

Table 4: SWOT Analysis Showing the Strengths, Weakness', Opportunities and Threats of the Main Access Infrastructure Options.





Access Infrastructure Option		S	W	O	T
		STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
<p>1000ton Vessel Hoist</p> 	<ul style="list-style-type: none"> Offers increased versatility over type of vessel / device accommodated. Vessel / device can be taken from cost effective laydown to water in short space to time. Single vessel / device does not compromise the ability for the hoist to do other lifts. No Self Propelled Modular Transporter (SPMT) required. 	<ul style="list-style-type: none"> Limited to vessel / devices that mimic traditional hull structures and width of hoist. Hoist would require manning revenue cost to use. Hoist would require maintenance adding revenue cost to use. Limited by tidal cycle unless extensive and expensive capital and maintenance dredging carried out. Boat Lift would cost in the region of £13m including new quay wall and Graving Dock infill. 	<ul style="list-style-type: none"> Increase capacity for Marine Vessel lifting in excess of 160ton (current capacity) to 1000ton. Hoist would be available to use by third parties in supply chain, increasing interest in Pembroke Port and potential added value (e.g. letting of commercial premises.) 	<ul style="list-style-type: none"> New sheet piled Quay wall and access fingers in front of the Grade 2* Georgian Quay would be required. Heritage Consent Risk. Complete loss of Listed Slip 2 Vessel hoist itself could be classed as mobile equipment ineligible for state aid support under GBER for Maritime Ports. Given the wide spectrum of technology developments, risk that it would be under-utilised by the marine energy sector. 	
<p>Jack Up Barge</p> 	<ul style="list-style-type: none"> Offers increased versatility over type of vessel / device accommodated potentially up to 6000ton. Can also be used to support heavy lift at Quay 1 (out of picture) Mobile within the confines of the waterway enabling deepest water access option Vessel could be positioned portrait or landscape against the quay. 	<ul style="list-style-type: none"> Vessel would require manning or support (use of tugs) adding cost to use. Vessel would require maintenance adding cost to use. Would be limited to the dimensions between the jack- up's legs The most expensive Option (circa £20m) including quay strengthening. 	<ul style="list-style-type: none"> Increase capacity for marine vessel / device lifting in excess of 160ton (current capacity) to 6000ton. Jack-up would be an attractive asset to multiple sectors. Use would not necessarily be limited to the confines of this Quay but across Pembroke Port and the Waterway. Jack- up would be available to use by third parties in supply chain, increasing interest in Pembroke Port and potential added value (e.g. letting of commercial premises.) 	<ul style="list-style-type: none"> Jack-up would require a new sheet piles Quay wall in front of the Georgian Quay. Heritage Consent Risk. In order to accommodate landscape berthing, Grade 2 listed Slip 2, would require to be infilled. Heritage Consent Risk. Jack-up could be classed as mobile equipment ineligible for state aid support under GBER for Maritime Ports. Complete loss of listed slip 2 	
<p>Floating Dry Dock (FDD)</p> 	<ul style="list-style-type: none"> Offers increased versatility over type of vessel / device accommodated. Unit is self-contained and can be relocated to support needs elsewhere. 	<ul style="list-style-type: none"> Vessel / device locks asset and access quay space up for duration of docking. Dock would requires highest manning of all options adding cost to use. Dock would require maintenance adding cost to use. And reducing asset availability. 	<ul style="list-style-type: none"> Capacity for Marine Vessel lifting in excess of 160ton (current capacity) to 6000ton. FDD would be an attractive asset to multiple sectors. Use would not necessarily be limited to the confines of this Quay but across Pembroke Port and the Waterway. 	<ul style="list-style-type: none"> New sheet piled Quay wall and access fingers in front of the Grade 2* Georgian Quay would be required. Heritage Consent Risk. Complete loss of slip 2 Given the wide spectrum of technology developments, risk that it would be 	

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			<ul style="list-style-type: none"> • Extensive capital and maintenance dredging carried out, adding cost to use. • Costs £17m including new quay wall and Graving Dock infill. 	<ul style="list-style-type: none"> • FDD would be available to use by third parties in supply chain, increasing interest in Pembroke Port and potential added value (e.g. letting of commercial premises.) 	<ul style="list-style-type: none"> • under-utilised by the marine energy sector. • Dock could be classed as mobile equipment ineligible for state aid support under GBER for Maritime Ports.
<p>Slipway</p>		<ul style="list-style-type: none"> • Offers greatest versatility over type of vessel / device accommodated. • Vessel / device can be taken from cost effective laydown to water. • Single vessel / device does not compromise the ability for the slipway to be used for other movements • No manning required (other than SPMT / Hoist), which can be contracted on a case by case basis. • Longest design life (50 years +) • Lowest Maintenance costs • Accessible at all states of the tides • Compliant with State Aid under GBER for Maritime Ports. • Being 80m wide, can accommodate most vessel transitions bow / stern on or Port / Starboard (side slipping) 	<ul style="list-style-type: none"> • Requires mobile lifting equipment (hoists / Self Propelled Modular Transporter) to move equipment. • Only useful for vessels / devices that float or are capable of floating. • Fixed asset tied to location. 	<ul style="list-style-type: none"> • Strong trend in marine energy (including floating wind) to see devices able to float. • Offers the most cost effective means of access to water for these developers lowering cost of energy. • Lowest capital and revenue cost option. (Approx. £12m). • Only option not requiring new quay wall in-front of 2* listed Graving Dock. 	<ul style="list-style-type: none"> • Grade 2 listed slipway 1 and slipway 2 would need to be combined. Heritage Consent Risk. • Limited to accessing depths of water in immediate vicinity. • Devices must be engineered to withstand the structural stress as vessel/device transitions from flat surface to slipway.

3.8 Alternatives

A great deal of work has been undertaken to present this scheme for the economic benefit of Pembrokeshire, the Swansea Bay City Region, Wales and the UK, whilst being as sympathetic to the heritage environment as possible. This has included looking at alternative options for the Access Infrastructure as evidenced in the SWOT analysis in Section 3.2 and Masterplan Consultation Document in Section 2 and Appendix C of the FBC.

The Alternatives to create something of similar scale, intrinsically linked to the existing Dockyard operations with equal to or greater accessibility to the water are limited within the confines of the Dockyard itself. Any other location within the Dockyard itself would require the modification to an existing deep-water access or impacting a heritage asset of equal or greater status. It would also have a negative impact on the existing commercial operations within other areas of the docks.

Without the slipway in the proposed location, the benefit of modifying the adjacent Graving Dock site, successfully acquiring the 3rd party land around the former Foreman's Office and the need to provide sufficient transport corridor space between the laydown areas in the southern part and the new deep-water access would all be compromised.

Just as the historic assets were all critical to the functionality of the original Dockyard, their collective modification is also considered critical to the successful evolution of the Port to meet the needs of a modern maritime sector.

In terms of other sites, the Waterway is a highly protected area and an alternative site within the Milford Waterway Special Area of Conservation would not provide a de-risked credible alternative as the risk of consent would shift from Heritage to Ecological. The value for money associated with a new build as opposed to a renovation would most likely result in a far lower economic case test.

Again, with a view to considering alternative sites, the key components of the proposed scheme are having flat areas of land close to relatively deep water. Aside from the environmental considerations, there are no other suitable sites within the waterway, simply because of the geology of the area.

The only possible location is Hobbs Point, however, the renovation and repurposing of existing assets at Hobbs Point would not provide a like for like in terms of scale meaning that land

reclamation would be required. The likelihood is that the commercial viability of such a scheme would be compromised due to the nature of ground conditions at the site and costs associated.

As is currently the case with access infrastructure that is not capable of handling the scale of fabrication, the Port would need to continue working with the technology developers to fabricate their technology in sections. The sections would need to be launched individually and mated together in the water. If the slipway was unconsentable, this could lead to the development of a business case for a fixed offshore platform in the waterway with cranes and other equipment located on its deck. However, it is not considered that this concept could be delivered as an affordable solution for the investors (including public) and technology developers so would only be progressed further if the preferred scheme was not forthcoming.

The focus for alternatives is therefore to look at alternative / additional enhancement measures if the view from the PCC / CADW is that the current propositions in Section 2.6 is insufficient in scope to fully mitigate the residual impact.

3.8.1 Hobbs Point Ambition Plan

Adjacent to the Dockyard is a dis-used and under-utilised area with potential for deep water access. The redevelopment of this site was proposed in the Masterplan Consultation Document (under the do-more option) in Appendix C of the FBC.

The site lies outside the Special Area of Conservation boundary therefore development has the potential to only indirectly impact the designated area.

The renovation of this asset is mentioned in the FBC. If successful in achieving the SBCD funding and its investment objectives the economic activity should be such that more port facility would be required to meet industry's needs, and this site offers the most viable opportunity for further development in the waterway.

