

DATED 26th November

2015

ASTI LIMITED

(1)

and

YACHT HAVEN (HAYLING) LIMITED

(2)

and

THE COUNCIL OF THE BOROUGH OF HAVANT

(3)

DEED

Pursuant to (inter alia)

Section 106 of the Town and Country Planning Act 1990

Relating to land at

Yacht Haven Development Site, Copse Lane, Hayling Island

In Hampshire

Jo Barden-Hernandez
Solicitor to the Council
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant, Hampshire
PO9 2AX

THIS DEED is made the 26th day of November 2015

BETWEEN

- (1) ASTI LIMITED a company registered in Gibraltar under registration number 12876 ("the Owner")
- (2) YACHTHAVEN (HAYLING) LIMITED (Company Registration No: 07268718) whose registered office is situated at 8th Floor Elizabeth House 54-58 High Street Edgware Middlesex HA8 7EJ ("the Developer")
- (3) THE COUNCIL OF THE BOROUGH OF HAVANT OF Public Service Plaza Civic Centre Road Havant Hampshire PO9 2AX ("the Council")

WHEREAS:

- (1) The Council is the Local Planning Authority for the purposes of the Act for the area within which the Land is situate
- (2) The Owner is the freehold owner of the Land shown outlined in red on the Ownership Plan which is registered at HM Land Registry with Title No HP291126 and a certificate from the Solicitor to the Owner has been produced to the Council that the Owner is immediately entitled to possession and subject only to the interests of the Developer no other person having an interest therein at law or in equity.
- (3) The Owner, the Developer and the Council consider that the matters contained in this Deed are:
 - (a) necessary to make the development acceptable;
 - (b) directly related to the Development, and
 - (c) fairly related in scale and kind to the Development
- (4) The Council has received the Application for the Development and is minded to grant planning permission pursuant to the Application and subject to the completion of this Deed

NOW THIS DEED WITNESSETH as follows:

1 Statutory Powers

This Deed is made pursuant to:

- 1.1 Section 106 of the Act
- 1.2 Section 111 of the Local Government Act 1972
- 1.3 Section 1 of the Localism Act 2011

to the intent that it shall bind the Owner and the successors in title to each

and every part of the Land and its assigns

2. Interpretation

- 2.1 Reference in this Deed to a Clause Schedule or Recital shall mean a Clause Schedule or Recital of this Deed
- 2.2 Headings in this Deed are for ease of reference only and shall not affect the construction or interpretation of any of the provisions of this Deed
- 2.3 In this Deed where the context so admits:
- 2.3.1 words importing one gender shall include all other genders
- 2.3.2 words importing the singular shall include the plural and vice versa

3. Planning Obligations

- 3.1 The obligations contained in this Deed are planning obligations for the purposes of Section 106 of the Act and are enforceable by the Council

4. Covenants Binding on Issue of the Planning Permission

- 4.1 The covenants, undertakings, obligations and restrictions in this Deed shall become binding on the parties to this Deed upon issue of the Planning Permission

5. Definitions

- 5.1 In this Deed the following expressions shall unless the context shall otherwise require have the following meanings

"The Act"	means the Town and Country Planning Act 1990 as amended.
"the Application"	means the application submitted to the Council by the Developer given reference number APP/13/00317 for the Development
"Controlled Viewing Points"	means those two areas of land approximately 3 metres in width and 1.5 metres in depth to be provided, laid out and designated by signage as public viewing points and fenced so as to prevent unauthorised access but not to obstruct public views into the Yachthaven Conservation Meadow or Yachthaven Conservation Grassland in the locations indicated on the Site Layout Plan

"the Development"	means Development authorised by the Planning Permission consisting of construction of 6 No. 5 bed detached houses 1 No. detached boat store and ancillary office building 1 No. detached boat store for sailing charity use with hardstanding pontoon restricted to 12 berths (6 for house residents and 6 for non residents) improvements to slipway beach reposition concrete sea defence to side of slipway coastal footpath and the creation of one area of coastal meadow and one area of conservation grassland.
"Implementation"	means the Implementation of the Planning Permission by the carrying out of a material operation under Section 56(4) of the Act excluding operations consisting of site clearance demolition work on the Land archaeological investigations, investigations for the purpose of assessing contamination, remedial action in respect of contamination, diversion and laying of services and the erection of means of enclosure for the purposes of site security and/or the display of advertisements
"Information Boards"	means the information boards providing information to the public to be located along the public footpath and at the marine office in the locations indicated on the Site Layout Plan
"the Land"	means the Land at Yacht Haven Copse Lane Hayling Island in Hampshire shown for identification purposes only edged red on the Ownership Plan
"the Monitoring Fee"	means the sum of FIVE THOUSAND POUNDS (£5000) being a contribution (applied at such time and in such manner as the Council shall in its absolute discretion determine) to be used towards the costs to be incurred by the Council in the provision of suitably qualified and experienced persons whose function inter alia is to monitor coordinate and enforce planning obligations under section 106 of the Act

"the Moorings"	means the 12 berths on the pontoon forming part of the Development
"the Ownership Plan"	means plan appended given drawing ref 1103 rev C
"Plan 1"	means the plan annexed hereto and marked Plan 1
"the Planning Permission"	means the planning permission for the Development to be granted pursuant to the Application substantially in the form of the draft attached in Schedule 1
"the Site Layout Plan"	means drawing/plan ref 1105 revision R attached hereto
"Yachthaven Conservation Grassland"	means the area shown cross-hatched on the Site Layout Plan
"Yachthaven Conservation Meadow"	means the area shown hatched on the Site Layout Plan
"Yachthaven Eelgrass Monitoring Report"	means the Yachthaven Eelgrass Monitoring report prepared by Tristanna Cornwell dated April 2015 issued as Final Revised Document June 2015 submitted to the Council on behalf of the Owner and attached at Schedule 2 hereto

6. Monitoring Fee

- 6.1 The Owner shall not carry out nor cause or permit Implementation of the Planning Permission before the Owner shall have paid to the Council or caused to be paid to the Council the Monitoring Fee

7. Management of Land

- 7.1 The Owner covenants with the Council not to Implement the Planning Permission unless and until the Council has approved in writing the Owner's proposal for an entity or entities ("the Management Company") to be responsible for the management and maintenance of the Yachthaven Conservation Grassland and the Yachthaven Conservation Meadow, the provision and maintenance of the Information Boards, the provision and maintenance of the Controlled Viewing Points , the provision and maintenance of the channel marker post signs described in clause 8.1 below,

the management of the moorings and the Eelgrass monitoring described in clauses 7.2, 8, 9 and 10 below

7.2 Prior to occupation of any dwelling or building on the Land the Owner shall prepare and submit to the Council and obtain the Council's written approval to a management plan ("the Management Plan") containing the following:

7.2.2 proposals for arrangements to secure the future maintenance of the Yachthaven Conservation Grassland and the Yachthaven Conservation Meadow by the Management Company so as to ensure that the Yachthaven Conservation Grassland and the Yachthaven Conservation Meadow are properly maintained in perpetuity such proposals to include details of how the costs of maintaining the Yachthaven Conservation Grassland and the Yachthaven Conservation Meadow shall be met (by residents of the houses within the Development or otherwise)

7.2.3 proposals for arrangements to secure the future maintenance of the channel marker post signs described in clause 8.1 below by the Management Company so as to ensure that said signs are properly maintained in perpetuity such proposals to include details of how the costs of maintaining the said signs shall be met (by residents of the houses within the Development or otherwise)

7.2.4 proposals for arrangements to secure the future maintenance of the Information Boards by the Management Company so as to ensure that Information Boards are properly maintained in perpetuity such proposals to include details of how the costs of maintaining the Information Boards shall be met (by residents of the houses within the Development or otherwise)

7.2.5 proposals for arrangements to secure the future maintenance of the Controlled Viewing Points by the Management Company so as to ensure that Controlled Viewing Points are properly maintained in perpetuity such proposals to include details of how the costs of maintaining the Controlled Viewing Points shall be met (by residents of the houses within the Development or otherwise)

7.2.6 Proposals for arrangements to secure the Eelgrass monitoring and undertaking of mitigation measures as required under clause 9 below

7.2.7 Proposals for arrangements to secure the management of the moorings and enforcement of the requirements of the Eelgrass and Moorings code of conduct set out in clause 10 below

PROVIDED THAT the Owner shall remain responsible for the monitoring maintenance and upkeep of the Yachthaven Conservation Grassland and the Yachthaven Conservation Meadow, the channel marker post signs, Information Boards and the Controlled Viewing Points, the management of the moorings and the Eelgrass monitoring and mitigation measures as required by this Deed and to the satisfaction of the Council unless and until the Management Plan has been approved by the Council and fully implemented

8 Controlled Viewing Points, Signs and Information Boards

- 8.1 Prior to occupation of the office building or first use of any boat store or any the Owner shall provide and shall thereafter maintain signs on the channel marker posts in the part of the creek within the Owner's control to say 'Private, Protected Area, No Mooring' in a form approved by the Council
- 8.2 Prior to first use of any boat store or mooring the Owner shall provide one Information Board outside and one inside the marine office in a form approved by the Council and shall thereafter maintain the same to the satisfaction of the Council.
- 8.3 Prior to the first use of any boat store or mooring the Owner shall provide two Information Boards in a form approved by the Council located along the public footpath as shown on the Site Layout Plan
- 8.4 Prior to occupation of the first dwelling the Owner shall provide the Controlled Viewing Points in locations indicated on the Site Layout Plan and to a specification agreed by the Council

9. Eelgrass Monitoring

- 9.1 In the August prior to the first use of any boat store or mooring the Owner shall undertake monitoring of the Eelgrass in accordance with the Yachthaven Eelgrass Monitoring Report and in a form approved by the Council, in liaison with Natural England, and shall send a report thereon to the Council, Natural England, Hampshire and Isle of Wight Wildlife Trust and to Chichester Harbour Conservancy,
- 9.2 For a period of five years from Implementation of the Planning Permission the Owner shall undertake such monitoring as described in clause 9.1 above annually thereafter in August and identify any required mitigation and send such reports as described in clause 9.1 above to the parties mentioned in clause 9.1 above by the end of October each year
- 9.3 The Owner shall undertake any mitigation approved by Natural England and the Council which the monitoring shows as being necessary within a timescale

approved by the Council.

10. Moorings and Eelgrass Code of Conduct

The Owner covenants with the Council as follows:

- 10.1 To ensure that not more than one inward and one outward movement to and from the Moorings per vessel per month shall take place between 30 November in any year and 28 February of the following year
- 10.2 To ensure that no vessels land at Guther Peninsula or Verner Common shown edged blue on Plan 1
- 10.3 Not to cause or permit the dropping of litter within the creek
- 10.4 To ensure the use of fixed moorings to avoid anchoring
- 10.5 To ensure that no vessel anchors outside the navigation channel in the creek, but if necessary in an emergency anchors on bare mud avoiding the Eelgrass beds
- 10.6 To ensure that no vessel grounds on the eelgrass beds but if this happens to ensure the vessel is not moved but allowed to refloat on the tide
- 10.7 To prohibit the use of boat (sea) toilets within the creek
- 10.8 To ensure that a speed limit of 8 knots is not exceeded by any vessel within the creek
- 10.9 With a view to procuring the compliance with clauses 10.1 – 10.8 and before permitting any person to use of the moorings to require any such person to enter into a written agreement to comply with clauses 10.1 – 10.8 hereof and to keep a copy of such agreement together with the full name and address of each such person and details of any vessel they use available for inspection by any duly authorised officer of the Council at all reasonable times

11. Solent Recreational Disturbance Mitigation

- 11.1 Prior to occupation of the first dwelling the Owner shall pay to the Council the sum of £1032 (being the sum of £172 per dwelling) towards the funding of measures to mitigate disturbance to the Special Protection Areas in accordance with Policy DM24 of the Havant Borough Local Plan (Allocations), 2014.

12. Disputes

- 12.1 Any dispute or difference between the parties in connection with this Agreement (which shall include any matter hereunder which the Council has

the discretion to agree or approve but does not do so) shall be referred to and determined by a single arbitrator to be appointed by agreement by the parties to the dispute or in default of agreement to be either an independent and duly qualified surveyor to be appointed by the President for the time being of the Royal Institution of Chartered Surveyors or a member of any other appropriate professional body as may be agreed between the parties and any person appointed shall act as arbitrator under the Arbitration Act 1996. Such arbitrator's decision (including without limitation as to the payment of costs of the arbitration) shall be final and binding upon the parties save in respect of any decision which is founded upon error in law or legal interpretation by such arbitrator

13. No Waiver

- 13.1 No waiver (whether expressed or implied) by the Council of any breach or default by the Owner in performing or observing any of the terms or conditions of this Deed shall constitute a continuing waiver and no such waiver shall prevent the Council from enforcing at any time any of the said terms or conditions or from acting upon any subsequent breach or default in respect thereof by the Owner

14. Costs

- 14.1 The Owner hereby agrees to pay the Council's reasonable legal and other costs in connection with the preparation of this Deed such costs to be paid on completion of this Deed

15. Successors

- 15.1 The expression "the Owner" and "the Mortgagee" shall include their respective successors in title to and assigns of each and every part of the Land.
- 15.2 Where the Owner comprises more than one person, each such person shall be jointly and severally liable for the performance of the obligations under this Deed.

16. Council Successors

- 16.1 The expression "the Council" shall include successors to its functions as Local Planning Authority for the purposes of the Act

17 Notices

- 17.1 Save where particular clauses specify otherwise all notices to be served and notifications to be given for the Council shall be marked for the attention of the Planning Service Manager

18 Third Parties

- 18.1 The Contracts Rights of Third Parties Act 1999 shall not apply to this Deed

19 Statement by the owner

- 19.1 The Owner has produced at clause 20 below a certificate of a Solicitor with the intention that the Council may and shall rely upon the truth of the matters therein contained namely that the Owner is the owner of a freehold estate in the Land with full title guarantee and so far as the Owner is aware no other person has an interest therein at law or (to the best of the Owner's knowledge and belief) in equity other than the Developer who has the benefit of an agreement for sale dated 23 August 2010:
- 19.2 The Owner warrants that no person other than the Owner except the Developer to the extent set out in clause 19.1 has any legal interest or equitable interest in the Land.

20. Certificate of Title

- 20.1 As Solicitors for the Owner we hereby certify that on the date of this Deed what is set out Recital (2), and the details of the Owner set out at the head of this Deed are true to the best of our knowledge:

Signed: 

Name:.....P.J. GUNSTON.....

Address:.....3 WELLS ST. EMBURY RTH......

.....

.....

.....

21 Developer's Consent

The Developer consents to the completion of this Deed and acknowledges that the obligations in this Deed shall bind the Land and declares that its interest in the Land shall be bound by the terms of this Deed as if the Developer was an original covenanting party in the event that the Developer acquires a freehold or

leasehold interest in the Land or any part of the Land.

22. Liability

- 22.1 No person shall be liable for breach of a covenant contained in this Deed after he shall have parted with all interest in the Land but without prejudice to liability for any subsisting breach of covenant prior to parting with such interest
- 22.2 If the planning permission shall expire before implementation or shall at any time be revoked modified or otherwise withdrawn then this Deed shall immediately determine and cease to have further effect but in ceasing to have further effect shall not prejudice any express or implied rights accrued or accruing to the Owner by virtue of anything by the covenant in connection with or arising from the terms of this Deed

23. Local Land Charge

- 23.1 This Deed is a local land charge and shall be registered as such

24. Governing Law

- 24.1 This Deed shall be governed by and construed in accordance with the law of England and Wales

IN WITNESS whereof the parties hereto have executed these presents as a Deed
the day and year first before written

Schedule 1

Draft Planning Permission

DRAFT



Havant
BOROUGH COUNCIL

Public Service Plaza
Civic Centre Road
Havant
Hampshire PO9 2AX

T 023 9247 4174
F 023 9248 0263

www.havant.gov.uk

Mr Thompson
PWP Architects
61 South Street
Havant
Hampshire
PO9 1BZ

For: Mr Laundon
Yachthaven (Hayling) Limited

**The Town and Country Planning (Development Management Procedure) (England)
Order 2015**
Grant of Planning Permission

Application Number: APP/13/00317

Site Address: Yacht Haven Development Site, Copse Lane, Hayling Island

Proposal: Construction of 6No. 5 bed detached houses, 1No. detached boat store and ancillary office building, 1No. detached boat store for sailing charity use with hardstanding, pontoon restricted to 12 berths (6 for house residents and 6 for non residents), improvements to slipway, beach, reposition concrete sea defence to side of slipway, coastal footpath and the creation of one area of coastal meadow and one area of conservation grassland. (Revised application.)

Further to your application received on 28 March 2013 (which was valid from 18 April 2013) Havant Borough Council, as Local Planning Authority **Grants Planning Permission** for the above proposal in accordance with the submitted plans and particulars as detailed below.

This permission is subject to compliance with:

- (i) The plans and other documents submitted with regard to your application, and
- (ii) The following conditions:

Conditions:

- 1 The development hereby permitted shall be begun before the expiration of 3 years from the date on which this planning permission was granted
Reason: To comply with Section 51 of the Planning and Compulsory Purchase Act 2004.

- 2 The development hereby permitted shall be carried out in accordance with the following approved plans

OS 1:2500 Site Location Plan
Site Location Plan Drawing No 1103 rev D
Existing Plan/Site Survey Drawing No 1104 rev C and 1104/1 rev C

Site Layout Proposed (scale 1:500) Drawing No 1105 rev R and 1105/1 rev C
 Site Layout Proposed (scale 1:200) Drawing No 1106 rev C
 Site Layout Proposed (scale 1:1250) Drawing No 1107 rev C
 House Type A Plans/Elevations Drawing No 1200 rev A
 House Type C Plans/Elevations Drawing No 1201 rev A
 House Type B Plans/Elevations Drawing No 1202 rev A
 Plans/Section/Elevation Office Drawing No 1203 rev B
 Plans/Section/Elevation Boat Shed Drawing No 1204 rev B
 Long Sections/Elevations Drawing No 1302 rev C
 Long Sections/Elevations Drawing No 1303 rev B
 3D Renders Drawing No 1304 rev B

Reason: - To ensure provision of a satisfactory development

- 3 Construction of the building(s) hereby permitted shall not commence until samples *and details of all external facing and roofing materials, including balcony railings and screenings*, have been submitted to and approved by the Local Planning Authority. Thereafter only such approved materials and finishes shall be used in carrying out the development.
Reason: To ensure the appearance of the development is satisfactory and having due regard to policies CS11.4, CS16 and DM9 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012
- 4 The boatstores and office hereby approved shall be used only for purposes incidental to the use of the approved dwellings within the site, or for the purposes of the Even Keel sailing charity. Furthermore they shall not be used as habitable accommodation.
Reason: In the interests of clarity, to prevent the occurrence of unplanned residential development in the countryside and to control the amount activity in this environmentally sensitive location, in order to protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy).
- 5 No more than 12 no. boats may be moored at the site at any time and these shall be confined to the pontoon moorings hereby approved and no boat shall exceed 12m in length. There shall be no other moorings along the shore or mud moorings within the site.
Reason. In the interests of clarity, to control the number, size and location of moorings in this environmentally sensitive location, in order to protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy) 2011
- 6 The moorings hereby approved shall be used only for mooring purposes incidental to *the use of the approved dwellings within the site, or for the purposes of the Even Keel sailing charity.*
Reason: In the interests of clarity, to control the use of the moorings and amount of associated activity in this environmentally sensitive location, in order to protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy) 2011.

- 7 No development hereby permitted shall commence until plans and particulars specifying the alignment, width, gradient and type of construction proposed for the improved slipway, new concrete sea defences, all footways, roads and individual accesses thereto (including all relevant horizontal cross and longitudinal sections) and the related provision to be made for street lighting and for surface water disposal and a programme for the implementation and making up of the same have been submitted to and approved in writing by the Local Planning Authority. The implementation and making up of the same shall be completed in full accordance with such plans, particulars and programme as are thus approved by the Authority
Reason: To ensure that they are constructed to satisfactory standard and, where appropriate a standard which will enable them to be taken over as publicly maintained highways and having due regard to policies CS16 and CS20 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012
- 8 No development hereby permitted nor any related site clearance shall commence until plans and particulars specifying the finished levels (above ordnance datum) of both the ground floors of the proposed buildings and the surrounding ground levels in relation to existing ground levels have been submitted to and approved by the Local Planning Authority
Reason: To ensure the impact of the development in its surroundings is satisfactory and having due regard to policies CS11 4, CS16 and DM9 of the Havant Borough Local Plan (Core Strategy) 2011.
- 9 No development hereby permitted shall commence until plans and particulars specifying the alignment, type, height and, where appropriate, construction materials and design of all proposed screen walls, fences, hedges and other means of enclosure to be provided around the hereby approved residential dwellings and other boundaries of the site have been submitted to and approved in writing by the Local Planning Authority. Such details shall include a stock netting fence, details to be agreed, to be erected along the landward side of the coastal path adjacent the proposed Coastal Meadow and Conservation Grassland. Unless agreed otherwise in writing by the Authority, the development hereby permitted shall not be brought into use prior to the completion of the installation of all screening and fencing provision as is thus approved by the Authority. At all times thereafter, all of that screening and fencing provision shall be retained in a wholly sound and effective condition.
Reason: To safeguard the amenities of the locality and occupiers of neighbouring property; to prevent dogs disturbing feeding or roosting birds, and having due regard to policy CS16 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.
- 10 The dwellings hereby permitted shall not be occupied until space for the loading, unloading and parking of vehicles has been provided within the site, surfaced and marked out in accordance with the approved details. Such areas and garages shall thereafter be retained and used solely for those purposes
Reason: In the interests of highway safety and having due regard to policy DM13 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012
- 11 Notwithstanding the provisions of any Town and Country Planning General Permitted Development Order, no extension, building or structure permitted by

Schedule 2, Part 1, Classes A, B and E of the 2015 Order, as amended, shall be erected within the curtilage of the site without the prior written approval of the Local Planning Authority.

Reason: To protect both adjacent residential amenity and the visual impact of further extensions on the landscape in this sensitive area, in accordance with Policy CS11 and CS16 of the Havant Borough Local Plan (Core Strategy) 2011.

- 12 Notwithstanding the provisions of any Town and Country Planning General Permitted Development Order, no additional windows / doors or other openings shall be constructed within the east elevation of plots 3 & 6 without the prior written approval of the Local Planning Authority

Reason: In the interests of the amenities of the occupiers of nearby properties and having due regard to policy CS16 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 13 Any external lighting, including security lights, shall only be installed on site after lighting details have been submitted to and approved by the Local Planning Authority. Such details shall include type of light, position, height, illumination levels, hours of use and method of timing/cut out. Thereafter only the approved lighting shall be installed and operated on site. There shall be no flood lighting / lighting on the site other than as thereby approved.

Reason: In the interests of the visual amenity of this countryside location having due regard to policies CS11, CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 14 Construction of plots 2 & 3 shall not commence until details of a fire safety sprinkler system has been submitted to and approved by the Local Planning Authority. The approved scheme shall be implemented in full prior to the occupation of the dwellings on plots 2 and 3

Reason: To ensure compliance with fire safety requirements having due regard to policy CS16 of the Havant Borough Local Plan (Core Strategy) 2011.

- 15 Construction of the buildings hereby permitted shall not commence until a specification for the provision to be made for the storage and disposal of refuse, including a refuse collection point, has been submitted to and approved in writing by the Local Planning Authority. The development shall not be brought into use until the implementation of such refuse provision has been completed in accordance with the approved specification

Reason: To ensure a satisfactory form of development for future occupiers, in accordance with policy CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011.

- 16 The development permitted by this planning permission shall only be carried out in accordance with the approved Flood Risk Assessment (FRA), produced by Cowan Consultancy, ref.no EG/320573/EG and dated 02 January 2012 and the following mitigation measures detailed within the FRA:

1. Identification and provision of safe route(s) into and out of the site at a level no lower than 4.250m above Ordnance Datum (AOD), as specified on page 6 of the FRA. As a safe means of access the access road must achieve a level of at least 4.250m AOD.

2. Finished floor levels of the residential units are set no lower than 5.10 m above Ordnance Datum (AOD), as specified on page 5 of the FRA

Reason: To ensure safe access and egress from and to the site and to reduce the risk of flooding to the proposed development and future occupants, having due regard to policy CS15 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012

- 17 Development shall not begin until a surface water drainage scheme for the site, based on sustainable drainage (SUDS) principles and an assessment of the hydrological and hydrogeological context of the development and measures to avoid pollution from any contamination, and including drainage for the access driveway, has been submitted to and approved in writing by the Local Planning Authority. The scheme shall subsequently be implemented in accordance with the approved details before the development is completed. The scheme shall also include details of how the scheme shall be maintained and managed after completion.

Reason: To prevent the increased risk of flooding, to improve and protect water quality, improve habitat and amenity, and ensure future maintenance of the surface water drainage system, having due regard to policy CS15 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012

- 18 No infiltration of surface water drainage into the ground within the application site is permitted unless the prior written approval of the Local Planning Authority is first obtained following the submission of details, (which approval may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters).

Reason: As contamination may be present at the site the use of infiltration systems could cause contaminants to become mobilised and potentially pollute controlled water, and having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012

- 19 No development hereby permitted shall commence until details of all foul drainage provisions and connections, together with written confirmation from Southern Water that the arrangements are adequate, have been submitted to and approved in writing by the Local Planning Authority. The development hereby permitted shall not be brought into use until the completion of the implementation of all such drainage provision in full accordance with such plans and particulars as are thus approved by the Authority.

Reason: To safeguard the amenities of the locality and ensure that all such drainage provision is constructed to an appropriate standard and quality and having due regard to policies and proposals CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 20 No development approved by this planning permission (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), shall take place until a scheme that includes the following components to deal with the risks associated with contamination of the site shall each be submitted to and approved, in writing, by the local planning authority:

1) A preliminary risk assessment which has identified:

- all previous uses
- potential contaminants associated with those uses
- a conceptual model of the site indicating sources, pathways and Receptors potentially unacceptable risks arising from contamination at the site.

2) A site investigation scheme based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected including those off site.

3) The results of the site investigation and detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken

4) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action. Any changes to these components require the express written consent of the Local Planning Authority. The scheme shall be implemented as approved

Reason: Information provided within the planning application indicates that contamination is likely to be present as a result of the historic uses of the site. Any *contamination present poses a risk to groundwater, surface water and the harbours*, having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 21 No occupation of any part of the permitted development shall take place until a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation has been submitted to and approved, in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan. The long-term monitoring and maintenance plan shall be implemented as approved.

Reasons: To demonstrate that any remediation required is carried out in accordance with the agreed remediation strategy, having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 22 If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until the developer has submitted a remediation strategy to the local planning authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the local planning authority. The remediation strategy shall be implemented as approved.

Reasons: To protect controlled waters, having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 23 Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written consent of the local planning authority, *which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater*. The development shall be carried out in accordance with the approved details.

Reasons: Piling or any other foundation designs using penetrative methods could cause the mobilisation of the potential contamination at the site and create preferential pathways. Thus it should be demonstrated that any proposed piling will

not result in contamination of controlled water, having due regard to policies CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 24 Prior to the commencement of the works, a working method statement to cover all construction works shall be submitted to and agreed in writing by the Local Planning Authority in consultation with the Environment Agency. Thereafter the development shall be carried out in accordance with the approved scheme and any subsequent amendments shall be agreed in writing with the Local Planning Authority. The method statement shall cover the following requirements:

- Timing and duration of works
- Methods used for all channel, foreshore/ bankside water margin works
- Machinery (location and storage of plant, materials and fuel, access routes, access to banks etc.)
- Protection of areas of ecological sensitivity and importance
- Site supervision
- Bunding of potential pollutants

Reasons: To ensure the works being undertaken minimise any impacts on the intertidal habitat and on Chichester Harbour WFD water body having due regard to policies CS11, CS16 and DM10 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 25 No development hereby permitted shall be commenced until the Landscape Strategy Plan, Drawing no 2313 -101 dated September 2013 has been updated to provide more native species and such revised plan has been submitted to and approved by the Local Planning Authority. Thereafter, the implementation of all such approved landscaping shall be completed in full accordance with the Planting Method Statement by TGA Landscape Ltd, dated 16th October 2013. Any tree or shrub planted or retained as part of such approved landscaping scheme which dies or is otherwise removed within the first 5 years shall be replaced with another of the same species and size in the same position during the first available planting season

Reason: To ensure the appearance of the development is satisfactory and having due regard to policies CS11.1, CS11.2, CS11.4, CS12, CS16, DM8 and DM9 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.

- 26 No development including site clearance shall commence on the site until all trees / shrubs and / or other natural features, not previously agreed with the Local Planning Authority for removal shall have been protected by fencing along a line to be agreed in writing with the Local Planning Authority. Such fencing shall conform to the following specification in accordance with BS5837 2005.

Minimum 2.4 metres high, comprising a vertical and horizontal framework of scaffolding well braced to resist impacts, supporting a minimum of 20mm exterior grade ply

Such fencing shall be maintained throughout the course of the works on the site, during which period no access, placement of materials, fuels or chemicals, soil or other materials shall take place inside the fenced off area.

Reason: To ensure that trees, shrubs and other natural features to be retained are adequately protected from damage to health and stability throughout the construction period in the interests of amenity and having due regard to policies CS11.4 and CS16 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012

- 27 The soil levels within the root spread of trees / hedgerows to be retained shall not be raised or lowered. If the requirement of condition 16 above to have the access road at least 4.250m above AOD should result in a disturbance or change to the level beneath the adjacent trees, then the resultant level difference and method of soil movement shall first be submitted to and agreed with the local planning authority.
Reason: To avoid damage to health of existing trees and hedgerows and having due regard to policies CS11.4 and CS16 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework 2012.
- 28 Prior to commencement of the development hereby approved, a Habitat Creation Strategy and timetable for the "wildlife enhancement" area shall be submitted to and approved in writing by the Local Planning Authority and shall be implemented in accordance with the approved timetable. The Creation Strategy shall include details of how the works will be undertaken in order to avoid any impacts upon the designated sites and include the means by which habitat is to be restored through removal of structures from within the intertidal area
Reason: To protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy) 2011
- 29 Prior to commencement of the development hereby approved, a detailed site-wide Ecological Management Plan shall be submitted for written approval to the Local Planning Authority. The Ecological Management Plan should include details of mitigation and enhancement measures designed to protect and enhance populations of legally-protected species throughout the development process and should include (but not necessarily be restricted to), species capture and translocation measures, timing and methods of habitat clearance, habitat creation and planting, details of the site lighting scheme and proposed enhancements such as bat and bird boxes.. Development shall subsequently proceed in accordance with any such approved details.
Reason: To protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy).
- 30 The Mitigation and Enhancement Measures set out in the Revised Ecological Assessment Report submitted with this application shall be adhered to in the undertaking of all development works hereby approved, including measures to minimise the risk of sediments arising from works to the foreshore and intertidal zone.
Reason: To protect and enhance biodiversity in accordance with NPPF, the Wildlife & Countryside Act 1981, the Natural Environment and Rural Communities Act 2006 and Policy CS11 of the Havant Borough Local Plan (Core Strategy) 2011
- 31 The development shall be carried out in accordance with best practice for operating machinery to reduce unnecessary noise; and in particular no percussive piling or works with heavy machinery (i.e. plant resulting in a noise level in excess of 69dbAmax – measured at the northern site boundary) shall be undertaken during

the bird over wintering period - October to March inclusive - unless the existing noise level measured from the sensitive receptor already exceeds 69dbAmax; in which case, no such works shall be undertaken during the specified period if the resulting noise level would exceed the existing noise level measured from the southern site boundary.

Reason: To minimise disturbance to over wintering and nesting birds, and having due regard to policy DM9 of the Havant Borough Local Plan (Core Strategy) 2011, the National Planning Policy Framework 2012 and advice from Natural England

- 32 No development shall take place until the applicant has secured the implementation of a programme of archaeological evaluation in accordance with a Written Scheme of Investigation that has been submitted to and approved by the Planning Authority.
Reason: To assess the extent, nature and date of any archaeological deposits that might be present and the impact of the development upon these heritage assets and having due regard to policy CS11 of the Havant Borough Local Plan (Core Strategy) 2011.
- 33 No development shall take place until the applicant has secured the implementation of a programme of archaeological mitigation of impact in accordance with a Written Scheme of Investigation that has been submitted to and approved by the Planning Authority.
Reason: To mitigate the effect of the works associated with the development upon any heritage assets and to ensure that information regarding these heritage assets is preserved by record for future generations and having due regard to policy DM9 of the Havant Borough Local Plan (Core Strategy) 2011.
- 34 Following completion of archaeological fieldwork a report shall be produced in accordance with a programme that has been submitted to and approved by the Planning Authority, including where appropriate, post-excavation assessment, specialist analysis and reports, publication and public engagement.
Reason: To contribute to our knowledge and understanding of our past by ensuring that opportunities are taken to capture evidence from the historic environment and to make this publicly available and having due regard to policy DM9 of the Havant Borough Local Plan (Core Strategy) 2011

Other Important Information:

- (1) This notice only relates to the decision of Havant Borough Council as Local Planning Authority under the Town and Country Planning Acts. It does not relate to any other application that may be required under the Building Regulations or under any other Act, Regulation, Byelaw or Order where the Council's approval may be needed. For further guidance as to the need for consent under the Building Regulations please phone 023 9244 6571.
- (2) Your attention is drawn to the attached information regarding firstly your right to appeal to the Planning Inspectorate, if you are aggrieved by the Council's decision, and secondly the rights of an owner to, in certain circumstances serve a purchase notice on the Council. See www.planningportal.gov.uk/pcs.

- (3) Any failure to adhere to the details of the approved plans, and other documents or to comply with any conditions listed above may lead to enforcement action being taken by the Council. If you wish to depart from the approved details or conditions in any way you should contact the Planning and Development service at the Plaza or by telephoning 023 9244 6015
- (4) In accordance with paragraphs 186 and 187 of the NPPF Havant Borough Council (HBC) takes a positive and proactive approach and works with applicants/agents on development proposals in a manner focused on solutions by
- Offering a pre-application advice service, and
 - Updating you of any issues that may arise in the processing of your application and where possible suggesting solutions, and,

In this instance:

- You were updated about issues after the initial site visit,

- (5) A formal application for connection to the public sewerage system is required in order to service this development. It is recommended that the applicant contacts Southern Water to initiate a sewer capacity check to identify the appropriate connection point for the development, please contact Atkins Ltd, Anglo St James House 39A Southgate Street Winchester, SO23 9EH (Tel 01962 858688), or www.southernwater.co.uk.

The Council's Access officer also notes A public sewer is located in the existing access road for plots 4, 5 and 6 This should be identified on site as the garages for plots 5 and 6 may be positioned within 3m of a public foul sewer

- (6) **During construction the applicant is required to set up on site facilities for:-**
- i) wheel washing
 - ii) measures to control the emission of dust and dirt during construction
 - iii) measures to control noise and vibration during construction
 - iv) a scheme for recycling/disposing of waste resulting from demolition and construction works.
- (7) **Hours of work:** demolition, clearance, excavation, road or construction works should take place only between 0800hrs and 1800hrs on Mondays to Saturdays and not at all on Sundays and all recognised public holidays
- (8) Public Footpath 86 crosses the site and the grant of planning permission does not entitle you to obstruct a public right of way. If it is necessary to stop up or divert a right of way in order to enable the development permitted to be carried out you should apply without delay to either; Havant Borough Council in the case of a footpath or bridleway (under Section 257 of the Town and Country Planning Act 1990) or the Department of Communities and Local Government (CLG) for any other issues (under Section 247 of the Town and Country Planning Act 1990)

(9) The Crime Reduction Officer has commented on this application as follows *The site is fairly isolated and can be approached from both the land and the sea. The boundary treatments have not been specified but are unlikely to be substantial enough to prevent access. I recommend the security accreditation of the external doors and windows i.e. PAS24, or British Standard 7950 as referred to at page 50 of 'Safer Places the Planning System and Crime Prevention'. Boat stores should conform to Loss Prevention Standard (LPS) 1175 SR 2.*

(10) The Environment Agency have commented on this application as follows: *The site lies above the Lambeth Group, a secondary (A) aquifer and is adjacent to the Chichester and Langstone Harbours that are designated SPA, RAMSAR, SAC and SSSI sites. Please note, in relation to the proposed development, in so far as it relates to land contamination, we only consider issues relating to controlled waters.*

We recommend that developers should

1. Follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination

2. Refer to the 'Environment Agency Guiding Principles for Land Contamination' for the type of information that we require in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health.

3. Refer to our website at www.environment-agency.gov.uk for more information

(8) The applicant is advised that any works at the site that fall within 15 metres of a sea defence must have the prior written permission of the Environment Agency in the form of a Flood Defence Consent. This requirement is separate from and in addition to any planning permissions required. Upon formal submission of an application the Environment Agency has two months in which to provide a decision. Please note that this development may also require an Environmental Permit or an exemption from an Environmental Permit from the Environment Agency. The applicant must ensure that the operations at the site are in accordance with the Environmental Permitting Regulations 2008. The applicant is advised to contact the National Customer Contact Centre (NCCC) on 03708 506 506 or information can be found through the following link:

<http://www.environment-agency.gov.uk/business/topics/permitting/32330.aspx>

The need for an environmental permit is separate to the need for planning permission.

The granting of planning permission does not necessarily lead to the granting of a permit.

(9) This permission was granted subject to a planning obligation agreement made under Section 106 of the Town & Country Planning Act 1990 dated which requires

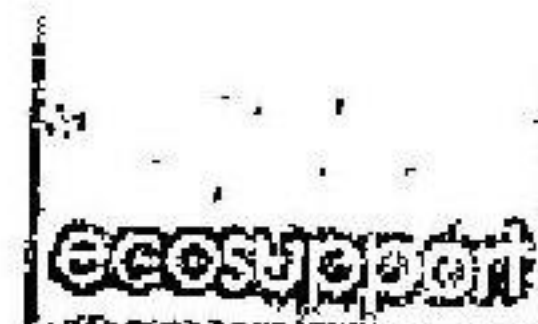
Andrew Bittcliffe

Andrew Bittcliffe
Executive Planning Service Manager

xx xxxx 2015

Schedule 2

Yachthaven Eelgrass Monitoring Strategy



Yachthaven Eelgrass Monitoring

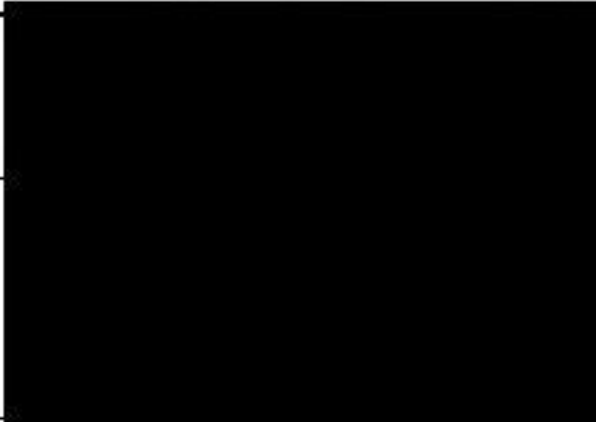
April 2015

Final Revised Document June 2015

**Report prepared by
Tristanna Cornwell (BSc) Grad CIEEM**

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Written By	Tristanna Cornwell	Signed		Date	13/04/2015
Verified By	Dean Swenson	Signed		Date	13/04/2015

1.0 INTRODUCTION

1.1 Background

Ecosupport Ltd was originally commissioned in 2011 to carry out an ecological assessment of the Yachthaven site in relation to the proposed redevelopment of the boat yard. Proposals included the erection of six residential dwellings, with associated landscaping and infrastructure, and a 12-berth pontoon.

The production of this Eelgrass Monitoring Strategy is a condition of the Planning Permission for this development. This report provides a basis for survey methodology but should be adaptive to site specific requirements.

1.2 Objective

The objective of the Eelgrass Monitoring is to detect trends and changes over time in the Eelgrass (*Zostera Sp*) distribution and general health with regard to the new development and the associated factors which have the potential to influence Eelgrass growth and distribution. It is also to allow management intervention to be carried out, if required.

1.3 Site Context

The site is located at Yachthaven on the eastern side of Hayling Island, Hampshire. A parcel of land to the west of the development site lies within Site of Importance for Nature Conservation (SINC) known as 'Fields & Saltmarsh South of Copse Lane'. The site is located directly adjacent to statutory designated sites including Chichester and Langstone Harbour Special Protected Area (SPA); Solent Maritime Special Area of Conservation (SAC); Chichester and Langstone Harbour Ramsar Site and Chichester Harbour Site of Special Scientific Interest (SSSI). The site also falls on the boundary of Chichester Harbour Area of Outstanding Natural Beauty (AONB).

1.4 The Importance of Eelgrass

The Eelgrass (*Zostera*) beds within Chichester Harbour are an important feature of the Solent Maritime SAC and are vital for the bird populations which are features of the Chichester and Langstone Harbours SPA/Ramsar Site/SPA. They are an Annex I habitat under the Habitats Regulations and are a priority within the UKBAP, HBAP and HvBAP. Therefore, the Eelgrass beds within the zone of influence of the development are considered to be of national value.

2.0 BASELINE

2.1 Previous Survey Work

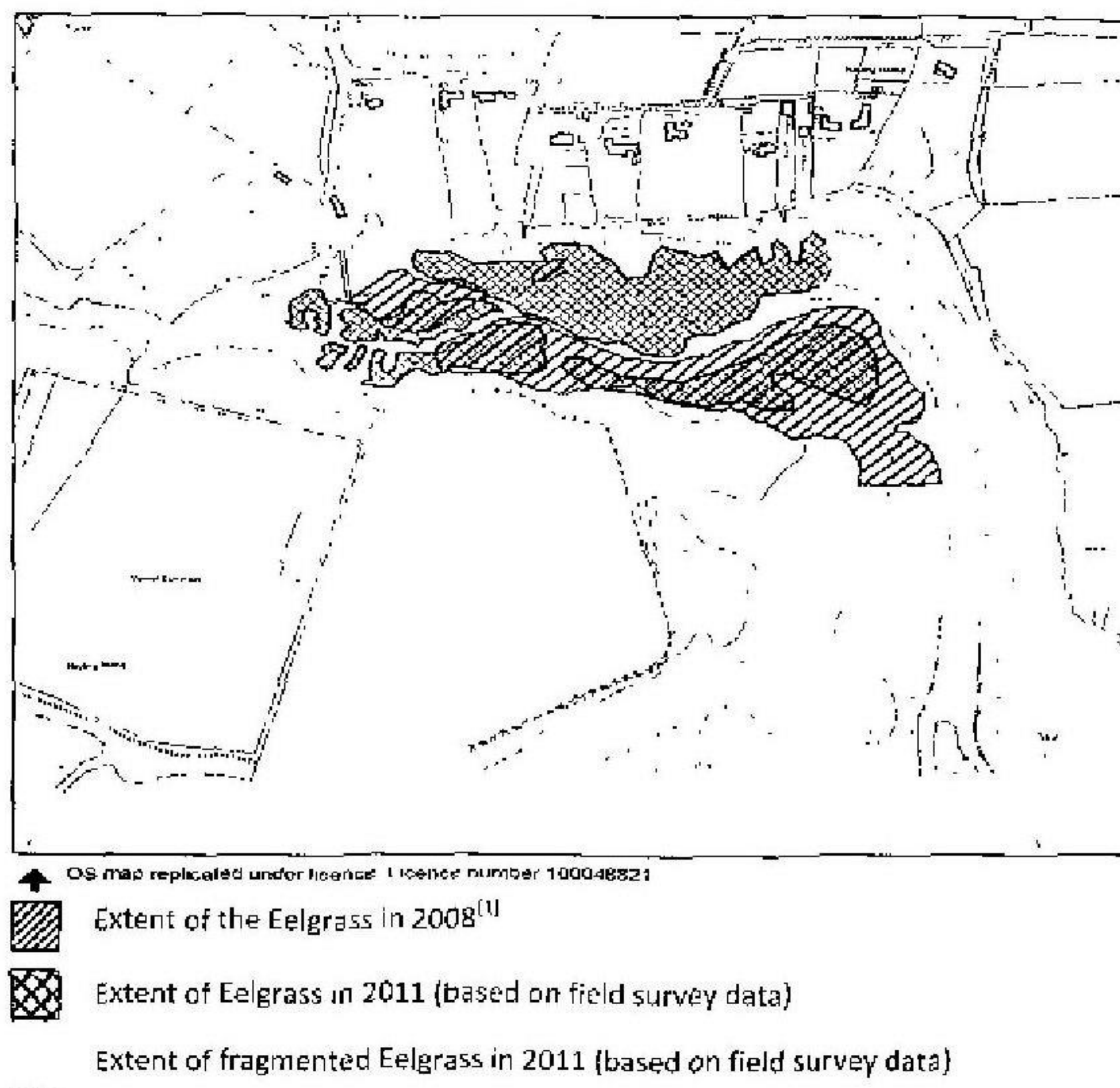
Mapping produced by Hampshire Wildlife Trust from survey work carried out in 2008 prior to the proposals for development showed Eelgrass beds mostly located to the east of the proposed pontoon area (in the lower parts of the creek)⁽¹⁾ with further smaller and fragmented beds distributed to the west of the proposed pontoon area.

A survey of the extent of the Eelgrass within the zone of influence carried out by Ecosupport Ltd of the development was undertaken in September and October 2011. The Eelgrass beds' extent and positions were determined on an aerial image through a combination of on shore observations, using optical aids, and wading out through the channels at low tide. Bed extents were recorded with a hand held GPS device, mapped in the field and later quantified using Geographic Information Systems (GIS). The qualitative on shore visual observations were then drawn as polygons over the aerial image using the GPS points to define bed positions and extents. The survey methodology followed the JNCC's marine monitoring handbook⁽²⁾ as far as was possible.

Using the polygons created by the site visit, the eelgrass beds were estimated to be 3.74ha in area and therefore currently represent approximately 3.74% of the total area of Eelgrass in the harbour⁽³⁾.

When comparing the approximated areas for the two surveys the 2011 data indicated an increase of 12.6%. During 2011, it was noted that the beds were appearing fragmented in nature (i.e. density falling below 50% coverage, qualitatively assessed on site using a 0.5m² quadrat). In these instances (plotted as yellow polygons in the map) the Egg Wrack (*Ascophyllum nodosum*) which dominated the near shore eulittoral zone, was encroaching into the normally dense monospecific Eelgrass stands. It was considered that this was likely to be indicative of some form of disturbance already occurring. For the remaining beds density largely exceeded 85% by coverage. The channels present were also covered by Sea Lettuce (*Ulva lactuca*) by approximately 2m on both sides, thus causing a further degree of fragmentation between beds.

Figure 1. Extent of eelgrass beds within the zone of influence (Scale 1:4,000) (Published under Agreement 150326/004 from Hampshire Wildlife Trust).



The Eelgrass survey carried out during Autumn 2011 exhibited that, although Eelgrass beds were widespread, they were becoming increasingly fragmented over Yachthaven. There was an apparent reduction in the extent compared to that from 2008^{(1)*}. It was suggested that a potential cause of this was associated with boats moored on swinging moorings within the creek. It was proposed that this may have long term negative influences such as encroachment and colonisation from other less ecologically important species such as Sea Lettuce and Brown Algae (*Fucus Sp.*), erosion of soft sediments with the continuous scaring and scraping of the sediments and likely reducing the likelihood of re-colonisation by Eelgrass.

** Amy Marsden of Hampshire Wildlife Trust has been consulted to ensure that the most up to date information available is featured within this report. We have been informed that the results above represent the most recent information thus forming the best available baseline for monitoring to take place.*

2.2 Potential Impacts

2.2.1 Construction Impacts

The proposed pontoon and the new retaining wall on the creek will affect an area of about 267.5m² (including boats up to 651.5m²) of intertidal habitats will be effected by direct removal or indirect effects such as shading. No dredging is proposed as part of the construction proposals.

The area affected by the pontoon, is dominated by Spiral Wrack (*Fucus spiralis*) with occasional Horned Wrack (*F. ceranoides*) and Knotted Wrack (*Ascophyllum nodosum*), all of which are common in the Solent and around British coasts. However to the east of the pontoon area are some more extensive areas of bare mud, which support beds of Eelgrass in late summer. The pontoon has been positioned away from and north of the Eelgrass beds, as identified by the latest survey, therefore this result in any direct physical damage or non-direct damage such as via shading the habitat.

Although the proposals will result the loss of 267.5m² of intertidal habitat, the habitats affected are not considered of high ecological value, and the development avoids direct impacts to any habitats for which the Solent Maritime SAC is designated, in particular the Eelgrass beds and saltmarsh habitats

The proposals also include the removal of existing sea defences and pontoons which will make additional 650.5m² of intertidal habitat suitable for colonization. The potential for the removal of a potential pollution source (the asphalt areas) to improve the quality of the habitat

2.2.2 Operational Damage

The presence of boats moored on the pontoon will provide a further continuous disturbance to estuarine habitats and when moorings are fully utilised will cover an area of approximately 551.5m². Damage to habitats from boat moorings can occur due to swinging anchor chains as the tide rises and falls. However, pontoon moorings offer a significant advantage over the traditional swing-mooring which was previously used within the vicinity, as the pontoon moorings will not move laterally with the tide. Therefore damage will be localised to the pontoon position, unlike with swing-moorings which can cause significant more widespread damage.

Dredging or bottom leveling to maintain access will not be undertaken.

As previously stated the pontoon has been positioned away from and north of the eelgrass beds therefore would not result in any direct physical damage or non-

physical damage by shading the habitat. As all the additional boats using the creek would have a berth at the pontoon there would be no incidental mooring within the creek. The increase in the number of boats using the creek is very small therefore it was considered other potentially damaging impacts, such as the release of pollution and nutrients from boats using the creek, would be negligible.

It was therefore considered there would be no significant impact upon Eelgrass beds or other Annex I habitats within the Solent Maritime SAC, Chichester and Langstone Harbours SPA/Ramsar Site and Chichester Harbour SSSI as a result of operational damage to habitats.

2.3 Recommended Protection and Enhancement of Eelgrass Beds

2.3.1 Code of Conduct

Although no significant impacts to the Eelgrass beds were considered likely, in order to raise the awareness of existing and new boat users an '*Eelgrass Code of Conduct*' was recommended (see Box 1 below). Similar to codes are in operation in Studland Bay in Dorset⁽⁴⁾ and Tor Bay in Devon⁽⁵⁾. This contains clauses to prevent anchoring within the creek, speeding through shallows and discharging waste within the creek. As all additional traffic within the creek will be associated with the new dwellings, this code would be much more enforceable than if it applied to general public use and therefore is considered to have a high likelihood of success.

Box 1. Code of Conduct.

Proposed Code of Conduct for boat users in Yachthaven Creek to prevent damage to eelgrass. Based on a similar code in Studland Bay, Dorset (see www.dorsetwildlifetrust.org.uk/support.html)

1. Do not drop litter within the creek
2. Use fixed moorings to avoid anchoring
3. Do not anchor outside of the navigation channel
4. If you have to anchor, do so on bare mud areas avoiding eelgrass beds
5. Avoid using the boat (sea) toilets within the creek
6. Keep to the speed limit (8 knots) whilst in the creek
7. Avoid grounding on the Eelgrass, but if this happens do not try move the vessel rather allow the tide to lift you.

Existing swing-moorings were causing damage to Eelgrass beds within the creek, potentially leading to increased fragmentation of the beds (see 2.1). It was proposed that no new licences for swing-moorings were granted by the Chichester Harbour

2.3.2 Licence Renewal

Conservancy and existing licence should be reviewed. This would reduce the overall level of damage from moored boats within the creek and therefore reduce the negative impacts of the development upon Eelgrass beds

It is recommended that when a leaseholder applies to renew their mooring licence, this is used as an opportunity to encourage adherence with the code of conduct. For example a public awareness advisory leaflet will be issued with the new licence. Within this leaflet the code of conduct should be emphasized along with clear imagery showing the location of the Eelgrass

2.3.3 Marking the Channel

The pontoon will be located away from Eelgrass beds and therefore no direct impact will occur either from moored yachts or the pontoon itself. There is however considered to be a potential risk from watercraft en route exiting and/or accessing the pontoon and navigating the Yachthaven creek. The possible risk from moving craft may impact sediments and therefore *possibly incurring scouring of actual eelgrass beds.*

Previous survey work identified that the main navigational central channel within Yachthaven, is void of vegetation. *Fucus Sp.* covers areas 3 meters either side of this channel with the Eelgrass beds located beyond this range within the much shallower areas of the Yachthaven channel. The areas where Eelgrass is located pose a greater risk to yachtsmen running aground and would therefore they are inclined to automatically avoid these areas. In close proximity to the pontoon itself there is less risk of groundage and therefore no natural deterrent. It is therefore recommended that where the boats will gain access to the pontoons, Eelgrass beds will be marked out by marker posts, which will protrude from the water. *These will be coloured so that they are clearly visible from onboard the boats. This will prevent boats venturing over the Eelgrass beds.*

3.0 MONITORING

3.1 The Purpose of Monitoring

Monitoring specific meadows, using scientific sampling methods, can provide the data required to detect and assess environmental changes or impacts to Eelgrass beds and lead to the implementation of mitigation programs to prevent further loss.

3.2 Monitoring Parameters

Eelgrass meadows possess many attributes that can be mapped and monitored to assess changes over time and track ecosystem health. There are many variables that are commonly measured to detect changes in Eelgrass populations. The following are taken from a document produced by Precision Identification Biological Consultants⁽⁶⁾ and guidelines produced for monitoring Seagrass within the EU⁽⁸⁾:

3.2.1 Delineation

The delineation (the exact position of a border or boundary) of Eelgrass beds enables the detection of increases or decreases in area or range over time⁽⁶⁾.

3.2.2 Cover

Eelgrass cover describes the fraction of floor covered by Eelgrass and thereby provides a measure of abundance⁽⁸⁾.

3.2.3 Depth Distribution

This is the maximum water depth at which the Eelgrass can grow. Depth limits can either be defined as the maximum depth of well-defined meadows or as the depth of the deepest-growing shoots⁽⁸⁾.

3.2.4 Shoot Density

This is the number of *Zostera Sp.* plants within an area. It is usually determined as part of the density estimate since it may reflect environmental change or stress⁽⁶⁾.

3.2.5 Leaf Area Index (LAI)

Leaf area indices are used to estimate the productivity of Eelgrass and the amount of habitat available for colonization by epifauna⁽⁶⁾.

3.2.6 Water Quality

Many Eelgrass monitoring programs incorporate environmental parameters into their study to provide a 'snapshot' of conditions that provide evidence to significant water quality differences⁽⁶⁾. Increased activity at Yachthaven has the potential to lead to increased disturbance and/or erosion within the channel. This may result in the increased suspended solids in the water and therefore turbidity of the water. The suspended solids absorb heat from the sunlight, thus raising water temperature, which in turn lowers dissolved oxygen levels. They also prevent sunlight from reaching plants below the surface. This decreases the rate of photosynthesis. The turbidity of water is based on the amount of light scattered by particles in the water.

column. The more particles that are present, the more light that will be scattered. As such, turbidity and total suspended solids are related. However, turbidity is not a direct measurement of the total suspended materials in water rather an optical determination of water clarity⁽⁸⁾. As the depth limit of Eelgrass is primarily determined by water clarity this is an important factor to monitor.

3.3 Monitoring Techniques

The following methodologies have been taken from the above referenced documents. These are general recommendations on how data can be collected. These will later be adapted to fit the site-specific requirements.

3.3.1 Bed Delineation

Aerial photography is the most common remote sensing method for mapping studies and for monitoring over time, while satellite data is valued for large-scale investigations. Cost and accuracy varies between satellite and airborne sensors, satellites being the least accurate and least costly. Aerial photos are a low-cost remote sensing technique with reasonable resolution and precision⁽⁹⁾.

Alternatively a GPS can be used to georeference the boundaries of the Eelgrass bed. These coordinates can later be used to create a polygon outlining the boundary of the Eelgrass. The boundaries of the bed may be determined using⁽⁶⁾:

- an aquaviewer,
- a diver or snorkler with weighted floats,
- a towed underwater camera,
- walking around patches (if possible)⁽⁹⁾.

GPS readings should be recorded at roughly 15 metre intervals around the perimeter of the bed⁽⁶⁾.

3.3.2 Depth Distribution

The maximum and minimum depths should be determined when the bed is submerged. One of the preferred methods is to have a weight attached to the end of a metre tape, which is lowered to a diver at the deepest and most shallow edge of the Eelgrass bed. The diver should place the weight on the bottom and then tug three times to notify the assistant on the boat that the line is in place. The assistant checks to make sure that the line is taught and vertical then records the measurement⁽⁶⁾.

Another method, again with the aid of a diver, involves swimming along the lower limit of the meadow perpendicularly to the depth gradient and record depth limits at several points. The diver records the depth limit using a high-precision depth recorder⁽⁹⁾.

The water depth at the time of observation is subsequently corrected to average water levels, for example using a locally calibrated tidal table ^(6,8). These methods should be carried out in the growth season and preferably at the same time of the year in multi-year comparisons ⁽⁹⁾.

Depth limits can be estimated with relatively high precision if good depth sensors are used and if water depth is corrected depending on the tidal level at the sampling time. An advantage of these methods is that they are non-destructive and allow repeated measurements at the same location ⁽⁹⁾.

3.3.3 Shoot Density, Cover and LAI

As shoot density and cover are depth dependent, any measure of must be related to water depth ⁽⁸⁾. As Seagrass abundance changes markedly on an annual basis, it is important for all indicators of abundance that comparisons between years are based on samplings performed at the same time of year for example in August where biomass usually attains its annual maximum

3.3.3.1 Shoot Density

A temporary transect using a metre tape or marked line should be established in each zone, roughly parallel to the shore, along a depth continuum. The length of each transect should be roughly 60% of the bed width. The transects should be centred in the bed to avoid edge effects ⁽⁶⁾

Predetermined random numbers should be established along either side of the transect where quadrats should be placed ⁽⁶⁾. A fixed number of 0.25m² (50cm x 50cm) quadrats should be used. It will be necessary to determine the number of replicates (quadrats) that are required to estimate the mean density of shoots on a site specific basis due to the natural variability within Eelgrass communities. The accepted method by which to accomplish this is to plot the running mean. Sample size is adequate once the variation between samples, which decreases as the number of samples increases, is reduced to 5%. It is likely that the number of replicates required will be less, however this number of samples should be sufficient to determine the running mean ⁽⁶⁾.

The total number of shoots rooted in each quadrat should be recorded, along with the total number of reproductive shoots in each quadrat. The number of vegetative shoots is calculated by subtracting the number of reproductive shoots from the total number of shoots.

3.3.3.2 Cover

The percentage cover can be either coarsely defined as a corridor through which a diver swims and estimates visually the fraction of the bottom area covered by Seagrass or be more precisely by the use of quadrats of a given size.

Visual estimates of percent cover provide a simple, although rather coarse, non-destructive way of quantifying Seagrass abundance. Cover estimates can be sensitive to observer bias as they are based on visual observation. If the surveyor has no previous experience, it is important to ensure they are properly trained. Quadrats reduce subjectivity as they provide a quantitative approach to calculating the percentage as each square represents a fixed percentage.

3.3.3.3 LAI

The mean leaf length and width can be determined from a random sample of shoots. This will correspond with the number of quadrats used. The data may be collected at the same time as the density is assessed. In order to avoid sampling only the largest shoots, the shoot located nearest to the upper right corner and the lower left corner of the quadrat should be measured. The leaf length from sheath to tip of the second oldest leaf and the width near the middle of the leaf should be measured⁽⁶⁾.

Calculate the LAI according to the following formula:

$$\text{mean shoot length} \times \text{mean shoot width} \times \text{mean density of shoot /m}$$

3.3.4 Water Quality

3.3.4.1 Turbidity

A secchi depth reading is recommended to assess turbidity.

3.3.4.2 Salinity

A salinometer should be used to determine salinity, in parts per thousand (ppt).

3.3.4.3 Total Suspended Solids

Water samples should be collected and taken to a local laboratory for analysis. The laboratory will provide a specific protocol for collecting and storing the samples.

3.4 Widely Used Techniques

The most widely used parameters to ascertain Seagrass abundance and detect changes are the Cover and Shoot Density of Seagrass meadows. Similarly direct observations of the distribution of the meadows along transects are used in many monitoring programmes and have proven to be effective in detecting declines⁽⁶⁾

The health of Eelgrass meadows is linked to the health of the wider marine environment. For this reason programmes combine monitoring with the monitoring of water quality. This environmental quality information can help ascertain the causes of trends detected on Seagrass meadows, thereby facilitating action. Among the environmental properties monitored, water transparency, measured with the secchi disc, provides the most integrative, robust and yet simple indication of water quality.

3.5 Key Points to Consider

- The selection between different monitoring options is dependent on the structure and resources available for example cumbersome methods are not practical for volunteer-based monitoring networks⁽²⁾.
- Methodologies involving the use of a motorised boat are not feasible due to the shallow nature of the creek and will therefore result in additional negative impacts. This does however provide the opportunity to access areas via foot. In order to measure water depth, un-motorised transport will be used, for example an inflatable or kayak.
- The variable of 'Biomass', although considered to be a precise measure of Seagrass abundance, has not been considered within this document due to its destructive and costly nature. It was also considered that it was not possible to adapt the techniques involved in biomass sampling.
- Although the methodology in '3.3.3 Shoot Density, Cover and LAI' states the transects should be centred in the bed to avoid edge effects this strategy wants to look at the edges in order to identified impacts. Therefore this methodology will be adapted to incorporate all areas of Eelgrass.

4.0 RECOMMENDED MONITORING

4.1 Bed Delineation

Finer scale mapping using GPS is very accurate⁽⁸⁾. Surveyors will walk around the edge of the Eelgrass patches, at regular intervals their position will be noted with the use of a handheld GPS device.

4.2 Depth Distribution

The two methods described for Depth Distribution (Section 3.3.2) are highly costly and due to the shallow nature of the site are not feasible. As the depth limit of Eelgrass is primarily determined by water clarity⁽⁹⁾ a more cost effective way to measure this variable would be to use a secchi disk. A visual assessment will take place at low tide in order to establish where the most shallow and deepest points are located. Again, these will be marked using GPS so that once high tide occurs the boat can be used to access the points and the secchi disc can be utilised.

4.3 Shoot Density, Cover and Leaf Area Index

Temporary transects will be established in each zone, roughly parallel to the shore, along the depth continuum. The length of each transect will be roughly 60% of the bed width⁽⁶⁾. Predetermined random numbers should be established along either side of the transect where quadrats should be placed⁽⁶⁾. Ten 0.25m² (50cm x 50cm) quadrats will be placed within each zone. The location of each quadrat will be recorded via GPS.

These quadrats will be accessed via foot during low tide. As shoot density and cover are depth dependent, at each point the depth of the water will be recorded. This will be taken separately at high tide.

4.4 Bed Fracturing

The extent of the bed may not change but the bed may break up internally leading to increased patchiness. This will be monitored via the use of an aerial drone. This will fly over the extent of the Eelgrass taking photos that can then be used to compare annually. A grid will be overlaid on the imagery so that the percentage of fracturing can be calculated resulting in a comparable numeric value.

4.5 Water Quality

Turbidity measurements will be taken during Depth Distribution monitoring. If it becomes apparent that Eelgrass is being impacted/declining around Yachthaven further assessment of the water quality will have to take place to try and determine the cause. For example a sample can be taken and sent to a local laboratory for analysis. These techniques will be used in conjunction with the Environment Agencies monitoring with regard to the Water Framework Directive.

4.6 Timing

Cover and density estimates are highly seasonal for Eelgrass. Therefore monitoring should take place at the same time each year. To avoid any natural deterioration in the condition of the Zostera biomass, monitoring in August (2015 – 2020) is recommended.

4.7 Personnel

It is yet to be confirmed whom will be carrying out the required monitoring work. Therefore the techniques recommended have been presented with the knowledge that volunteers could potentially be carrying out tasks. Therefore they do not require a certain skill set and are not too technically challenging. It is however important that if this is the case, all personnel carrying out works are appropriately trained by someone with prior experience.

The information attained from the on going surveys will be passed on to the Local Planning Authority, Natural England, Hampshire Wildlife Trust and Chichester Harbour Conservancy. It will also inform the Yatchhaven Management Company. There will be liaison between the surveyors and the management company so that any detrimental effects are identified quickly with subsequent mitigation measures put in place.

5.0 THRESHOLDS

A decrease in the extent of Eelgrass cover of >20% would trigger management intervention. Similarly if the Eelgrass cover within the quadrats decreases, on average by >25%, management will be implemented. This will be in line with the monitoring of bed fracturing. If, using the grid method outlined above, bed fracturing increases above 25% then management will be implemented.

6.0 SCHEDULE OF MONITORING

Table 1 below depicts when the monitoring will take place. August/September is when Eelgrass biomass usually attains its annual maximum but to allow for natural deterioration monitoring will be focused within August

Table 1. Timing of Monitoring

	2015	2016	2017	2018	2019	2020
	August	August	August	August	August	August
Bed Delineation						
Bed Fracturing						
Depth Distribution						
Shoot Density						
Cover						
Leaf Area Index						
Water Quality						

7.0 RESTORATION OF EELGRASS BEDS

Within the Inventory of eelgrass beds in Hampshire and the Isle of Wight Marsden and Chesworth (2014)⁽¹⁰⁾ give four broad options for restoration:

7.1 Seeding

Seeds can be collected by taking reproductive shoots from natural beds. This method has the advantage that seeds can be sown relatively quickly and cheaply over large areas. The disadvantages are that it can take a long time to gather the seeds and currents and bioturbation can transport the seeds outside of favourable germination areas. Seeds should be put into fine mesh bags which are fixed to the seabed, preventing seeds from being removed

7.2 Transplanting seagrass shoots with sediment intact

Transplanting cores or plugs involves taking cores using PVC pipes, metal cans and spades. It has the advantage that well developed roots and rhizomes can be transplanted along with the natural sediment nutrient pool. However, it creates holes in the donor bed that can lead to erosion and significant damage

7.3 Transplant shoots with bare roots

The bare root method involves removing seagrass shoots along with a small length of rhizome from a donor site and planting it at the transplantation site.

Transplantation can be achieved relatively easily at low tide, and laboratory experiments suggest germination can occur at a high rate but subsequent survival is poor.

7.4 Improve habitat conditions

In conjunction with transplantation, efforts should be put into protecting the Zostera beds and improving the habitat to make it more suitable for natural recolonisation. This may mean improving water quality and preventing physical disturbance. A viable, yet time consuming method to determine the cause behind degradation in water quality and increased physical disturbance would be for personnel to monitor yacht activity in and around Yachthaven. This way they can check if it is certain individuals that are resulting in the negative changes, if so these individuals can be approached.

8.0 CONCLUSION

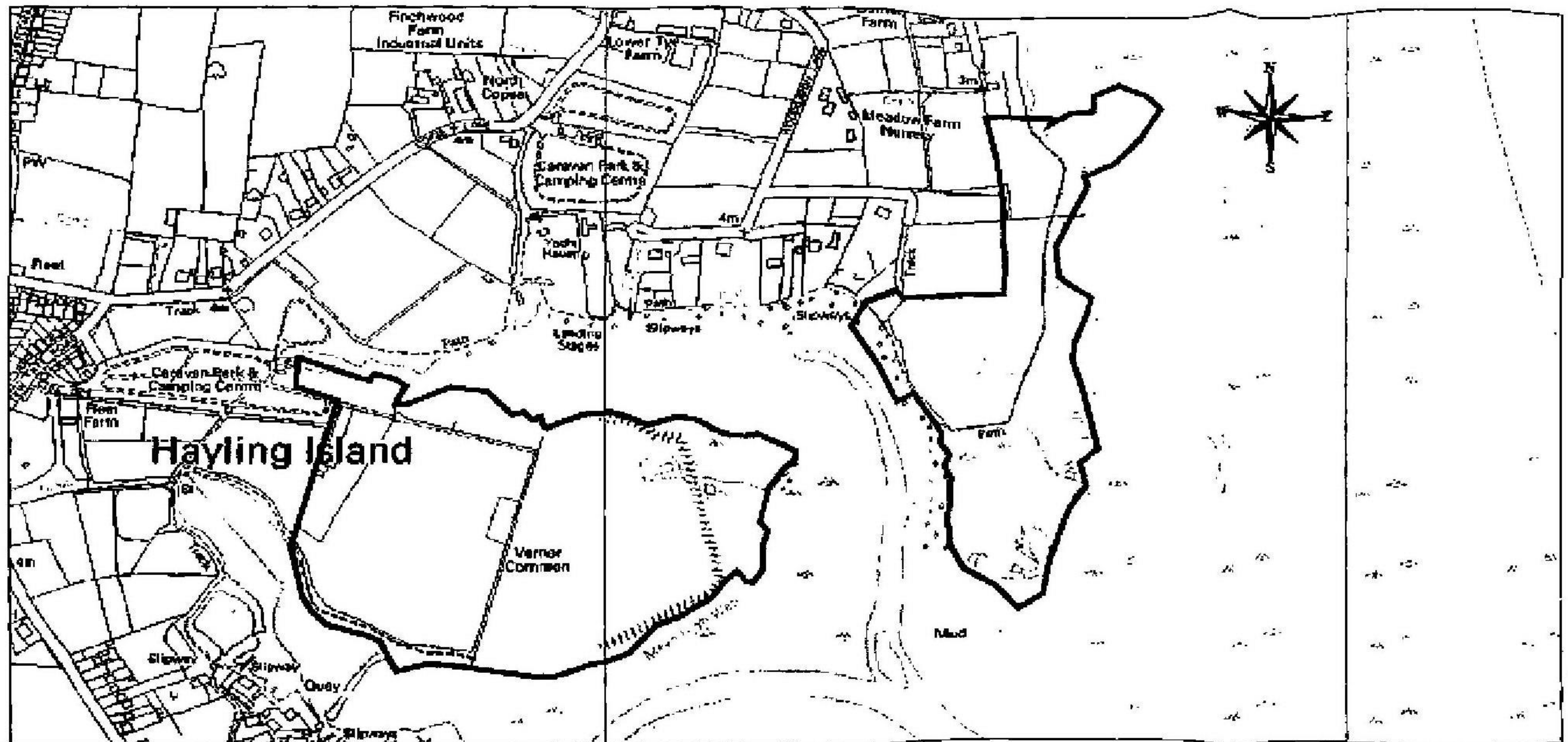
This monitoring survey strategy has identified the techniques normally implemented to monitor Eelgrass. It has suggested ways they can be adapted to this site. It is considered that if these techniques are implemented over the long time, at the stated time of year and follow the guidance provided assessment of changes of Eelgrass distribution and occurrence of damage within Yachthaven will be able to assessed. Continual monitoring will be to inform and enable mitigation measures if indeed detrimental affects are recorded associated with the Yachthaven development.

9.0 REFERENCES

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PLAN 1



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Yacht Haven, Hayling Island

Drawn By:

Scale:

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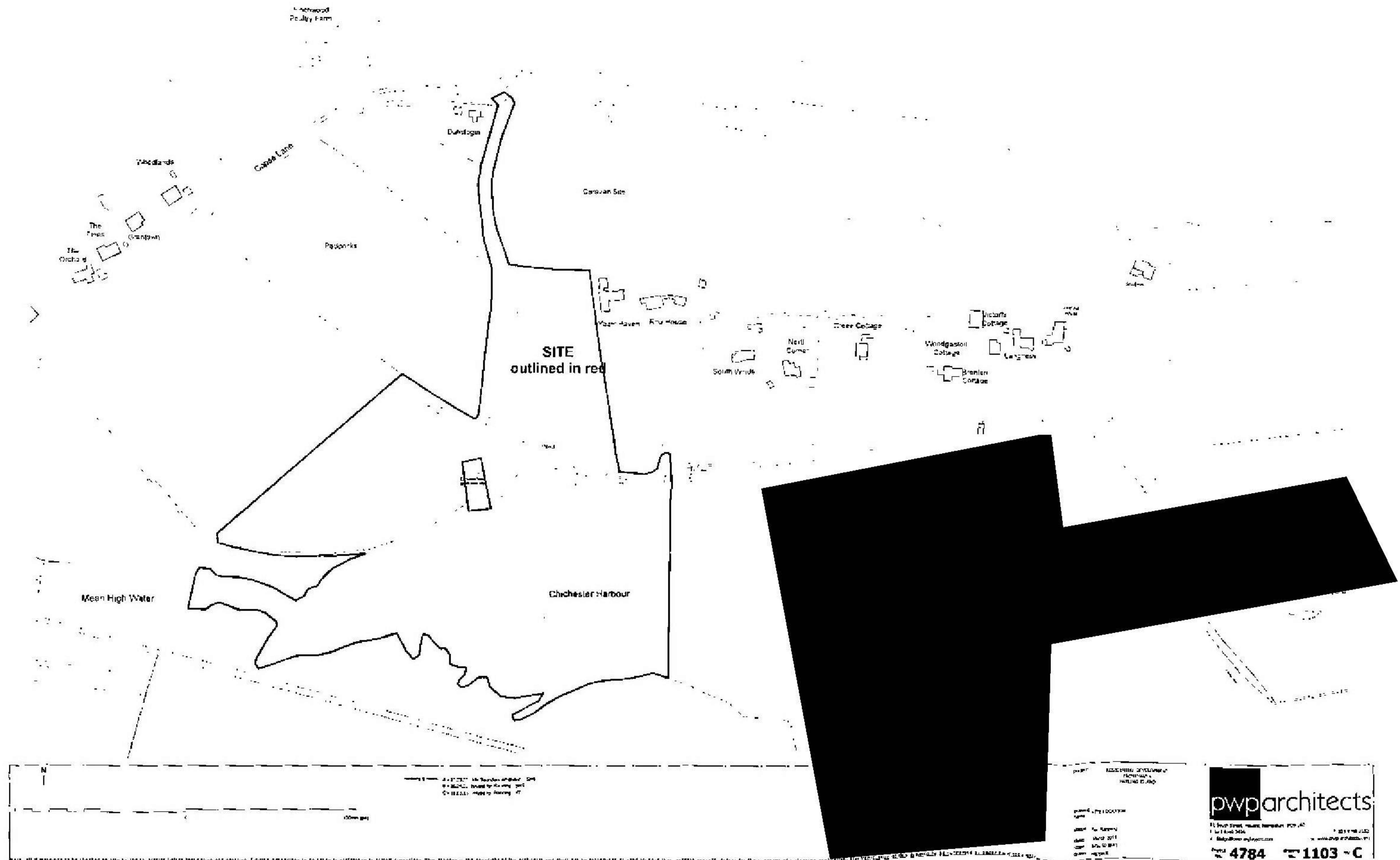
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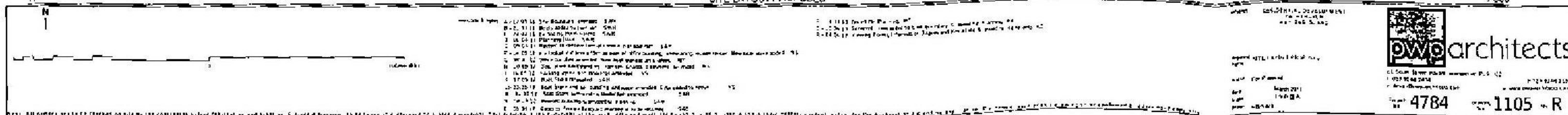
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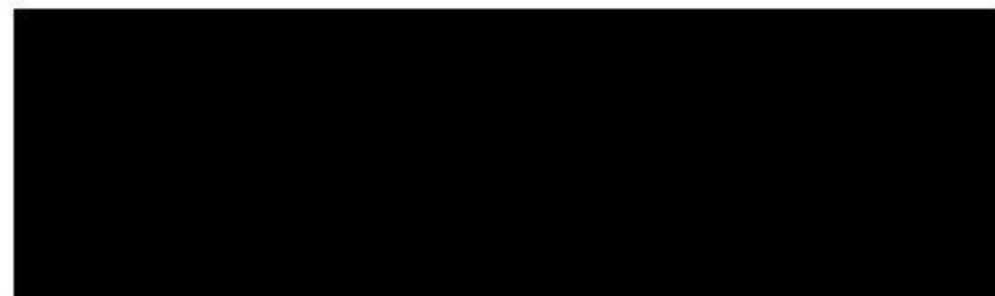
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a director and its secretary /
two Directors

Director



Louise Stagnetto
For and on behalf of
Valdir Managers Limited
Director

Director/Secretary

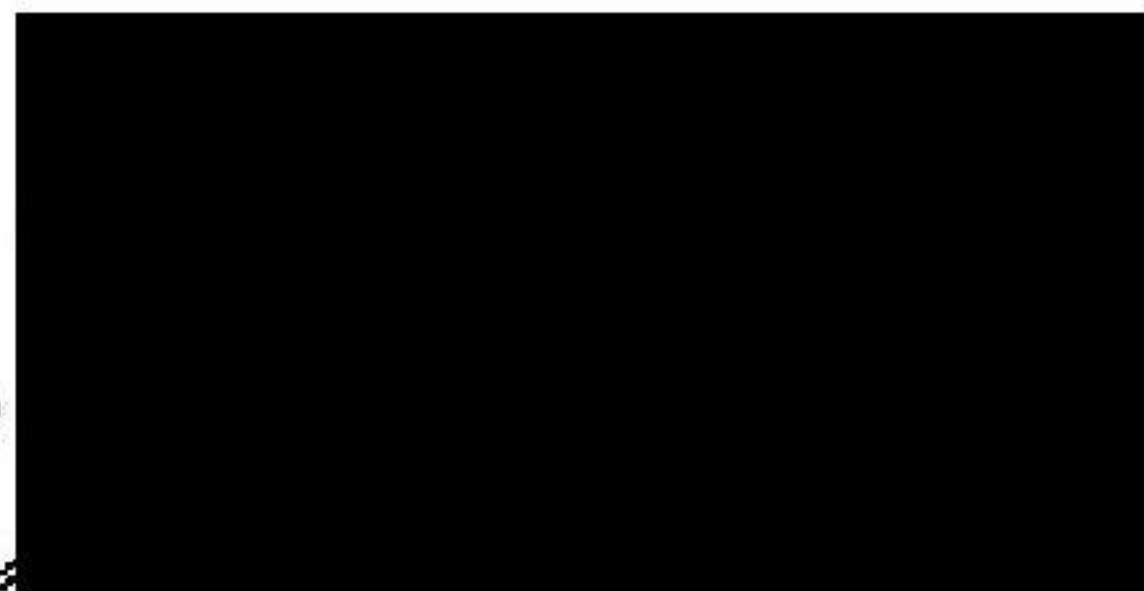


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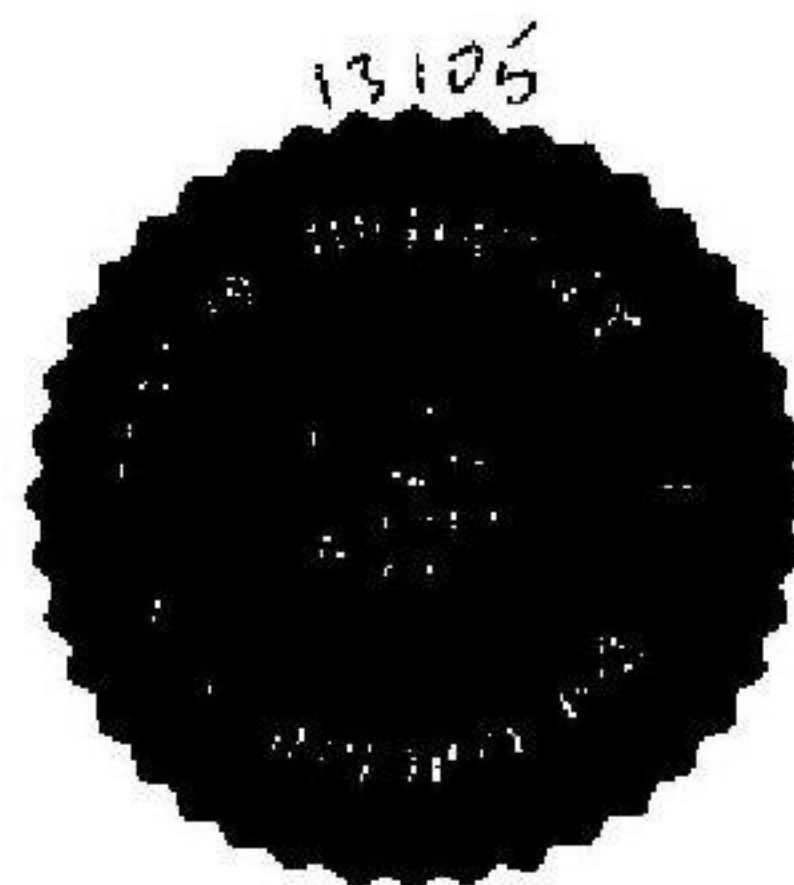
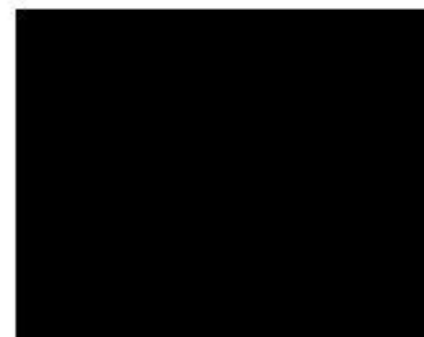
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