	<h2 style="text-align: center;">Health &amp; Safety - Designer's Hazard Record</h2>	
	<b>Project Title</b> Isles of Scilly Flood Defence and Dune Management Project – Porth Hellick	<b>Project Code</b> UA008878-ARC-XX-XX-HS-CE-0562-P2

**Assessment Coverage:**

Dune recharge to reduce the vulnerability of the Higher Moor SSSI to saline intrusion; the installation of a beach access ramp over the newly raised dune for maintenance of the leat outfall; approach access track to the beach ramp to reduce erosion and the installation of an elevated timber boardwalk to access the beach.

**1. Scope of Commission and Coverage of Assessment:**

This part of the scheme comprises the following elements:

1. Restoration of the existing backshore beach dune to +5.00 m ODL.
2. Installation of an elevated timber boardwalk access to the beach.
3. Installation of a flexible precast concrete block mattress to facilitate access to vehicles to the beach to carry out maintenance works on the leat outfall.
4. Installation of an access track from the approach field to rear of the dune ramp.

**2. Brief Description of the Works:**

1. A walkover of the site and visual inspection of the existing conditions along the beach.
2. Detailing of the dune restoration to +5.00 m ODN, including the stabilisation with 100% biodegradable geotextile mats and revegetation of the crest.
3. Detailing of the vehicle access track to the beach with hand laid concrete armour units.
4. Specification of the pedestrian access to the beach through an elevated timber boardwalk.
5. Specification of vehicle track

**3. Key Risk Reduction measures taken during design process:**

1. The footprint of the works has been kept above the MHWS mark.
2. Excavation works have been kept to a minimum by adopting the concrete Ankaloc solution for the access track.
3. The Ankaloc blocks are to be individually laid by hand, thereby removing the need for heavy machinery on site.
4. The stabilisation of the dune is to be achieved with 100% biodegradable mats, reducing the environmental impact of the solution on the SSSI.
5. The concrete in the anchor beams for the armour units has been specified to sustain its exposure to the marine environment, increasing its durability. Exposure class is XF4 for high water saturation with de-icing agent or sea water and the design chemical class is DC-1.
6. An "S4" consistence class for the concrete has been specified to allow its self-compaction, eliminating the need for vibration, which reduces the exposure to hand arm vibration injuries.

**4. Significant Project Specific Hazards Remaining:**

- A. Works adjacent to water. Though working is above MHWS, the site could be effected by wave conditions and extreme tidal levels.
- B. Soft & unstable ground – The dune is formed of gravel (4-10mm particle size). Risk of machinery overturning
- C. Public beach – Possibility of public entering the works area.
- D. Services – Higher Moors leat outfall pipe buried in dune.
- E. Environmentally sensitive dune designated SSSI & AONB

F. Invasive plant species- Hottentot Fig (Carpobrotus Edulis) present amongst existing native vegetation on the dune.

**5. Specific Construction Requirements**

**6. Means by which significant hazards are conveyed to contractors and others:**

1. Hazard markers added to drawings



Date of Review

**Assessed by:**

Name E. Bolanos Signature  Date 19/09/2017

**Reviewed by:**

Name Ian Cooke Signature  Date 19/09/2017

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	Project Title: Isles of Scilly Flood Defence and Dune Management Project – Porth Hellick	Assessor (Name): Emilio Bolanos	Assessor (Signature): 	Date: 19/09/17	Revision: P2

Ref	Activity & Hazard	Level of Risk (optional)	Design Input to Eliminate or Reduce Hazards, and Hazards Remaining	Residual Hazard?
A	Working adjacent to water		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes
B	Soft & unstable ground		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes
C	Public beach		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes
D	Services- Higher Moors Outfall		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes
E	Environmental sensitive dune. Designated SSSI & AONB		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes
F	Invasive Plant Species - Hottentot Fig (Carpobrotus Edulis)		This is an unavoidable consequence of the works and the contract is to mitigate the associated risks	Yes