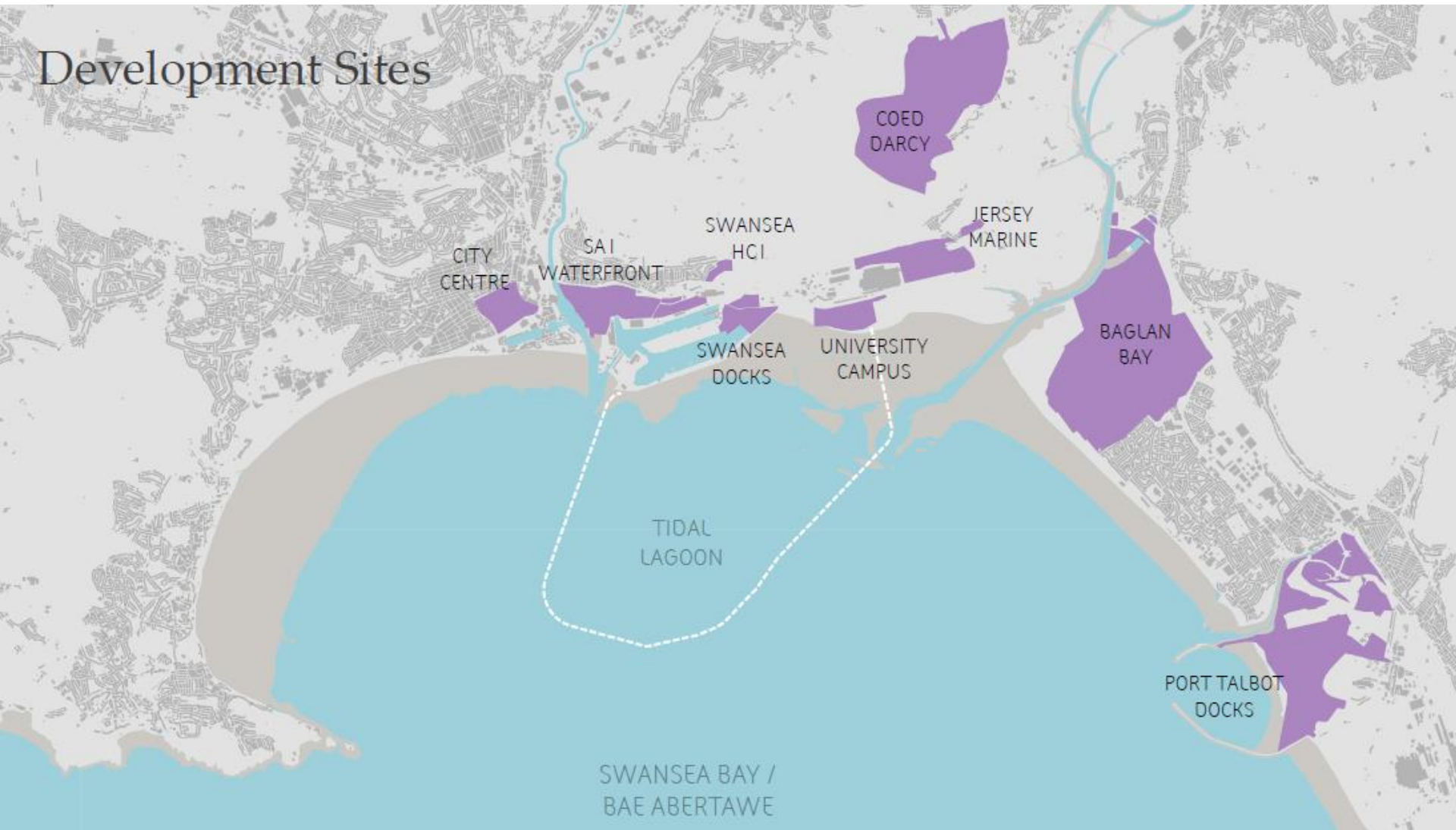
Event	Swansea Civic Centre	Mumbles, Ostreme Centre	Port Talbot, Princess Royal Theatre	TOTALS
Date	11 April, 10am-6pm	16-17 April, 12-6pm each	18 April, 10am-6pm	~
Attendance	197	176	58	431
Feedback forms	77	93	32	202
In favour / undecided / opposed	71 / 6 / 0	78 / 14 / 0	25 / 7 / 0	174 / 27 / 0

- Common concerns as summarised, more info on EIA preferred
- Over 80% of attendees rated the event (useful/informative) as 8/10 or above

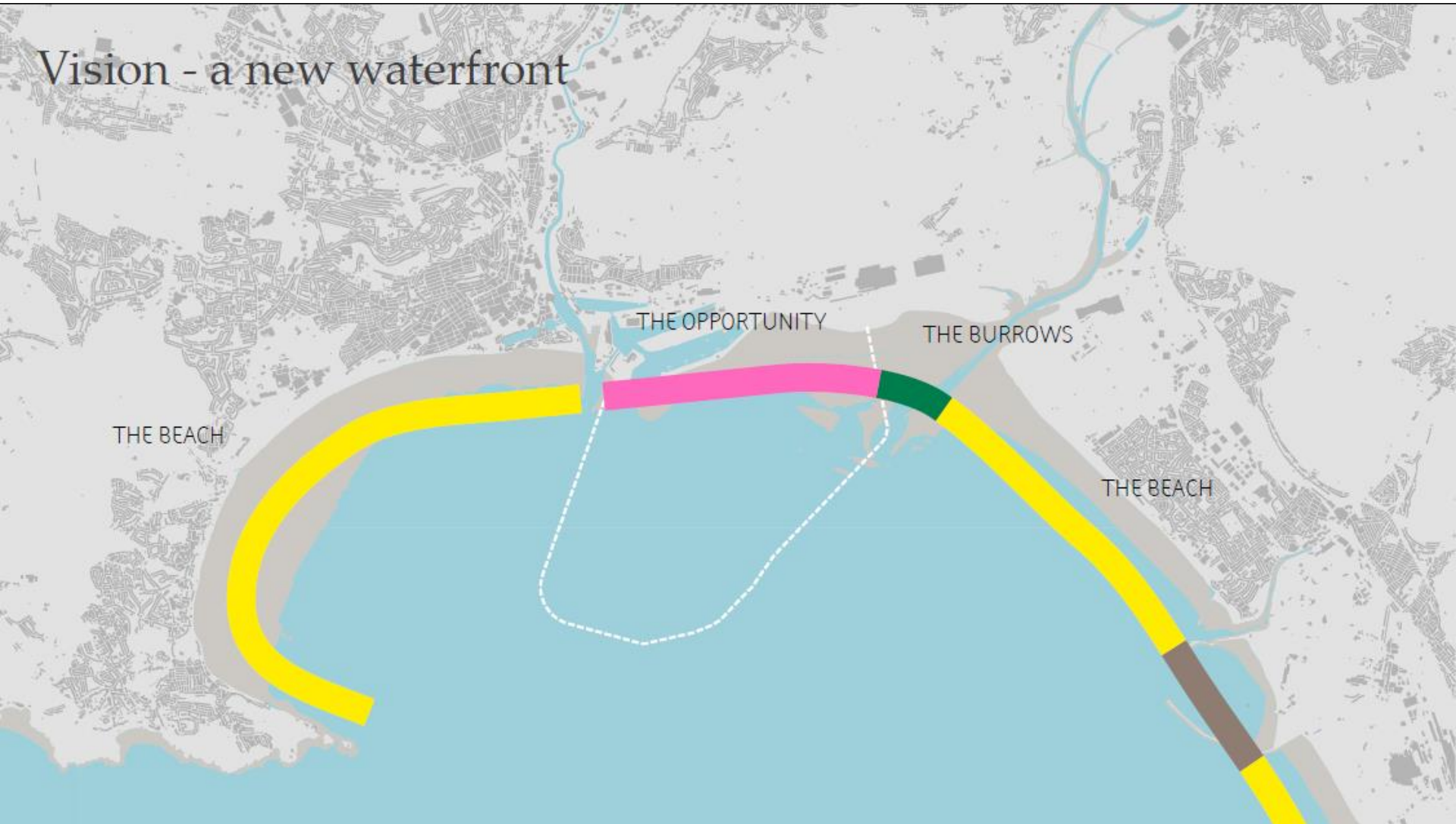
Project update

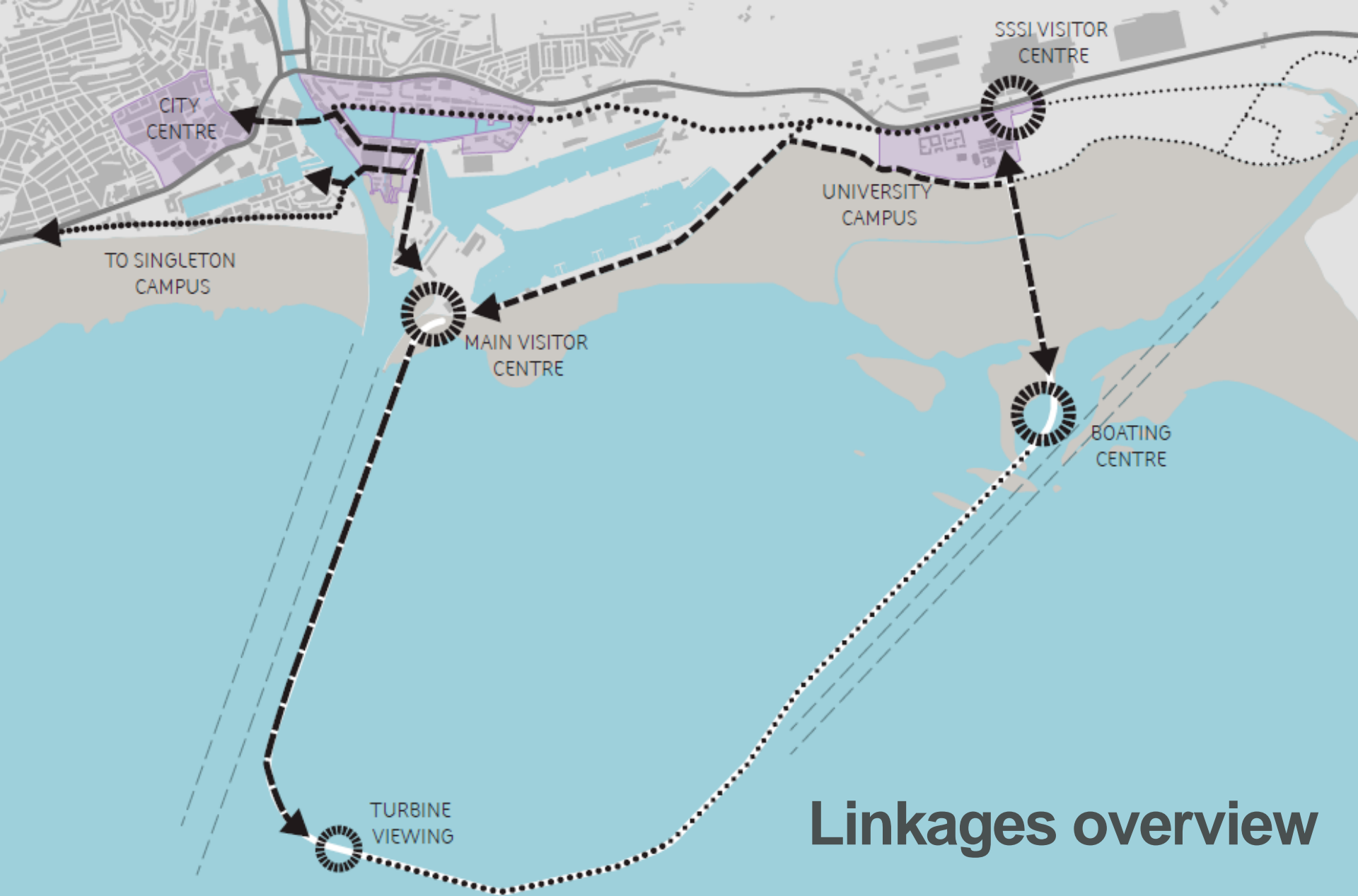
Onshore masterplanning

Development Sites

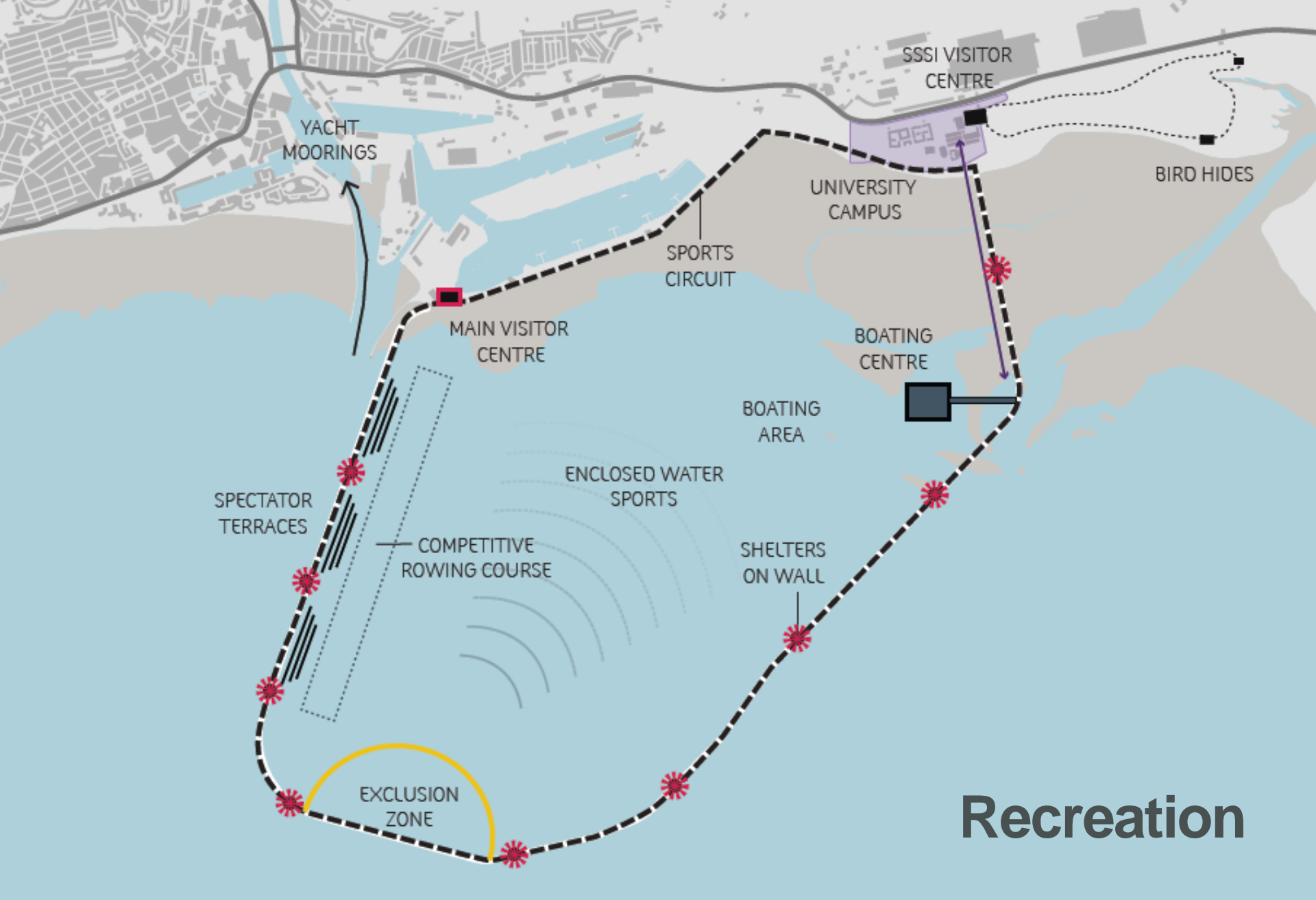


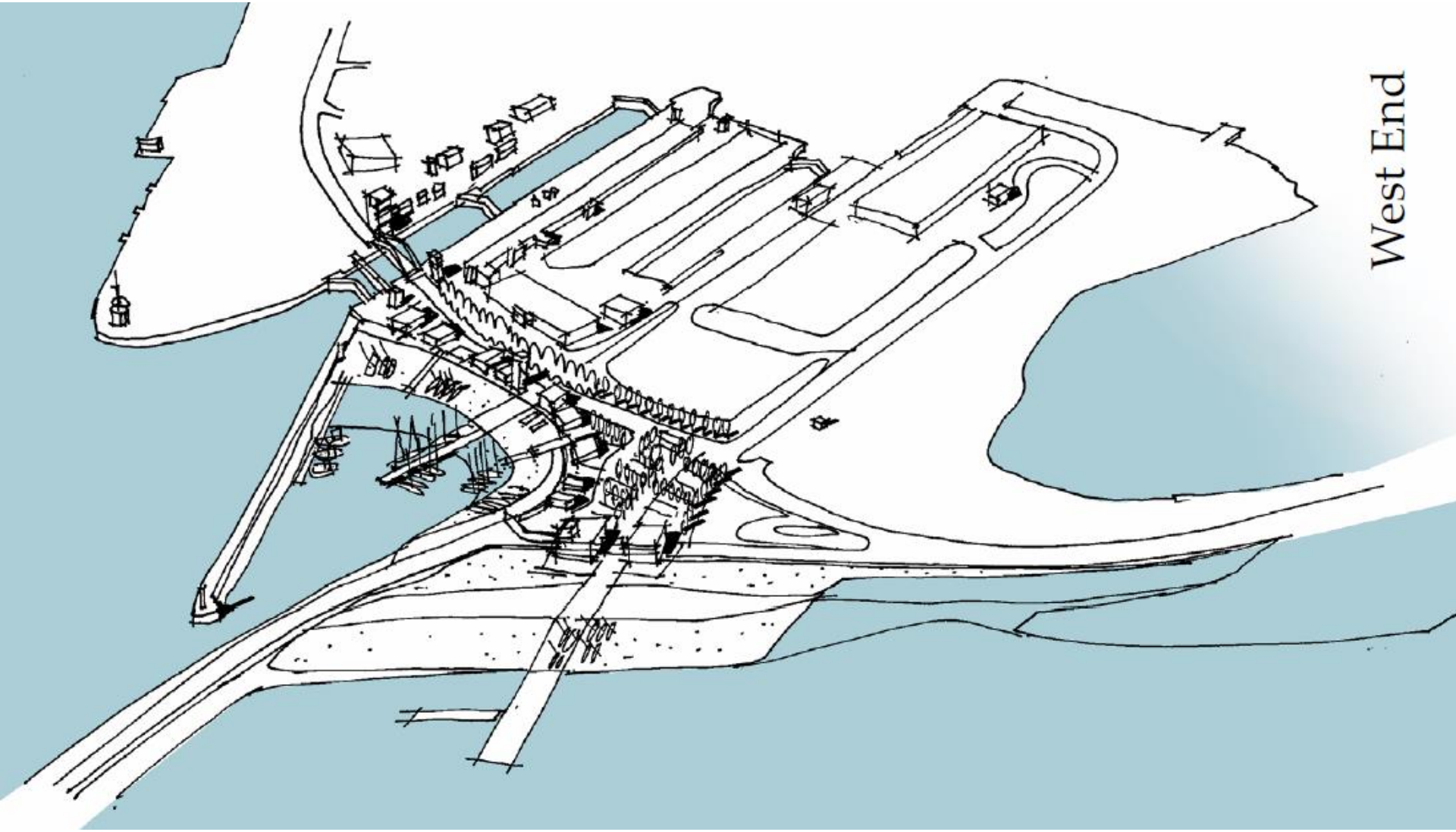
Vision - a new waterfront





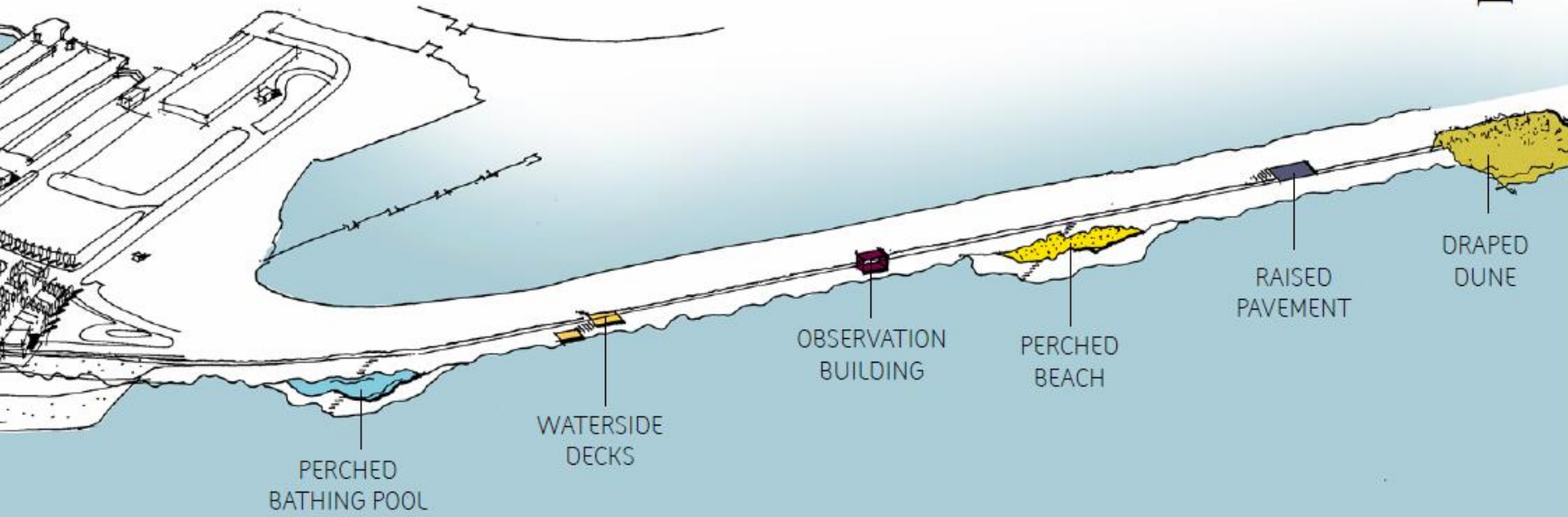
Linkages overview

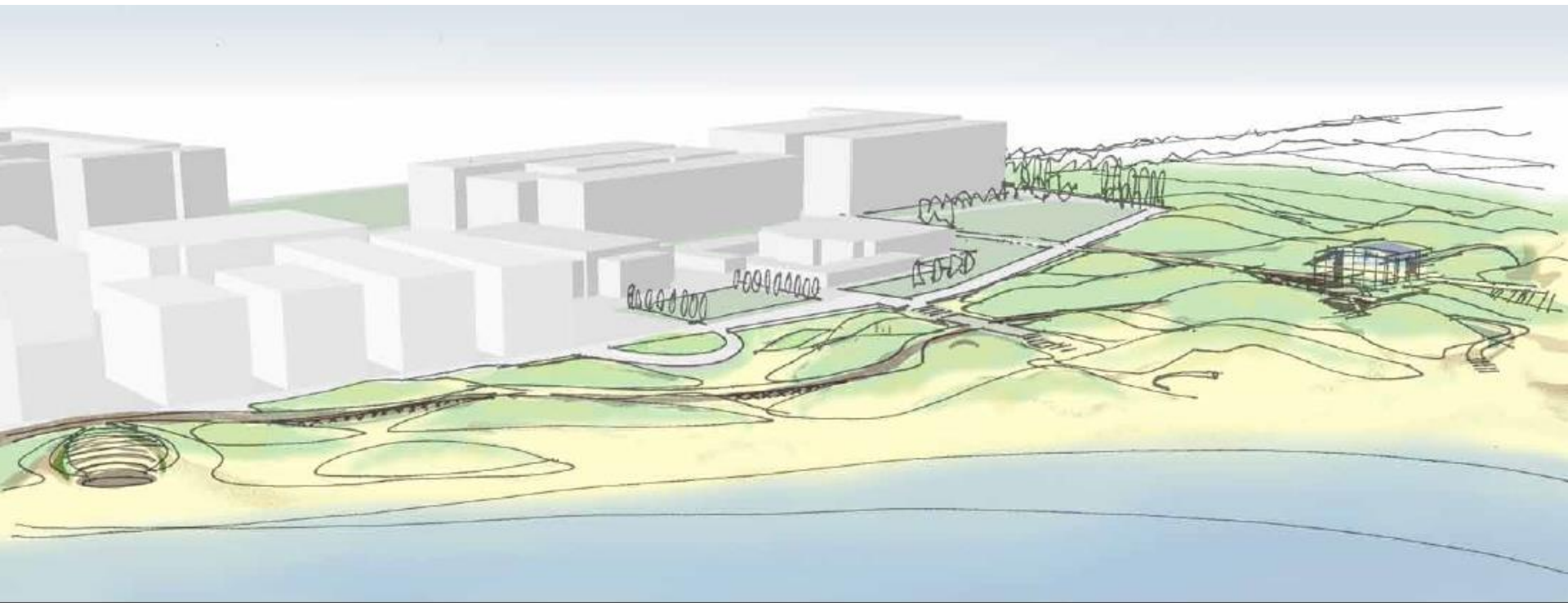




West End

Dockside





SAIC / lagoon interface

SAIC Phase 1 / lagoon interface



SAIC Phase 2 / lagoon interface



Landscape concept



Project update

EIA progress

Environmental Impact Assessment

Comprehensive assessment of impacts, from construction to decommissioning, and including cumulative impacts from other proposed development and activities

- Coastal processes, sediment transport & contamination
- Marine water quality
- Intertidal & sub-tidal benthic ecology
- Fish, recreational & commercial fisheries
- Marine mammals
- Coastal birds
- Navigation & marine transport
- Terrestrial ecology
- Seascape & visual amenity impact
- Onshore transport & air quality
- Economy, tourism & recreation
- Marine & terrestrial noise
- Archaeology & historic landscape
- Flood risk
- Land quality
- Habitat regulation assessment
- Water Framework Directive assessment

EIA scoping report submitted to PINS: Oct 2012

EIA scoping response received: Nov 2012

Baseline reviews in progress for reporting: Q1 2013

Preliminary Environmental Impact Report ready: July 2013

Key progress by EIA subject, 1 of 2

- **Coastal process** – detailed model built & verification report being prepared. Modelling of option J3 to commence
- **Water quality** – options being prepared for further discussions with DCWW concerning storm discharge into lagoon. UV disinfection of storm water (as used at Cogmoors) is preferred option
- **SLVIA** – Meeting held with CCW, viewpoints agreed & photography being progressed
- **Marine & terrestrial noise** – surveys complete, additional data on piling being sought from Swansea Uni
- **Marine mammals** – Swansea Met Uni commissioned to provide further baseline data

Key progress by EIA subject, 2 of 2

- **Intertidal / subtidal fish** – winter surveys complete. Spring survey due
- **Fish behaviour** – modelling commenced. Encounter modelling proposed once turbines fixed
- **Benthic grab sampling** – survey complete. Epifauna trawls commencing
- **Breeding birds** – surveys started, coastal bird surveys on-going
- **Terrestrial ecology** – further surveys progressing, incl. otters & reptile tinning
- **Navigation** – risk workshop undertaken to gain feedback from range of stakeholders. Good attendance from wide range of stakeholders
- **Geotechnical investigations** – survey licensed & due to start in June

Programme – refer to hard copy

TLSB programme – pre-application phase

- Notify the Secretary of State of the proposed application Oct 2012
- Confirm requirement for (and scope of) Environmental Impact Assessment Oct 2012
- Environmental Impact Assessment underway from Nov 2012
- Consult Swansea/NPT Councils on consultation methods Mar/Apr '13
- Publish Statement of Community Consultation (i.e. consultation approach) June
- Preliminary Environmental Information Report (PEIR) complete end June
- Formal public consultation events (based on PEIR) July
- Deadline for receipt of comments on formal consultation 31 Jul
- Submit planning application to Planning Inspectorate 31 Oct

TLSB programme – post-application phase

Programme based on 1 October submission

- 28 days for Planning Inspectorate to accept/refuse the application end Nov '13
- Pre-examination phase (publicity, registration, preliminary public meeting) Dec-Feb '14
- Examination phase (hearings, Local Impact Reports) Mar-Aug '14
- Recommendation by Planning Inspectorate Nov '14
- Decision by Secretary of State for Energy Feb '15

BUILD PHASE – targets as of April 2013

- Construction start, target Mar 2015
- Construction complete, target End 2017

**Schedule of consents –
refer to hard copy**

Consent required:	Development Consent Order	Marine License	Planning Permission	EA Permits / Env't Permit	Euro Protected Species licence	NRW SSSI consent
Decision-maker:	SoFS (via PINS)	NRW (MCU)	LPA (CCS/NPT)	EA / other	Welsh Govt	NRW
Legislation:	Planning Act 2008	M&CAA 2009	T&CPA 1990	Various	TBC	TBC
Determination period:	c.15 months	Not fixed	8-16 weeks	TBC	TBC	TBC
DRAFT						
Site investigations and surveys - separate to main consents						
Extended geophysics		Y				Y
Geotech		Y				Y
Offshore project components - temporary						
Cofferdam	Y	Y			?	
Temporary workspace	Y	Y			?	
Navigation/lighting requirements	Y	Y				
Dredging disposal (unsuitable materials)		Separate app.			?	
Offshore project components - permanent						
Dredging seabed for materials	Y	Y			?	
Lagoon wall	Y	Y		If defined as a flood defence	?	
Turbine housing	Y	Y			?	
Offshore cable route to grid connection	Y			Y		Y
Horizontal directional drilling below R.Neath, for cable	Y	Y				
Visitor centre - offshore option	Y	Y - if piled structure				
Rowing/sailing centre - offshore option on eastern arm of lagoon wall	Y					
Offshore public realm (incl. plinths for/siting of artworks)	Y					
Artworks on the lagoon wall	Y					
Navigation/lighting requirements	Y	Y				
Offshore emergency facilities/slipway	Y	Y				
Offshore mariculture facilities on seabed (if any)	Y	Y				
Works to Swansea Port channel	Y	Y				
Works to Neath Harbour channel	Y	Y				
Sewage outfall extension and buoys	Y	Y		Y	?	
Onshore project components - temporary						
Onshore construction compound	Y					
Onshore decontamination works	Y			Y		
Onshore project components - permanent						
Onshore cable route to grid connection	Y	Y - for Neath x'ing				Y
Onshore O&M building(s) & parking	Y					
O&M slipway facilities (dual leisure purpose?)	Y	Y				
Visitor centre - onshore option, western landfall	Y					
Onshore visitor parking	Y					
Eastern landfall access control (incorporating Crymyln Burrows SSSI visitor centre?)	Y			Y		
Rowing/sailing centre - onshore option	Y		TBC			
Queen's Dock seafront path/public realm	Y					
Queen's Dock seafront buildings/installations	TBC					
King's Lock swing bridge	Y	Y		Y		
Prince of Wales Lock (new SA1 access) swing bridge	Y	Y		Y		
King's Lock, RO/RO path/public realm	Y					
Demolitions	Y					
King's Lock, RO/RO buildings/installations	Unlikely		Likely			
Cycle routes (Sustrans)	TBC		TBC			
Highways improvements for access (on ABP land)	Y					
Highways improvements for general connectivity	TBC		TBC			
Lobster hatchery	Y (WFD)	TBC	Likely			
Onshore mariculture facilities	Y (WFD)		Likely			
Biofuels research/production centre						
Other onshore leisure/commercial facilities	Unlikely		Likely			



Without Prejudice

NB: we will only apply for one DCO. Ideally we will only apply for one Marine License as well. We can apply for multiple planning permissions from the LPA if need be.

NB2: Planning strategy may include twin-track DCO and planning applications to ensure delivery of project benefits.

Schedule of DCO documents – refer to hard copy

SCHEDULE OF APPLICATION DOCUMENTS

Folder	Ref. no.	Title of Document	Responsibility
Application Form Functions	1.1	Covering letter accompanying the Application	DLA Piper
	1.2	Application Form for the Proposed Tidal Lagoon Swansea Bay Order	DLA Piper
	1.3	Copies of newspaper notices	DLA Piper/TLSB
Plans	2.1	Land and Works Plans	LDA Design/ Ardent
	2.2	Planning Drawings	LDA Design
Draft Development Consent Order	3.1	Draft Proposed Tidal Lagoon Swansea Bay Development Consent Order	DLA Piper
	3.2	Explanatory memorandum explaining the purpose and effect of provisions in the draft Proposed Tidal Lagoon Swansea Bay Order	DLA Piper
Compulsory Purchase Information	4.1	Statement of Reasons	DLA Piper
	4.2	Funding Statement	TLSB (PC)
	4.3	Book of Reference Part 1 - Part 5	Ardent
Reports	5.1	Consultation Report	TLSB (AH)
	5.2	Flood Risk Assessment	URS
	5.3	Historic Environment Report	TLSB EIA team
	5.4	List of other consents and licences required	DLA Piper
	5.5	Report to inform Habitats Regulation Assessment	TLSB EIA team
	5.6	Natural Features Report	TLSB EIA team
	5.7	European Sites Report	TLSB EIA team
	5.8	Statement of Engagement of section 79 Environmental Protection Act 1990 (if applicable)	DLA Piper
Environmental Statement	6.1	Environmental Statement Volumes I - [x]	TLSB EIA team
	6.2	Environmental Statement Non-technical summary	TLSB EIA team
Additional Information (Reg 6)	7.1	Grid Connection Statement	DLA Piper
Other Documents	8.1	Development Consent Obligation Heads of Terms	DLA Piper
	8.2	Planning Statement	TLSB (AH)
	8.3	Design and Access Statement	LDA Design
	8.4	Water Framework Directive Compliance Assessment	TLSB EIA team

Tidal Lagoon Swansea Bay



An artist's impression (*CAD used to size wall heights*)