Draft
Helicopter Operations Manual (HOM)

Trinity Point Helipad

Version C
May 2019

Prepared For:
Johnson Property Group Pty Ltd

Property:
Trinity Point Helipad
Pt Reserve 10121129 Crown Land (Lake Macquarie)
Adjoins Part Lot 32 DP 1117408

Adjoins No 71. Trinity Point Drive,
Morisset Park

Document Control Sheet

Version	Amendment	Date	Authorised	
			Name	Signature
A	Draft	21 March 2019	M.Radnidge	
B	Draft	21 May 2019	S.Hutton	
C	Draft for Lodgement	22 May 2019	S.Hutton	

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1.0 INTRODUCTION

1.1 THE TRINITY POINT HELIPAD

The Trinity Point helipad is to be integrated into the operations of the Trinity Point Marina, which is located in Bardens Bay, Lake Macquarie.

The helipad is to be physically connected to the south eastern side of the outer breakwater of the marina. Its location is shown in **Figure 1**.

The helipad forms part of a broader Marina and Mixed Use development. The overall approval (at the time of producing this HOM) consists of a 188 berth marina and associated facilities; 315 accommodation units (up to 50% used for residential purposes); Restaurant (200 seats and outdoor dining); café; function centre and office. Trinity Point will deliver Lake Macquarie's first five star luxury resort and the helipad will complement this use.

The Trinity Point Marina and Mixed Use development is being developed by Johnson Property Group Pty Ltd (JPG). The marina is operated by Trinity Point Marina on behalf of JPG. Trinity Point Marina will be responsible for management of the helipad and its operation (HLS manager).

1.2 HOM OBJECTIVES

This Helicopter Operations Manual (HOM) has been produced to achieve the following objectives:

- To provide a private controlled helicopter landing site attached to and operated in conjunction with the marina and in support of the marina and mixed use development at Trinity Point;
- Comply with the requirements of Project Approval 06_0309 (MOD 3);
- Comply with the operational requirements of Development Consent 1176/2014;
- Comply with Environment Protection License (EPL) 20631 (as amended to include the helipad);
- Comply with relevant legislation;
- Identify and manage risk;
- Ensure environmental safeguards are appropriately implemented and managed; and
- Ongoing performance monitoring and reporting.

1.3 CONTEXT OF HOM

The State and Local development assessment processes (including the Environmental Assessment, Environmental Impact Statement and other approval documentation) confirmed that the Trinity Point Helipad can operate appropriately within the locality subject to ongoing management and monitoring.

If environmental monitoring establishes that any component of the operation is not performing in line with approved operational criteria, there may need to be amendments to this HOM. Such amendments (if necessary) will be developed and added to this HOM as required.

2.0 ENVIRONMENTAL MANAGEMENT

2.1 OPERATIONS

The Trinity Point Marina and Mixed Use Development, inclusive of the Helipad is owned by Johnson Property Group Pty Ltd (JPG).

The helipad is to be integrated into the operations of the marina. The marina is operated by Trinity Point Marina on behalf of JPG. Trinity Point Marina will be responsible for the day to day operations of the helipad (HLS manager).

All operations are currently overseen by JPG.

2.2 ENVIRONMENTAL POLICY

JPG are committed to the ongoing management of all environmental considerations associated with the helipad development. JPG commit to:

- Construct and operate the helipad in line with Development Consent 1176/2014 and the MOD 3 Project Approval (06_0309);
- Undertake ongoing operational monitoring as required by approval documentation;
- Apply best practice standards for environmental management;
- Establish awareness among visiting pilots of the noise sensitive residential areas surrounding Bardens Bay and recreational lake users. Implementation of a 'Prior Permission' protocol will prevent any adverse impacts;
- Maintain open lines of communication with the local community; and
- Create awareness among staff of the potential environmental effects of the helipad operation and how they can work to minimise any potential environmental effects.

2.3 ENVIRONMENTAL MANAGEMENT

The HLS manager (and delegated staff with appropriate training) is responsible for the following:

- Daily management of the helipad and its operation in line with the requirements of this HOM;
- Daily management of the helipad in line with Development Consent 1176/2014 and the MOD 3 Project Approval (06_0309);
- Management of a minimum and maximum (where necessary) temporary safety zone during helicopter take-off and landing movements only both (1) on the water surrounding the helipad external to the marina outer breakwater; and (2) on the marina infrastructure including marina berths affected by rotor downwash (during certain wind conditions and helicopter types);
- Ensure that marina staff that will have delegated authority to manage helipad operations receive appropriate training;
- Administration and record keeping of helipad operation in line with this HOM;
- Maintain open lines of communication with the local community;
- Ongoing site maintenance; and
- Ongoing liaison with JPG regarding the HOM to ensure it is appropriately reviewed and updated as necessary.

JPG is responsible for:

- Oversight of ongoing compliance with Development Consent 1176/2014 and MOD 3 Project Approval 06_0309;
- Oversight of environmental monitoring in line with relevant approvals; and
- Overarching responsibility for review and update of this HOM as necessary in consultation with the marina manager.

The HLS manager is responsible for operational systems and operational management.

The HLS manager is responsible for management of the site and associated facilities and for environmental compliance. This includes responsibility for the day to day operation of the helipad in accordance with the abovementioned consents and the content of this HOM.

Tasks that are the responsibility of the HLS manager may be delegated to appropriately trained marina staff; however the marina manager retains the overarching obligation of ensuing that matters are completed satisfactorily.

Table 1 below provides a matrix of responsibilities for the environmental management of the Trinity Point Helipad:

Table 1 - Environmental Management Responsibilities

Responsibility	JPG	HLS Manager
Corporate Environmental Management	Yes	Yes
HOM Implementation	Yes	Yes
HOM Review and Update (as necessary)	Yes	Yes
Administrative Support	-	Yes
Reporting / Records	-	Yes
Community Liaison	Yes	Yes
Environmental Awareness / Training	-	Yes
Monitoring	-	Yes
Day to Day Operational Control	-	Yes
Non Conformance / Corrective Actions	Yes	Yes
Compliance with Development Consents and Authority Requirements	-	Yes
Point of Emergency Contact	-	Yes

3.0 CONDITIONS OF CONSENT

Prior to finalising the HOM, **Appendices B** and **C** will include the conditions of consent for DA 1176/2014 (**Appendix B**) and the MOD 3 Modification of Project Approval 06_0309 (**Appendix C**).

This draft HOM will be reviewed and updated (where necessary) to address and be consistent with the relevant conditions of both consents.

4.0 SITE AND OPERATIONS

4.1 HLS SUMMARY

Name: Trinity Point Marina

Lat/Long: 33° 07' 92" S 151° 32' 33" E

Elevation: 0'

Contact Primary: insert primary contact mobile number

Contact Secondary: insert secondary contact mobile number

Prior-permission: Required. See Part 6 - Contact Details and Appendix A.

Approach/Departure Area: Yes. See Part 4.4.3 – Take Off and Landing Area.

HLS Available: Daylight hours operation only as below:

Monday – Saturday: 8am – Sunset.

Sunday / Public Holidays: 9am – Sunset.

No use outside of the above hours.

Note: 'Sunset' refers to the definition as published by Australian Government Geoscience Australia (http://www.ga.gov.au/geodesy/astro/sunrise.jsp).

The above does not apply to helicopter movements which are associated with police or medical emergency.

HLS Maximum Flight Movements: Up to 6 per day (no more than 2 movements after 7pm) and up to 38 per week. Only one helicopter to use helipad at any one time.

HLS Limits: MAUW 3.2 tonne

Fly Neighbourly Required: Yes. See Part 7.6 – Fly Neighbourly. Helicopter exclusion area applies (see Part 7.1).

Communications: 'Trinity Marina' (VHF frequency TBC)

Weather Info: A weather station is available on the Trinity Point site. The pilot must check weather details prior to landing/departure. The HLS manager will provide real time weather details to pilots prior to landing / departure.

If the pilot determines that wind or other conditions do not allow safe arrival / departure confined to the designated take off / landing zone, helicopters must not undertake the movement.

Plans of the Trinity Point HLS and its context are supplied in **Figures 1 – 3** below.

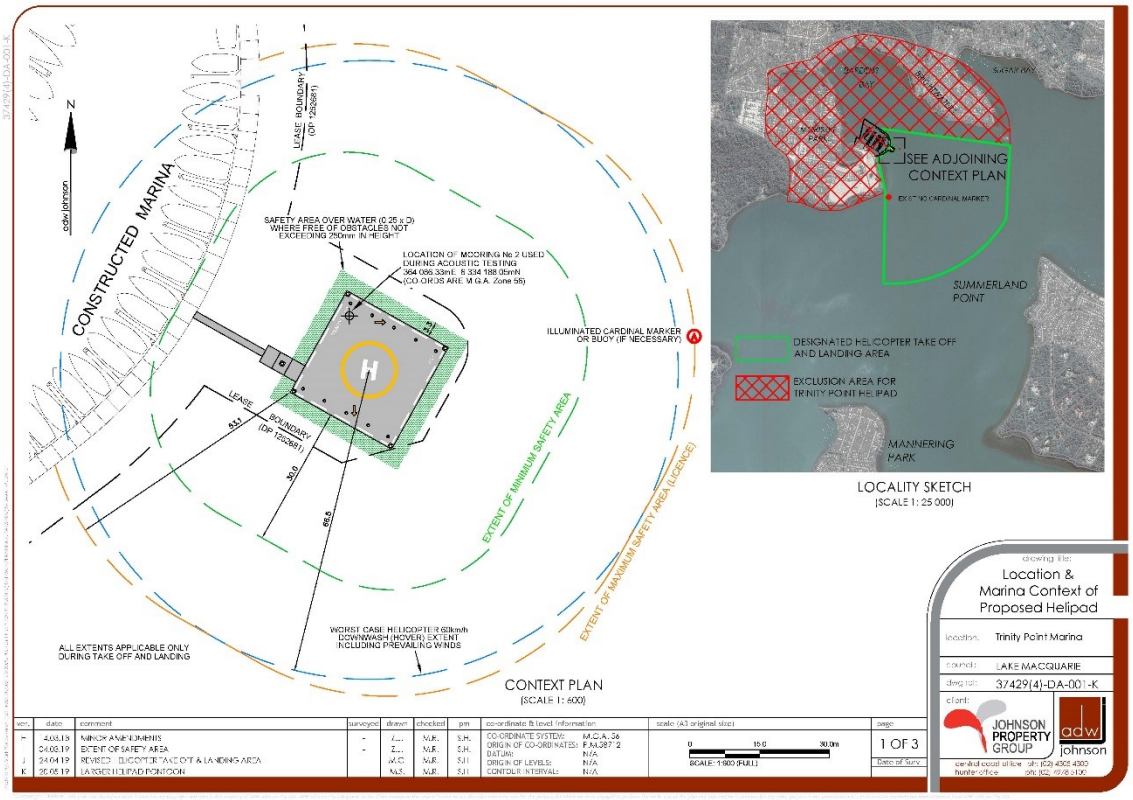

Figure 1 - Location & Context of Helipad.

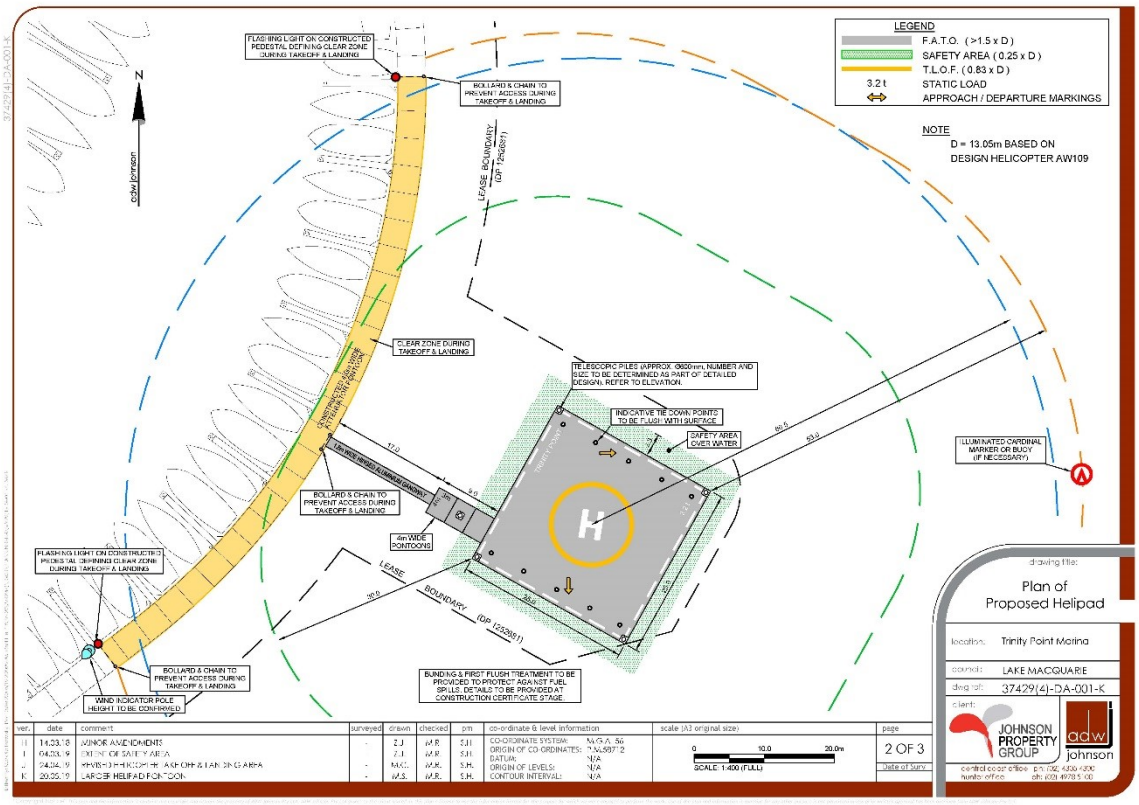

Figure 2 - Trinity Point Marina HLS.

Note: The above figure is subject to final marking advice.

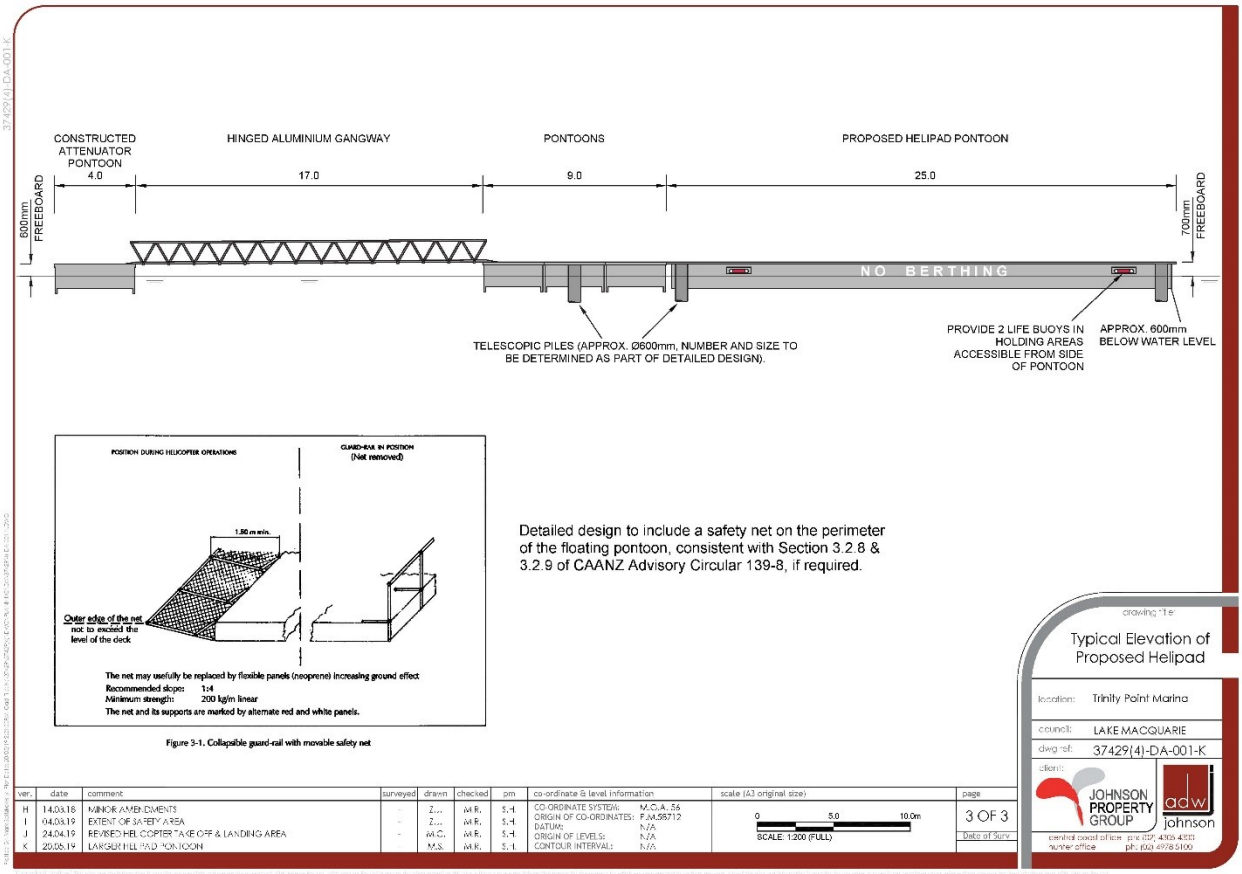

Figure 3 - Elevation of HLS.

4.2 HLS DESIGN AND MARKINGS

HLS FATO Size: The HLS minimum FATO size is **20m x 20m** for the design helicopter (largest to use the HLS) being the Agusta Westland AW109 where D=13.05m. However, the FATO has been increased to >1.5xD, to **25m x 25m** (refer to **Figure 4** below).

Static Weight Limitation: The maximum static design weight of the HLS is 3.2t.

Maximum Helicopter Size: The maximum helicopter size (length from main rotor tip to tail rotor tip – turning) of the HLS is 13.05 m.

HLS Markings: The Trinity Point Marina HLS is marked as per the illustration in **Figure 4** below. Note that markings are subject to final advice during detailed design.

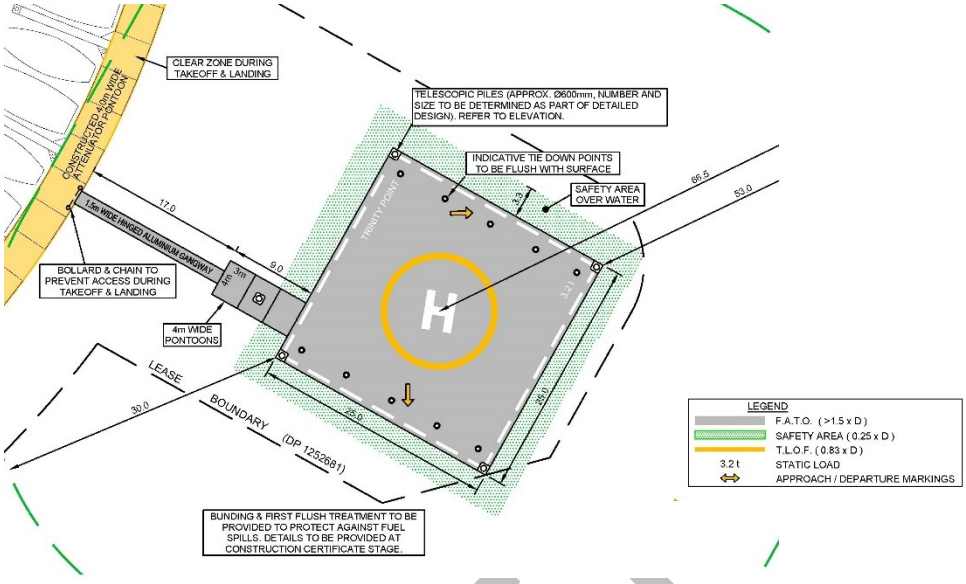

Figure 4 - HLS FATO and Markings.
Note: Markings Subject to Final Advice.

4.3 HLS CONTACT DETAILS

Trinity Point Marina is a private HLS. As a consequence, Prior Permission to land is needed.

Name: Trinity Point Marina

Contact Primary: insert primary contact mobile number

Contact Secondary: insert secondary contact mobile number

Email: (insert email for HLS contact)

Open Hours: Daylight hours operation only as below:

Monday – Saturday: 8am – Sunset.

Sunday / Public Holidays: 9am – Sunset.

Website: (insert web address)

Weather Info: A weather station is available on the Trinity Point site. The pilot must check weather details prior to landing/departure. The HLS manager will provide real time weather details to pilots prior to landing / departure.

If the pilot determines that wind or other conditions do not allow safe arrival / departure confined to the designated take off / landing zone, helicopters must not undertake the movement.

Prior Permission:	Trinity Point requires prior permission. Pilots and Charter Operators need to gain approval from the HLS manager which includes reviewing and agreeing to operations consistent with this HOM, and must schedule a time. Only one helicopter may use the HLS at any one time.

4.4 OPERATIONS

4.4.1 Maximum Number of Flight Movements

Maximum flight movements are as follows:

- A maximum of six (6) movements per day (ie. three (3) landings and three (3) departures);
- No more than two (2) of the daily movements shall occur after 7.00pm (ie. one (1) landing and (1) departure); and
- A maximum of 38 movements in any period of seven days (counted from Sunday to Saturday) (ie. 19 landings and 19 departures).

The above does not apply to helicopter movements which are associated with police or medical emergency.

4.4.2 Operating Hours

The HLS will be operational during daylight hours only as follows:

- Monday – Saturday: 8am – Sunset.
- Sunday / Public Holidays: 9am – Sunset.

No more than two (2) helicopter movements shall occur after 7.00pm (ie. one (1) landing and (1) departure).

No use outside of the above hours.

Note: 'Sunset' refers to the definition as published by Australian Government Geoscience Australia (http://www.ga.gov.au/geodesy/astro/sunrise.jsp).

The above does not apply to helicopter movements which are associated with police or medical emergency.

4.4.3 Approved Take-off and Landing Area

All helicopters when below 500 feet and over water must land and take off within the designated take-off and landing area as shown in **Figure 5** below (generally being 1200m from the helipad pontoon).

No helicopters using the helipad are to fly (at any height) within the exclusion area as shown in **Figure 5** below.

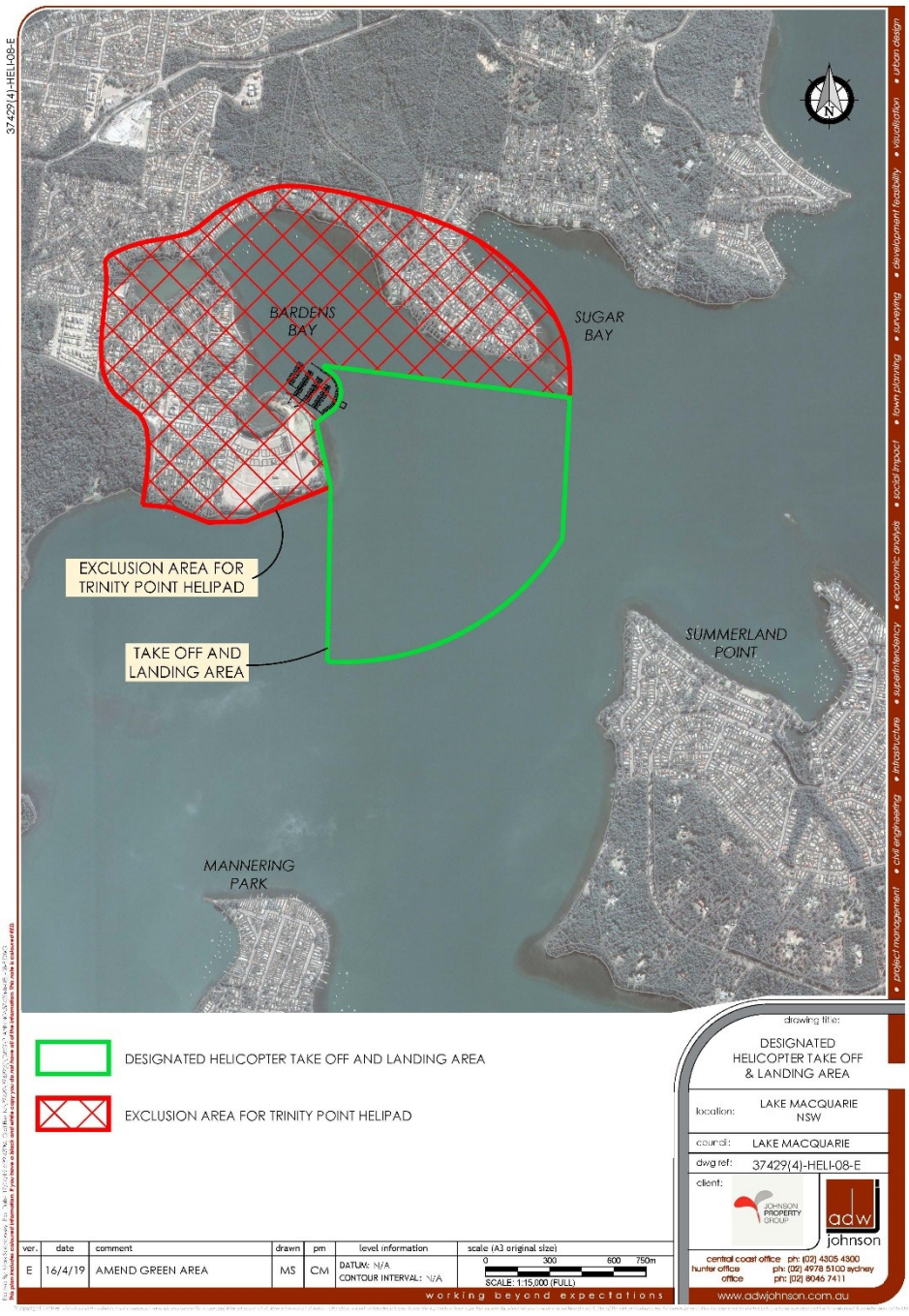

Figure 5 - Designated Take-Off and Landing Area.

4.4.4 Approved Helicopters

Helicopters approved to land at the helipad comprise the helicopter types (or type equivalents including any derivatives) identified in **Table 2** below.

A helicopter will be of a type equivalent to one listed in **Table 2** below if:

- It is of the same engine type (eg. single or twin engine);
- Its maximum take-off weight is the same or less that the helicopter listed;
- Its rotor disc diameter is the same or less that the helicopter listed; and
- It has a type certification complying with the noise limits under Chapter 11 of International Civil Aviation Organisation Annex 16 (ICAO).

Other helicopter types may use the helipad but only with the prior consent of Council. That consent may be sought by submitting details of the proposed helicopter type to Council for review and approval accompanied by a detailed acoustic report prepared by an appropriately qualified and experienced acoustic consultant before the use of the revised helicopter type commences. If this occurs, **Table 2** below will be updated accordingly.

Use of the HLS by Robinson R22/44 helicopters (or equivalent) is prohibited.

Joy flights from the HLS are prohibited.

Table 2 - Approved Helicopter Types

Aircraft Name	Picture	Specifications
Bell 407		Passengers: 6 Maximum weight: 2,381 kg Engines: 1 Total length: 12.68 m Fuel capacity: 484 lr Max speed: 259 km/h
Bell 206B		Passengers: 4 Maximum weight: 1,451 kg Engines: 1 Total length: 11.96 m Fuel capacity: 366 lr Max speed: 225 km/h
Bell 206L		Passengers: 6 Maximum weight: 2,018 kg Engines: 1 Total length: 13.02 m Fuel capacity: 419 lr Max speed: 232 km/h
Airbus H125 (formally AS350)		Passengers: 5 Maximum weight: 2,250 kg Engines: 1 Total length: 12.94 m Fuel capacity: 540 lr Max speed: 259 km/h
Airbus 120		Passengers: 4 Maximum weight: 1,715 kg Engines: 1 Total length: 11.52 m Fuel capacity: 400 lr Max speed: 278 km/h

Aircraft Name	Picture	Specifications
Airbus 130		Passengers: 4 Maximum weight: 2,500 kg Engines: 1 Total length: 12.64 m Fuel capacity: 541 lr Max speed: 285 km/h
MD500 series		Passengers 3 Maximum weight: 1,361 kg Engines 1 Total length: 9.4 m Fuel capacity: 242 lr Max speed: 282 km/h
AS 355F		Passengers: 5 Maximum weight: 2,540 kg Engines: 2 Total length: 12.94 m Fuel capacity: 730 lr Max speed: 278 km/h
Agusta Westland AW109		Passengers: 7 Maximum weight: 2,850 kg Engines: 2 Total length: 13.04 m Fuel capacity: 870 lr Max speed: 311 km/h

5.0 RISK ASSESSMENT

5.1 INTRODUCTION

This section of the HOM identifies potential environmental impacts associated with operating the HLS. Potential impacts have been identified through consideration of the activities to be undertaken, as well as issues identified in the environmental impact statement and matters raised by stakeholders during the approvals process.

These potential impacts are treated as risks that need to be managed through environmental management activities, controls and monitoring designed to prevent or minimise these risks being realised.

5.2 RISK ASSESSMENT

The environmental risk rating of an identified impact is measured in terms of consequence (severity) and likelihood (probability) of the event happening. The risk assessment matrix and rating is provided below:

Table 3 - Risk Assessment Matrix

		Consequence				
		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
LIKELIHOOD	A. Rare	Low	Low	Low	High	High
	B. Unlikely	Low	Low	Moderate	High	Very High
	C. Possible	Low	Moderate	High	Very High	Very High
	D. Likely	Low	Moderate	High	Very High	Very High
	E. Almost Certain	Low	Moderate	High	Very High	Very High

The qualitative measures of likelihood and consequence are shown in **Tables 4** and **5**.

Table 4 - Qualitative Measures Likelihood

QUALITATIVE MEASURES LIKELIHOOD		
Level	**Descriptor**	**Example Description**
A	Rare	Uncommon, unusual: not likely to occur within a 10 year period
B	Unlikely	No expected to happen; may occur once every 5 to 10 years
C	Possible	Could happen: will probably occur between 1 and 5 years
D	Likely	Expected to happen: expected to occur at least once in a 6 to 12 month period
E	Almost Certain	Will happen: imminent or will occur in 1 to 6 months

Table 5 - Qualitative Measures of Consequence of Impact

QUALITATIVE MEASURES OF CONSEQUENCE OF IMPACT		
Level	**Descriptor**	**Example Description**
1	Insignificant	Negligible impact, little disruption to normal operation, low increase in normal operation costs.
2	Minor	Minor impact for small population, some manageable operation disruption, some increase in operating costs.
3	Moderate	Minor impact for large population, significant modification to normal operation but manageable, operation costs increased, increased monitoring.
4	Major	Minor impact for small population, systems significantly compromised and abnormal operation if at all, high level of monitoring required.
5	Catastrophic	Severe impact for large population, complete failure of systems.

5.3 RISK ASSESSMENT SUMMARY

Table 6 provides a risk analysis of environmental issues associated with the operation of the Trinity Point HLS.

Table 6 - Risk Analysis of Trinity Point HLS Operation

RISK ANALYSIS OF SITE DEVELOPMENT				
HOM Section	**Environmental Risk**	**Consequence**	**Likelihood**	**Risk Rating**
7.8	Noise and Vibration	Minor	Rare	Low
7.5	Rotor Downwash	Minor	Possible	Moderate
4.4.1 and 4.4.2	Flight Movement Exceedance or Operational Hours Exceedance	Minor	Rare	Low
7.1	Helicopter entering the exclusion area	Minor	Rare	Low
4.4.4	Use by Non Approved Helicopter	Minor	Rare	Low
7.14	Unauthorised Maintenance Activity	Minor	Rare	Low
7.10	Helicopter Crash	Major	Rare	High
7.7	Bird Strike	Minor	Rare	Low
7.10	Incident (eg. Spill or Fire)	Moderate	Rare	Low
7.9	Water Management	Moderate	Rare	Low
N/A	Air Quality	Insignificant	Rare	Low
N/A	Visual Impacts	Minor	Rare	Low
7.11	Social Impact	Minor	Unlikely	Low

This HOM has been developed to provide procedures and control measures that will be used to prevent or minimise environmental risks and impacts.

6.0 PRIOR PERMISSION PROTOCOL

6.1 BACKGROUND

Trinity Point Marina is positioned in Bardens Bay on Lake Macquarie. As part of JPG's commitment to the residents of the area, a prior permission procedure will be implemented to safely manage the HLS operation and reduce any potential for adverse impact on the local community.

These initiatives are detailed in this HOM and include:

- Fly neighbourly procedures (refer to Section 7.6);
- Designated take-off and landing area (refer to Section 4.4.3);
- Exclusion area for all helicopters using the Trinity Point Helipad (refer to Section 7.1);
- Restricted hours of operation (refer to Section 4.4.2);
- Restricted number of flight movements to the HLS per day and per week (refer to Section 4.4.1);
- Implementation of a managed safety area (during landing and takeoff movements only) (refer to Section 7.5); and
- Restriction on types of helicopters permitted to use the helipad (refer to Section 4.4.4).

It is our intent to ensure all helicopter operators and pilots comply with this approach to provide a safe and harmonious existence between helicopter flights to/from the Trinity Point HLS and the local community. Those that do not comply may be subject to exclusion.

6.2 SEEKING PRIOR PERMISSION

Helicopter operators and pilots planning to visit the Trinity Point Marina HLS need prior permission.

The reasons include:

- The Trinity Point HLS is a private facility that has strict operational conditions;
- There are designated take-off and landing areas and an exclusion area to be observed by all pilots using the Trinity Point HLS;
- There are limited flights per day and per week and limited hours of operation per day;
- There may be a scheduling conflict (ie. helipad may already be in use);
- There is a restriction on the type of helicopters that can use the HLS; and
- Priority will be given to Marina Hotel/Restaurant guests.

Provided below is a flowchart of the Prior Permission process that will be implemented for the use of the Trinity Point HLS.

Trinity Point HLS - Prior Permission Flowchart

STEP 1: Contact Trinity Point Marina
Tel:
Email:
URL:

STEP 2: HLS Manager to provide copy of approved HOM

STEP 3: Provide Details
Contact name:
Contact mobile:
Charter Company:
Helicopter type:
Helicopter registration:
Passenger numbers:
Visit Purpose: Hotel/Restaurant/Marina
Date/Time Visit:

Confirmation that a copy of the HOM manual has been received, read understood and agreed.

Email:
URL:

STEP 4: HLS Manager to provide Confirmation of Approval

Approval NOT Confirmed
HLS Manager will inform decision/reason

YES – Approval Confirmed
HLS Manager will send:

- Written/text confirmation with Appendix A of HOM attached
- Requirement for all operations to be consistent with agreed HOM
- VHF Frequency for communication
- Requirements to access weather data, flight tracking information and communicate with HLS Manager prior to movement

Pilot to confirm receipt and agreement

STEP 5: Prior to movement, HLS Manager to communicate:
- on site weather data to pilot.
- confirm pre-movement inspections and managed safety area procedures undertaken.
- any known aquatic events or observed watercraft outside marina and managed areas.

STEP 6: Pilot to undertake movements consistent with agreed HOM avoiding other watercraft. If pilot determines cannot undertake a safe movement confined to designated area, movement must not be undertaken.

STEP 7: Pilot to provide tracking data and HLS Manager to complete movement registers.

7.0 OPERATING OBJECTIVES AND PROCEDURES

7.1 HELICOPTER EXCLUSION AREA

7.1.1 Objective

Minimise impact on the residents and users of Bardens Bay and Sugar Bay by the implementation of a permanent exclusion area for all helicopters using the Trinity Point HLS.

7.1.2 Procedure

JPG and Trinity Point Marina management are focussed on ensuring that users of the HLS are fully informed of the take-off and landing area and the exclusion area. Flight approach and departure paths restricted to the take-off and landing area ensures that helicopters have the least impact on the residents of the Bardens Bay and Sugar Bay areas.

As a condition of use of the HLS all helicopters must confine operations (where below 500 feet over water) to the designated take-off and landing area shown in **Figure 6** below.

Helicopters that use the HLS must not operate in the exclusion area shown in **Figure 6**.

The exclusion area is bounded by a straight line east from the Marina to the south east end of Bardens Bay, along the western side of Sugar Bay, Bulgonia Road, Pillapai Road, Rhodes Parade, west of Lake Petite, Chifley Road, Morisset Park Road, Charles Avenue and the southern and eastern shores of Morisset Park to the marina.

It is the responsibility of the pilot to consider wind conditions and determine whether it is safe to arrive / depart the helipad within the designated take-off and landing area shown in **Figure 6**. If the pilot determines that wind or other conditions do not allow safe arrival / departure confined to the designated take off / landing area, helicopters must undertake the movement.

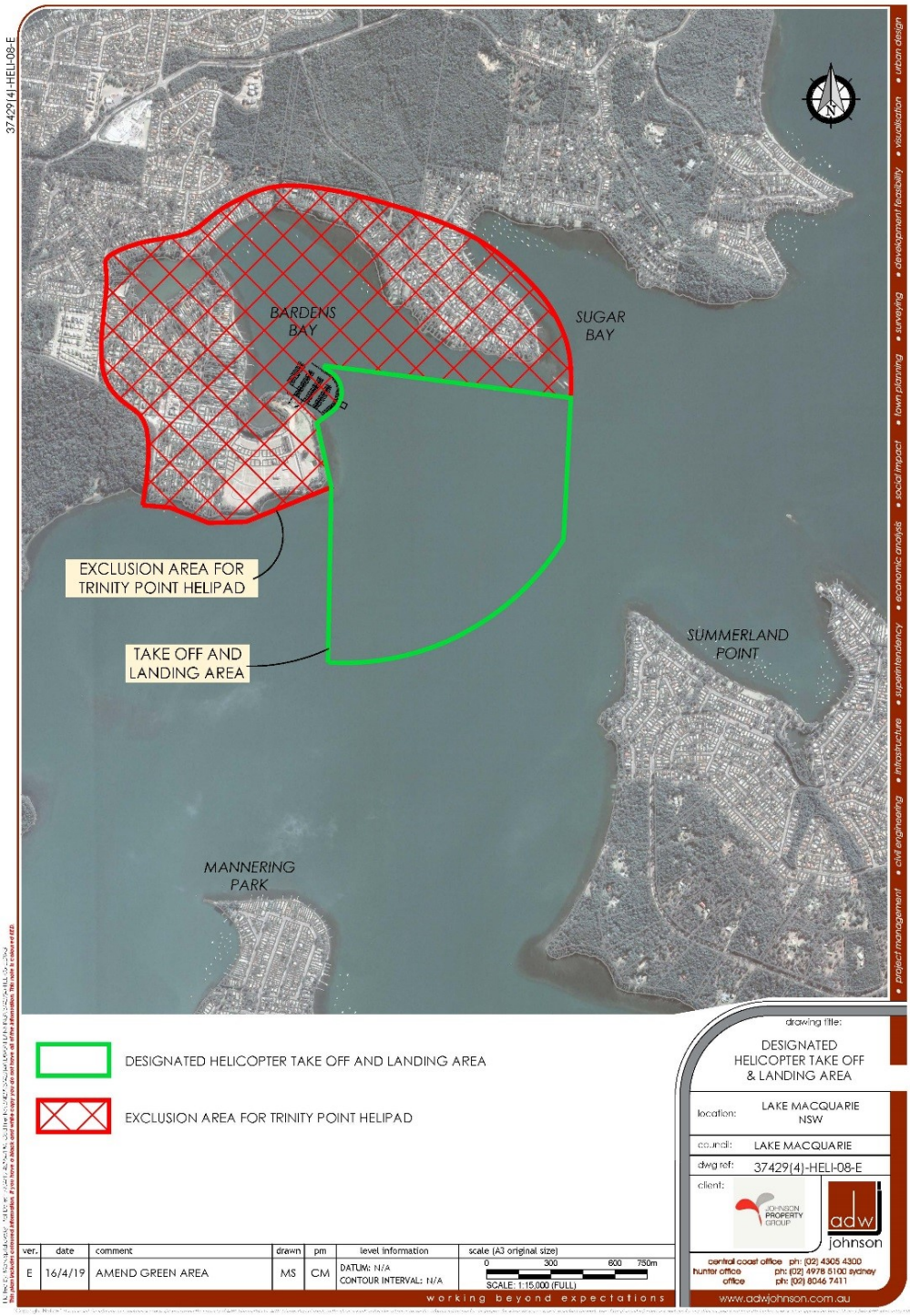

Figure 6 - Exclusion Area.

7.2 ENVIRONMENTAL AND SAFETY CHECKLIST

7.2.1 Objective

To ensure that appropriate environmental and safety checks are completed on a regular basis and prior to the arrival or departure of a helicopter.

7.2.2 Procedure

Serviceability Inspection

The HLS manager is responsible for conducting an inspection of the HLS, its surrounds and supporting infrastructure regularly (monthly) and before each helicopter movement to ensure operational readiness. These inspections must occur as follows:

- On the first day of each month;
- 30 minutes prior to a planned arrival;
- 30 minutes prior to a departure; and
- After significant weather events such as severe wind or rain storms.

The inspection is to confirm the operational and safety status of the HLS regularly. The 'Site & Surrounds Inspection Monthly & Pre HLS Use' checklist is provided within **Appendix B** of this HOM. Following an arrival or departure inspection, the HLS manager will remain present until engine shut down (following an arrival) or departure of the helicopter.

7.3 FLIGHT MOVEMENT MANAGEMENT INCLUDING HELICOPTER RECEPTION AND DISPATCH

7.3.1 Objective

To safely and appropriately manage and document helicopter reception and dispatch associated with the Trinity Point HLS.

7.3.2 Procedure

Refer to **Appendix B** for a 'Daily Flight Movement Checklist' to be completed for every helicopter movement to and from the HLS.

7.3.3 Pre-arrival

All helicopters using the Trinity Point HLS must be fitted with on board tracking software (such as spidertracks or similar) or the pilot of that helicopter must be carrying an operational hand held device (such as an iPhone, iPad or similar) that is uploaded with an application capable of recording the time, position, altitude and flight track of the helicopter. Failure to confirm acceptance of these requirements, or a failure to adhere to these requirements, will mean that a helicopter or pilot cannot land or depart from the Trinity Point HLS. Acceptance / confirmation of the existence and operational nature of the software / application is required prior to landing.

All incoming pilots are to provide a digital output from their on board tracking software or handheld tracking application to the Trinity Point HLS manager within 48 hours of a flight movement, confirming the time/date of the flight, approach / departure path, altitude and rate of descent / ascent. The Trinity Point HLS manager is to keep a record of this information for a minimum of 2 years.

The following procedures will be completed by the HLS manager.

- Check that pilot has gained approval to arrive and has met the prior-permission requirements;
- Confirm flight movements for the day and week have not exceeded the approved limit;

- Check arrival time;
- Check aircraft call-sign/registration from pre-approval acceptance;
- Understand number of passengers disembarking/embarking Helicopter;
- Relay real time weather to pilot from Trinity Point weather station;
- Shutdown: YES / NO;
- Check that HLS Site & Surrounds Inspection Monthly & Pre HLS Use Checklist and Managed Safety Area procedures is complete (refer to Section 7.2 of HOM); and
- Check for any masts or obstructions near HLS under approach paths, including visual check as specified further, noting that the pilot will have ultimate responsibility to approach in a safe and unobstructed manner.
- Obtain and check calendar of sailing events occurring within the designated take off and landing area and if event scheduled on day of movement, advise pilots.

The above process applies for departure movements (where relevant).

7.3.4 Arrival Reception – Rotors Running

Do not approach helicopter until pilot signals

Rotors Running - Unload:

- Obtain clearance from pilot to approach cabin door (See **Figure 7**);
- Approach and open cabin door – careful that objects/persons DO NOT fall out;
- Passengers to REMOVE CAPS AND LOOSE ITEMS that may fly off into the rotor system;
- Assist passengers out from ONE SIDE ONLY;
- Young children to be closely assisted by adults; and
- Direct passengers to the gangway reception staff member.

WARNING: Passengers are to be kept away from the tail rotor (See **Figure 7**).

- Ensure all seatbelts and communication leads are INSIDE the helicopter;
- Close the cabin door carefully – DO NOT FORCE THE DOOR. If in doubt, ask the pilot; and
- Signal to the pilot 'thumbs up' indicating doors secure.

7.3.5 Dispatch – Rotors Running

Do not approach helicopter until pilot signals

- Passengers to REMOVE CAPS AND LOOSE ITEMS that may fly off into the rotor system;
- Young children or passengers requiring assistance TO BE CLOSELY ESCORTED;
- Obtain clearance from pilot to approach cabin door; and
- Approach and open cabin door (See **Figure 7**).

WARNING: Passengers are to be kept away from the tail rotor (See **Figure 7**).

- Assist passengers into the aircraft from ONE SIDE ONLY;
- Before closing door, ensure all seatbelts and communication leads are INSIDE the helicopter;
- Close the cabin door carefully – DO NOT FORCE THE DOOR. If in doubt, ask the pilot; and
- Signal to the pilot 'thumbs up' indicating doors secure.

7.3.6 Arrival Reception Rotors Stopped - Unload

Rotors Stopped – Unload:

- WAIT UNTIL ROTORS STOP before approaching the cabin door;
- Approach and open cabin door (See **Figure 7**) – careful that objects/persons DO NOT fall out;
- Welcome them inside cabin and direct them to the gangway and wait;
- Assist passengers out;
- Ensure all seatbelts and communication leads are INSIDE the helicopter; and
- Close the cabin door carefully – DO NOT FORCE THE DOOR. If in doubt, ask the pilot.

7.3.7 Dispatch Rotors Stopped - Load

Rotors Stopped – Load:

- Obtain clearance from pilot to approach cabin door;
- Young children passengers requiring assistance TO BE CLOSELY ESCORTED;
- Approach and open cabin door (See **Figure 7**);
- Assist passengers into the aircraft;
- Before closing door, ensure all seatbelts and communication leads are INSIDE the helicopter;
- Close the cabin door carefully – DO NOT FORCE THE DOOR. If in doubt, ask the pilot; and
- Inform the pilot doors secure.

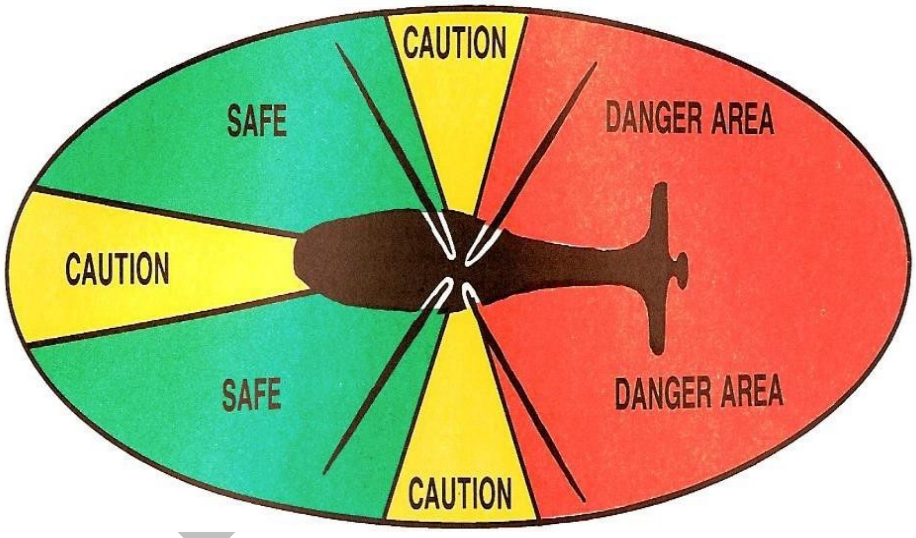

Figure 7 - Helicopter Safety Zones.

NOTE: At all times, the Marina Staff member MUST be safety aware. Always assume passengers know nothing about helicopters. If in doubt, STOP. Control the HLS, inform the pilot.

7.4 FLIGHT SAFETY

7.4.1 Objective

To ensure that helicopters using the Trinity Point HLS operate with appropriate safety equipment for operation over water, have access to real time on site weather information and are aware of the marine environment helicopter operations occur within.

7.4.2 Procedure

The following procedures will be implemented:

Helicopter Equipment for Operations over Water

- Helicopter to be equipped with floatation devices; and
- Personnel floatation devices to be on board.

Site Weather Information

- A weather station will be installed on the Trinity Point site;
- During monthly inspections and also during pre-flight inspection, HLS staff are to ensure that the weather station is functioning correctly; and
- Real time weather information is to be supplied to pilots prior to use of the HLS.

Marine Environment and Obstructions

- The HLS Manager will advise pilots of any known aquatic events scheduled to occur within the designated take-off and landing area, to improve awareness of planned watercraft activities in the locality;
- Pilots will visually assess the locations and routes for water users and complete helicopter movements and any forced landings clear of boats and other objects (ie. a pilot will avoid overflying watercraft during take-off and approach and in the event of any forced landing);
- Upon departure, pilots will be instructed to climb as quickly as safely possible.

Note: It is the responsibility of the pilot to consider wind and other conditions and determine whether it is safe to arrive / depart the helipad within the take-off and landing area. If the pilot determines that wind or other conditions do not allow safe arrival / departure confined to the designated take off / landing zone, helicopters must not undertake the movement.

It is the responsibility of the pilot to identify alternative landing sites should conditions mean that a landing movement cannot be safely undertaken, and that adequate provisions for access to those are in place. It is noted that as the HLS has no refuelling, it is anticipated that helicopters will have suitable fuel supplies to access multiple alternative and lawful landing sites (or indeed return to the origin), if circumstances require.

Refer to the following checklists provided in **Appendix B**:

- Trinity Point HLS Site & Surrounds Inspection Monthly & Pre HLS Use Checklist; and
- Trinity Point Daily Flight Movement Checklist.

7.5 MANAGED SAFETY AREAS AND ROTOR DOWNWASH

7.5.1 Objective

To safely manage rotor downwash from helicopter take-off and landing movements.

7.5.2 Procedure

During landing and take-off movements only, access control is to be provided over part of the marina breakwater and part of the surrounding waters that sit within a minimum managed safety area of 30m around the HLS, or otherwise as required for helicopter downwash management to a maximum of 66.5m radius from the centre of the helipad, where within the designated take-off and landing area.

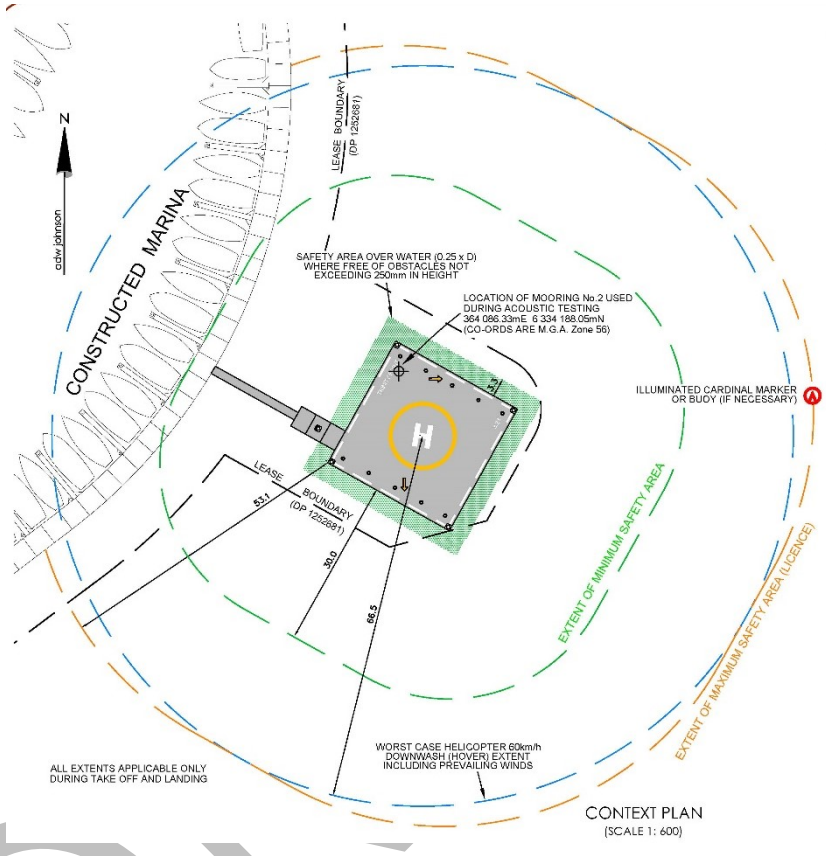

Figure 8 - Minimum and Maximum Managed Safety Area.

Pilots are always responsible for the safe conduct of the flight. This includes any effects rotor downwash may have on persons and objects near a landing location.

Pilots must ensure their flight path is clear of potential objects, small craft, masts, and pedestrians on the marina walkways.

Notwithstanding the above, the HLS manager will undertake the following actions relevant to the 30m minimum managed safety area and as needed, relevant to the maximum managed safety area:

Requirements for 30m Minimum Managed Safety Area (all flight movements)

The 30m minimum managed safety area is suitable to accommodate all helicopter types during calm conditions.

Over Water Outside of the Marina Breakwater

- A 30m minimum managed safety area is to be implemented around the helipad

structure during **all** helicopter take-off and landing movements;
- This managed safety area is only to be applied during and immediately prior to a landing or departure from the HLS;
- It is the responsibility of the HLS manager to ensure that the managed safety area is free of recreational water craft and advise the pilot if the area is not free of recreational water craft; and
- No vessel is permitted (at any time) to be attached to the helipad unless necessary for maintenance purposes. The HLS cannot be used if there is a maintenance vessel attached to the helipad.

Helipad, Access Gangway and Marina Structure (Outer breakwater) within 30m Managed Safety Zone

- The helipad pontoon and gangway access from the marina is free of any foreign or loose objects;
- The bollard and chain from the outer breakwater is closed to prevent access onto the hinged aluminium gangway access to the helipad;
- The northern and southern bollard and chains are closed to prevent marina user pedestrian access along that part of the outer breakwater;
- The outer breakwater between the access bollard / chains is free of any foreign or loose objects; and
- Turn on the flashing light to confirm clear zone for take-off / landing and also to provide a warning that a helicopter approach / departure is imminent.

Requirements for Managed Safety Area beyond 30m and up to Maximum Safety Area (66.5m radius from centre of helipad) in certain wind conditions

During certain wind conditions, in particular strong winds (up to 41km/h) for all helicopter types, the managed safety zone may need to be extended beyond the minimum 30m managed safety area to a maximum of 56.5m over water outside of the breakwater and over the marina (refer to the above **Figure 8**).

On such occasions the same procedures as described above for the minimum 30m managed safety zone will be implemented with the following additional requirements to be implemented by the HLS manager:

Over water outside of marina breakwater

- Extend managed safety zone to maximum safety area (66.5m from centre of helipad); and
- Exclude persons and recreational watercraft within the maximum safety area or advise pilot of presence and requirement to avoid.

Vessels Moored within Marina (within Maximum Managed Safety Zone)

HLS manager to check vessels (up to 15) in the area within the blue dotted line (worst case helicopter downwash extent) shown in **Figure 8** above and ensure no persons on deck.

The above procedures are contained within the forms provided within **Appendix B** of this document as follows:

- Trinity Point HLS Site & Surrounds Inspection Monthly & Pre HLS Use Checklist; and
- Trinity Point Daily Flight Movement Checklist.

Other Procedures to Manage Rotor Downwash

As part of the HOM, the following will occur:

- The HLS Manager will advise pilots of any known aquatic events scheduled to occur within the designated take-off and landing area to improve awareness of larger watercraft activities in the locality;
- Pilots will visually assess the locations and routes for recreational boat users and complete helicopter movements clear of boats and other objects (ie. a pilot will avoid overflying watercraft during take-off and approach);
- Pilots will give way to boat users to minimise or eliminate potential impact of helicopter downwash; and
- Upon departure, pilots will be instructed to climb as quickly as safely possible to minimise impacts.

7.5.3 Take-Off Procedure if pilot uses low profile take-off

The requirement for pilots to check, avoid obstructions and not generate unacceptable downwash impacts exists under Aviation Safety provisions with or without specific procedures for this helipad.

Assessments indicate that acceptable downwash effect to other watercraft will be reach at a distance of approximately 70m from the centre of the helipad, which predominantly sits within the maximum managed safety zone (66.5m). No additional procedures are considered necessary relating to downwash beyond those already identified.

Calculations indicate that certain take off procedures will result in the need to identify any boats and obstructions within approximately 130m of the helipad, and avoid them. The following additionaly procedure will aid pilots in their responsibilities:

- Both the helipad officer and the pilot are to make a visual assessment from the helipad for the presence of any other water users within a distance of 130m from the helipad. If conditions limit visibility across that distance (unlikely), a land and/or water check of that area is to be undertaken to make an informed departure choice.

  If the pilot determines that wind conditions permit, take-off procedures must avoid any water users to minimise the risk of physical impact.

- If the pilot determines that wind conditions do not permit safe take-off whilst avoiding the other water user/s as above, then the movement shall not occur until such time as it can be safely undertaken.

This procedure will only apply in circumstances where the pilot considers it necessary to take-off from the helipad at a low height over water without climbing before exiting the managed safety zone.

7.6 FLY NEIGHBOURLY PROCEDURES

7.6.1 Objective

To implement Fly Neighbourly procedures for the operation of the Trinity Point HLS. Fly neighbourly will ensure that impacts associated with the small number of flights to/from the

HLS per day is minimised.

7.6.2 Procedures

Helicopter operations into Trinity Point Marina are expected to be infrequent. Regardless, JPG and Trinity Point Marina management are committed to a Fly Neighbourly procedure and the provision of Fly Neighbourly advice to pilots will be used as a priority.

This includes:

- The designation of a take-off and landing area for approach and departure paths (where below 500 feet and over water); (refer to **Figure 9**);
- Establishment of an exclusion area for all helicopters associated with the Trinity Point HLS (refer to **Figure 9**);
- Restricted hours of operation;
- Restricted maximum weekly and daily movements; and
- Restriction of helicopters permitted to use the HLS.

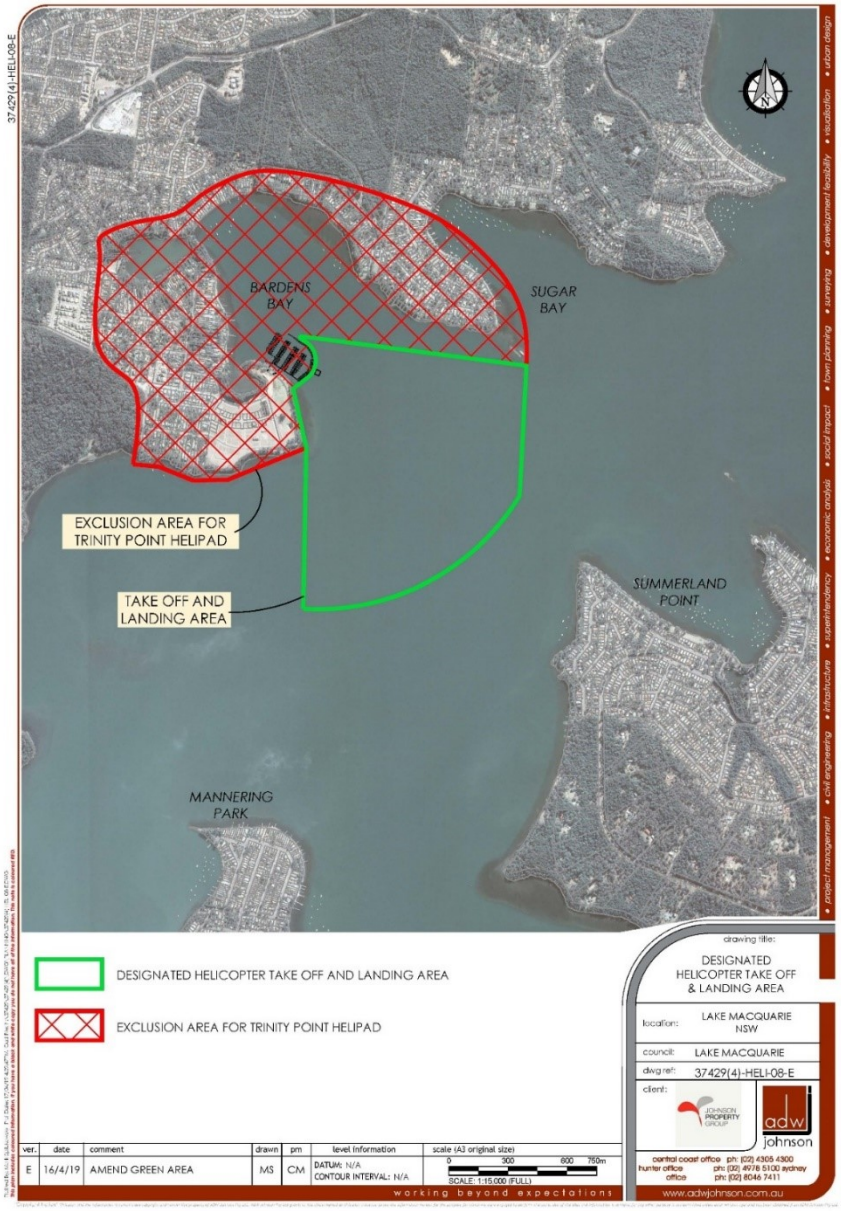

Figure 9 - Designated Take Off and Landing Area and Exclusion Area.

Noise Sensitive Areas

In addition to the exclusion area shown in **Figure 9**, which excludes any helicopter movements associated with the Trinity Point Helipad operating in the exclusion area, pilots should employ flying techniques to minimise, and where possible avoid, any flight over built up areas when below 1000'.

Class G Airspace – Uncontrolled

The airspace over and around the Lake Macquarie area is classed as Class G airspace. Air Services Australia categorise Class G Airspace as airspace that is uncontrolled. They further state both IFR and VFR aircraft are permitted and neither require Air Traffic Control clearance. This means that appropriately licensed pilots can operate their aircraft around and over the area without any permissions from air traffic or other agencies.

Figure 10 provides a current illustration of the airspace around the Lake Macquarie area taken from the CASA web Portal designed for private pilots transiting along the coastline or flying north of Sydney.

http://ontrack.casa.gov.au/index?craftType=fixed&aerold=1325&direction=inbound&flightId=8111#

The lower level of controlled airspace over the Trinity Point area is 8,500' above sea level. As a consequence, there is no restriction in where aircraft can fly over the Lake Macquarie area.

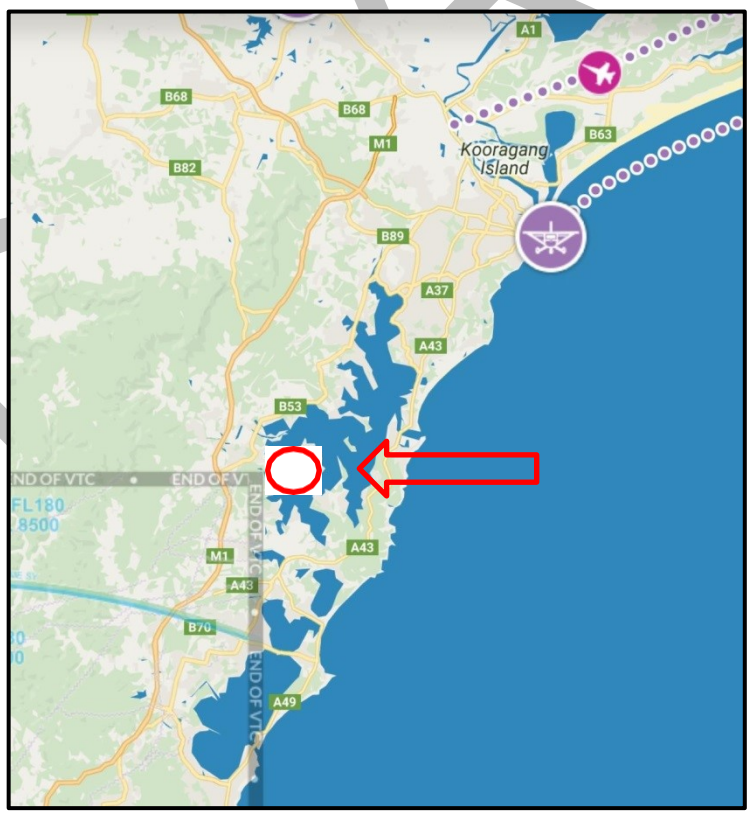

Figure 10 - Extract from CASA 'On-Track' Inbound

7.7 BIRD AVOIDANCE

7.7.1 Objective

To ensure that flight movements limit the likelihood of injury to airborne wildlife and potential damage to a helicopter.

7.7.2 Procedure

- Prior to any helicopter arrival or departure, all fauna located on the HLS pontoon and marina infrastructure within the minimum managed safety area, if present, must be moved to a safe distance outside of that zone by the HLS manager;
- Minimise water ponding and remove food sources in the immediate area of the helipad;
- It is the pilots responsibility to:
    - During helicopter warm up prior to departure, look for birds on the helipad and in the immediate locality;
    - Not fly over bird or wildlife sanctuaries marked on aviation charts;
    - If the pilot sees birds during a take-off or landing movement, if it is safe to do so, attempt to pass above the birds as birds typically turn downwards when threatened;
    - If passing through a flock of birds during take-off or landing movement, or feel a strike, maintain control of the helicopter and land immediately;
    - If structural or control system damage is suspected (or the windshield damaged) consider the need for a controllability check before attempting a landing. Beware of unforeseen helicopter rotor damage;
    - If the windshield is broken (or damaged), slow the machine to reduce wind blast, use sunglasses or smoke goggles to reduce the effect of wind, precipitation, or debris, but always maintain control of the helicopter, do not be distracted by feathers, blood, smell and windblast;
    - After landing, if a bird strike has occurred, check the helicopter for damage; and
    - Report all birdstrikes to the Australian Transport Safety Bureau and to the Trinity Point HLS manager.
- HLS manager to ensure all bird strikes are recorded using the Incident Report form (refer to **Appendix B**); and
- If a bird strike occurs, follow the incident process outlined in Section 7.10.

7.8 NOISE MANAGEMENT AND MONITORING

7.8.1 Objective

To ensure that operations are undertaken in a manner that minimises the potential for adverse acoustic impact.

7.8.2 Procedure

Noise Minimisation

The HLS has been designed with particular regard for minimisation of potential acoustic impact and is supported by a robust acoustic assessment. The following measures, outlined separately in this HOM will ensure that noise is appropriately managed:

- Flights are restricted to the designated take-off and landing area (refer to Section 4.4.3);
- Any helicopter movements associated with the Trinity Point helipad are not to operate

within the exclusion area at any time (refer to Section 7.1);
- Maximum number of daily and weekly flight numbers are restricted as detailed within Section 4.4.1;
- Operational hour restrictions apply to the helipad as detailed within Section 4.4.2;
- No night time use of the helipad;
- No joyflights from the helipad;
- Use of the helipad is restricted to certain helicopter types (refer to Section 4.4.4);
- Fly neighbourly procedures are to be implemented (refer to Section 7.6);
- Engines must not be left idling on the helipad for longer than necessary to achieve the manufacturers temperature specifications; and
- A prior permission protocol is to be implemented (refer to Section 6.0).

Operational Noise Limits

The noise level from all helicopter movements associated with the helipad must not exceed LAeq, 24hr 55dB on any day at any receptor as defined in the report of The Acoustic Group titled '*Acoustic Assessment. Proposed Helipad. Trinity Point Development*' (document ref: 46.4732.R7C:MSC dated 23 April 2018). The receptors are identified in **Figure 11** below.

Figure 11 - Noise Receptor Locations.

7.8.3 Monitoring

7.8.3.1 Noise Compliance Measurement and Verification

Noise compliance measurement and verification will be undertaken by an appropriately qualified acoustic expert to be appointed by JPG, consistent with any development consent requirements.

7.8.3.2 Annual Noise Monitoring

Annual Noise Monitoring will be completed by an appropriately qualified acoustic expert to be appointed by JPG, consistent with any development consent requirements.

7.9 ENVIRONMENTAL MANAGEMENT AND MONITORING

7.9.1 Objective

To implement appropriate measures for environmental management and ongoing monitoring.

7.9.2 Procedure

The HLS will be incorporated into the broader marina environmental management system.

Relative to the HLS, the following will be implemented to manage water quality:

- Bunding of the helipad to prevent runoff from directly entering the lake;
- Availability of readily accessible oil/fuel spill kits and containment booms; and
- First flush treatment of the HLS deck.

Monitoring and Reporting is addressed in Section 8.0 of the HOM.

7.10 INCIDENT MANAGEMENT AND EMERGENCY RESPONSE

7.10.1 Objective

To ensure that all incidents that cause, or have the potential to cause injury to marina staff, marina users, helicopter passengers, helicopter crew, bystanders or persons near the helipad and/or damage to the helicopter, the HLS or the surrounding environment are responded to, investigated, recorded, and procedures developed to avoid recurrence.

7.10.2 Procedure

The HLS represents the following risks:

- Helicopter accident;
- Helicopter fuel spill (Hazardous materials spill);
- Helicopter fire and/or explosion;
- HLS structural collapse; and
- HLS deck or locality fire.

All incidents on the HLS are managed using the same methodology and processes outlined in the Trinity Point Marina incident response / emergency management procedure.

Helicopter Equipment for Operations over Water

- All helicopters using the Trinity Point HLS are to be equipped with floatation devices; and
- All helicopters using the Trinity Point HLS are to have personnel floatation devices on board.

Helicopter Fire Risks

In the event of a helicopter accident on the HLS deck, there is potential for a fire and/or explosion. The largest helicopter approved to land on the HLS is the Agusta 109. It has the maximum fuel capacity of any helicopter type likely to use the HLS, with a maximum capacity of 870 litres. Noting that refuelling is not permitted at the HLS, there will be less than 870 litres of Jet A-1 fuel (kerosene) on board the largest helicopter permitted to use the HLS.

Following an accident, a tank could rupture or fuel lines break, disgorging fuel onto the deck, followed by a possible fire. Ignition sources for this fuel include hot metal from the engine or exhaust systems or arcing from damaged electrical systems.

Firefighters face other potential hazards that may include explosions from oxygen bottles, nitrogen bottles or CO2 tanks that are carried as part of the aircraft equipment. High-pressure tyres and struts, magnesium components and hydraulic accumulators also pose a potential hazard and caution should be exercised if it is apparent that any of these items have suffered damage as a result of the accident.

Rescue Guidelines

Aircraft accidents are extreme events that may require actions that do not fall into a predictable pattern and that are unlikely to have been experienced by Marina staff members. The Marina Staff member responsible for the HLS should take a course of action based on experience, training and judgement, maintaining self-safety at all times.

When in doubt, wait for emergency services to arrive to undertake the rescue.

If survivors are in the wrecked aircraft and rescue appears feasible, remember:

- Only approach the aircraft if confident it is safe to do so and first determine that no adverse risks are being taken;
- Do not approach the helicopter until the blades have stopped moving;
- The safest approach to the crash is generally from upwind, to the side of the aircraft fuselage;
- It will be easier to access the wreckage through hatches, rescue points, aircraft doors or emergency exits;
- Do not move any controls, handles or levers in the cockpit;
- Before trying to remove survivors, always unfasten or cut the seatbelt and shoulder harness and remember to disconnect the radio cord to the helmet or headset; and
- If survivors are wearing helmets leave them on until you have them clear of the wreckage.

All incidents shall be recorded on the Incident Report form provided in **Appendix B** of this document.

7.11 COMMUNICATION PROTOCOL AND COMPLAINTS MANAGEMENT

7.11.1 Objective

To communicate accurate information and facilitate positive community and stakeholder relationships and effectively manage community concerns or issues.

7.11.2 Protocol

The key elements of the communication protocol include:

- Accessible information – Preparation of accurate and easy to access information related to helicopter operations;
- Two way communication – Targeted distribution of information and receipt of feedback to ensure an informed community and discussion;
- Valued relationships – Opportunities for stakeholders to meet the Trinity Point HLS team, discuss issues and work in partnership or be supported; and
- Effective monitoring and response – timely and measured monitoring and response to community concerns and issues.

Community and Stakeholder engagement during operation of the HLS

Table 7 - Community & Stakeholder Engagement

Community Target	Engagement Tools	Strategy
General community Respond to enquiries / complaints	1. Website 2. Enquiry / complaints line 3. Fact Sheets (available online) 4. Media Releases	• Published operating hours and designated take-off and landing areas and exclusion zone. • Contact number for enquiries / complaints • Complaints procedure (record / respond) • Occasional media release for information
Near neighbours	1. Website 2. Enquiry / complaints line	• Inform, engage, respond • Complaints procedure (record, respond)
Local Schools	1. Website 2. Telephone (direct to HLS Manager)	• Refer to Complaints Management Procedure provided in **Table 8** below. • Annual meeting (if required)
Local Sailing Club	1. Website 2. Telephone (direct to HLS Manager)	Refer to Complaints Management and Notification procedure provided in **Table 8** below.
Local Business	1. Website 2. Direct Mail Outs	• Inform, engage, respond. • Explore business opportunities.
NGA's / Community Groups	1. Website 2. Newsletter / fact sheets	• Inform, engage, respond • Complaints and response monitoring reported on website. • Occasional fact sheets / written updates and briefings as required.
Lake Macquarie City Council	1. Briefings	As required: report on monitoring activities.
Government Agencies	1. Briefings	Reporting in relation to Departmental interests as required.
Tourism, Boating and Fishing	1. Website 2. Tourism promotional media	• Inform, engage, respond. • Complaints management procedure.
Local and State MP's	1. Briefings	• On request.

Table 8 - Complaints Handling Procedure for All Stakeholders

Complaints Handling Procedure
1. A direct number to the HLS Manager will be provided to schools and the Sailing Club with responses to any calls as soon as possible and within 24 hours.
2. A direct number relating to the HLS Operation will be made available to the public and neighbours for enquiries and complaints.
3. All complaints will be logged in a complaints register including the date, time, complainant details (if supplied), nature of the complaint and details of how the complaint was resolved.
4. The HLS manager must investigate any complaints within 14 days of receiving the complaint. The HLS manager will seek to resolve any issues directly with the complainant.
5. If the investigation confirms the complaint has arisen as a consequence of non-compliance with the development consent, the complaint will be referred to Council and the complainant advised of the referral.
6. If the investigation confirms that the complaint has arisen as a consequence of compliant activities, or actions not connected with the use of the helipad, the HLS manager will provide a response to the complainant and provide a copy of the complaint and response to the Council on request.
7. A copy of the complaints register will be available to Council upon request.
8. Complaint records will be kept in a log for a period of three (3) years.
9. Any audit of HLS operations will include a review of the log to determine whether any repetitive complaints about compliant or non-complaint activities are received. If so, the audit will include a review of the complaints and make recommendations for addressing the issues raised in the complaints. Any such recommendations will be implemented by the HLS manager.

Provided in **Appendix B** is a Complaint Form (for individual complaints) and a Complaint Log (overarching record of complaints) that will be implemented and maintained.

7.12 HLS STAFF TRAINING

7.12.1 Objective

To ensure that all marina staff that will be involved in HLS operations are trained to implement this HOM as well as receive appropriate HLS training.

7.12.2 Procedure

Training Responsibility

The responsibility for training of Trinity Point Marina personnel in safe HLS operations is held by the Marina Manager.

All Marina staff members who are expected to work on the HLS during helicopter operations must receive training on safe HLS operations at the commencement of their duties and updates (as necessary) for the duration of their employment.

The following procedures will be adopted:

- The HLS manager shall ensure that all staff to be involved in the HLS operation has received appropriate aviation industry training;
- The HLS manager shall ensure that all staff to be involved with the HLS operation has

completed a Helicopter Landing Site Officer (HLSO) training course; and

- The HLS manager shall ensure that all staff to be involved in HLS operation has received training in the content and use of this HOM.
- The HLS manager shall ensure that all staff to be involved in communicating on site weather information has received appropriate training in use of the weather station and communications.

Records of staff training will be kept by the marina manager using the HLS Staff Training Register provided in **Appendix B**.

7.13 SECURITY

7.13.1 Objective

To ensure the helipad is secure and unauthorised access is prohibited.

Risks include potential for damage, vandalism and graffiti. Damage to a helicopter could result in safety hazards to personnel and visitors.

7.13.2 Procedure

Access to the helipad will be controlled by marina management.

The helipad is to be physically connected to the south eastern side of the outer breakwater of the marina. A bollard and chain will be closed restricting public access from the outer breakwater onto the helipad.

Management of the persons on the marina outer breakwater (including marina clientele and casual berth users) is the responsibility of marina management.

Education training and awareness for all marina staff will be completed to establish awareness of the need for a secure HLS.

Any security incidents are to be reported to the marina manager. Details of any security incidents are to be documented using the Incident Management Form provided in **Appendix B**.

7.14 HELICOPTER MAINTENANCE

No routine engine maintenance or servicing of helicopters is to occur at the Trinity Point helipad.

7.15 REFUELLING

Refuelling is prohibited at the Trinity Point helipad.

8.0 REPORTING AND REVIEW

8.1 REGISTER OF OPERATIONS

A daily flight movement checklist and weekly register will be maintained by marina management that logs the following information (but not limited to the below information):

- Movements to and from the helipad including confirmation of prior permission granted;
- Dates and times of movements;
- Type of helicopter used;
- Wind conditions;
- Use of designated take-off and landing area; and
- Avoidance of exclusion area.

A copy of the documentation will be maintained on record for a minimum of two (2) years. The register will be available to be provided to Council upon request.

The flight movement checklist and weekly register / log are provided **Appendix B** and titled:

- Trinity Point Daily Flight Movement Checklist; and
- Weekly Flight Movement Schedule / Record.

8.2 ENVIRONMENTAL PERFORMANCE MONITORING AND REPORTING

The helipad operation will be incorporated into the environmental performance monitoring and reporting for the marina (DA 1503/2014 (as modified)).

Refer to Section 8.3 below for helipad specific reporting.

8.3 AUDITING, COMPLIANCE AND REPORTING

Auditing of the HOM and operations will be undertaken to ensure effectiveness. Compliance audits will be undertaken to determine whether or not the HOM is being properly implemented, maintained and to monitor compliance with the conditions of consent including DA 1176/2014 and Project Approval 06_0309 (MOD 3).

8.3.1 Internal Audit by HLS Manager

In the first 12 months of operation, two (2) internal compliance audits will be completed. For each year thereafter one (1) annual internal compliance audit will be completed.

The audits will be undertaken by the HLS manager and provided to JPG. The audit can be made available to Council upon request.

The audit will be documented and maintained.

8.3.2 Audit & Reporting by JPG

Within three (3) years of commencement of operations of the helipad and every three (3) years thereafter, JPG will undertake a compliance audit of the HLS operation against the requirements of the HOM and relevant development approvals including DA 1176/2014 and Project Approval 06_0309 (MOD 3).

The audit will:

- Be supplied to Council;
- Assess the operations of the helipad to determine whether it is complying with the requirements of relevant approvals and this HOM;
- Involve consultation with relevant agencies (if necessary);
- Review monitoring results against any approved strategy, plan or program; and
- If necessary, recommend measures or actions to improve the operational and environmental performance of the helipad. This may involve recommended changes to the HOM.

If necessary, JPG will commission the services of a suitably qualified expert to assist with the audit.

8.3.3 Revision of the HOM

8.3.3.1 Revisions to Operating Procedures

JPG shall review and, if necessary, revise the HOM within three (3) months of:

- Any reporting for the overall marina (which is inclusive of the helipad operation) that determines an update to the HLS operation is necessary; or
- Any incident report; or
- An audit report; or
- Any modifications to DA 1176/2014 or Project Approval 06_0309.

This process will ensure that the HOM is updated on a regular basis and incorporates any measures to achieve improved operational and environmental performance.

8.3.3.2 Revision Procedure

Revision of the HOM is classified as either minor or major.

Minor revision includes:

- Typing and grammatical corrections;
- Changes to position titles;
- Updates to recording forms to suit operation; and
- Minor changes / additions as necessary.

Major revision is any change that is not a minor revision.

Minor revisions can be made by JPG at any time. Prior to becoming effective, Lake Macquarie City Council (LMCC) will be notified.

Major revisions require the approval of LMCC before becoming effective. Written notice will be given by LMCC prior to the HOM revision becoming effective.

8.4 DOCUMENT CONTROL

Any new revision of the HOM shall be recorded in the Document Control section of the HOM with date and the next sequential letter of the alphabet (ie. the initial version of the HOM is Version A).

Following any revision of the HOM, the revised document will be supplied to LMCC within 30 days.

Appendix A

IMPORTANT INFORMATION FOR PILOTS

APPENDIX A – ESSENTIAL INFORMATION FOR VISITING PILOTS

This section provides a summary of essential information for pilots planning to operate into/from the Trinity Point Marina helipad.

Name: Trinity Point Marina

Lat/Long: 33° 07' 92" S 151° 32' 33" E

Elevation: 0'

Contact Primary: insert primary contact mobile number

Contact Secondary: insert secondary contact mobile number

Prior-permission: Required. Call Marina Operations on insert number. Operational restrictions apply including types of helicopters that can use the HLS, and as documented in an approved Helipad Operations Manual (HOM). Pilots using the HLS are to review and agree to operations consistent with the HOM prior to use.

Exclusion Area: Helicopters arriving to and departing from the HLS must not operate in the exclusion area shown in **Figure A4**, at any time and at any height including as overflight.

Approach/Departure Area:
All helicopters must land and take-off (when below 500 feet and over water) within the designated take-off and landing area shown in **Figure A4.** Tracking information of movements are to be captured and supplied. The zone will suit most wind conditions.

Weather Info: A weather station is available on the Trinity Point site. The pilot must check weather details prior to landing/departure. The HLS manager will provide real time weather details to pilots prior to landing / departure.

Warning: Masts and small craft hazards may exist surrounding the HLS which is located within a marine environment. Pilots are to be satisfied that the managed safety area procedures have been actioned and confirmed by the HLS manager. Beyond those areas, pilots must visually assess the locations and routes for recreational boat users and complete helicopter movements and any forced landings clear of boats and other objects, by avoiding them. On departure, pilots are to climb as quickly as safely as possible. Additional procedures may also apply for take-off movements using low-profile flights (refer HOM).

Pilot remains responsible for the safe operation of aircraft. If the pilot determines that wind or other conditions (including obstructions or presence of other water users) do not allow safe arrival / departure confined to the designated take off / landing area when below 500 feet and over water, helicopters must not undertake the movement.

Note: No fuel available at HLS.

HLS Available: Daylight hours operation only as below:

Monday – Saturday: 8am – Sunset.

Sunday / Public Holidays: 9am – Sunset.

No use outside of the above hours.

Note: 'Sunset' refers to the definition as published by Australian Government Geoscience Australia (http://www.ga.gov.au/geodesy/astro/sunrise.jsp).

The above does not apply to helicopter movements which are associated with police or medical emergency.

HLS Limits: MAUW 3.2 tonne.

Fly Neighbourly Required: Yes. See **Figure A4** above for Exclusion and Designated Take Off and Landing Areas. Prior permission is necessary to use HLS.

Communications: 'Trinity Marina' (VHF frequency TBC)

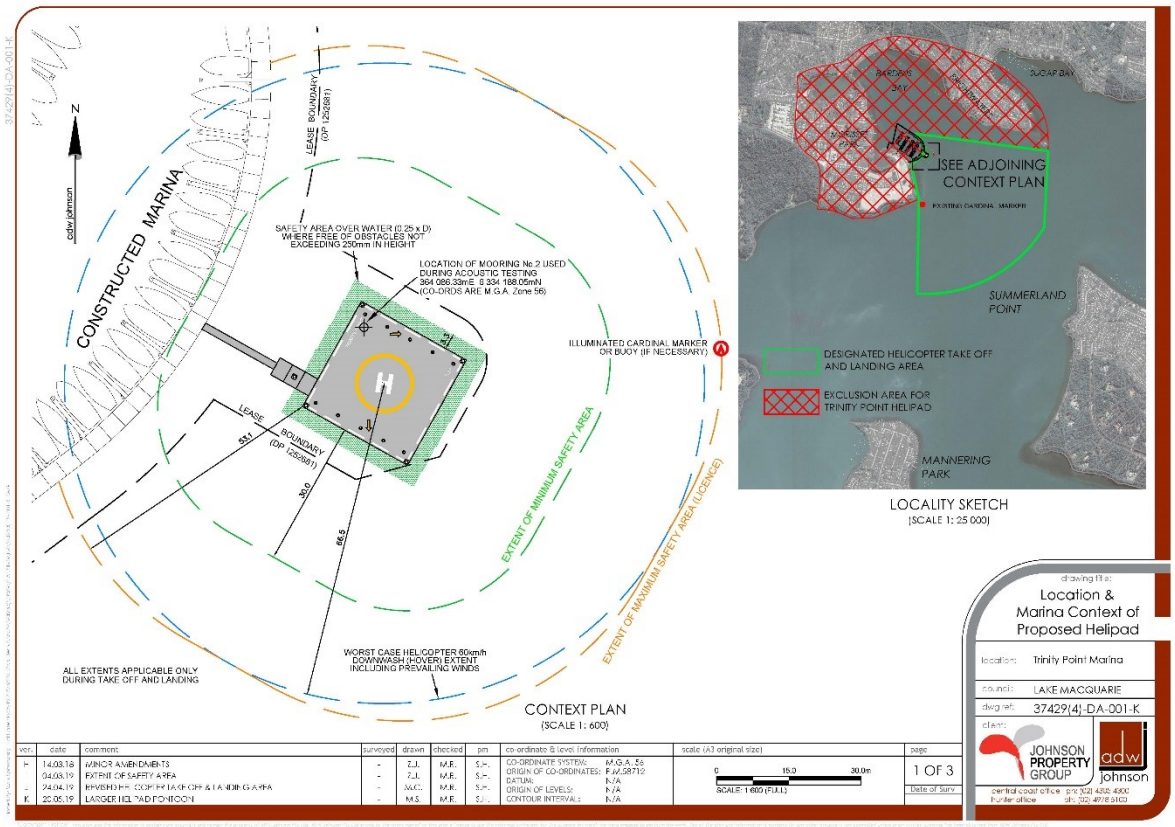

Figure A1 – Location & Context of Helipad.

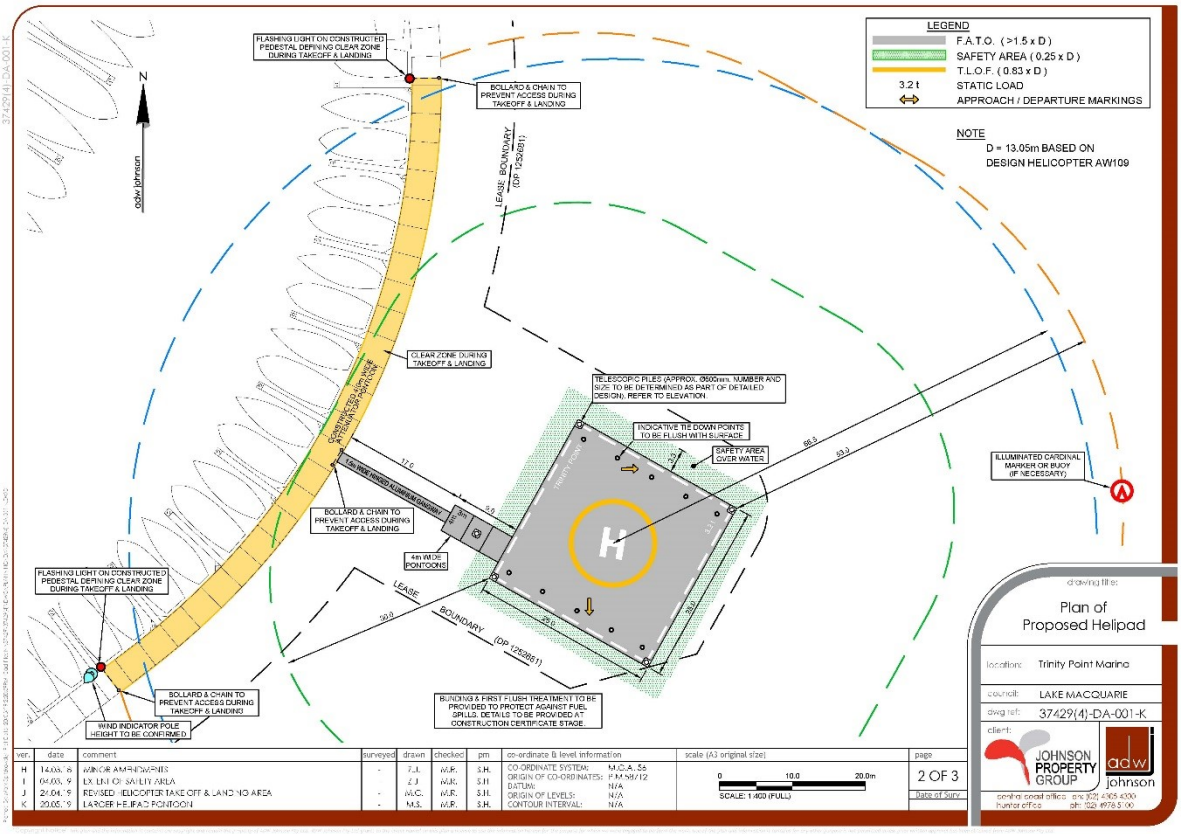

Figure A2 – Trinity Point Marina HLS.

Note: The above figure is subject to final marking advice

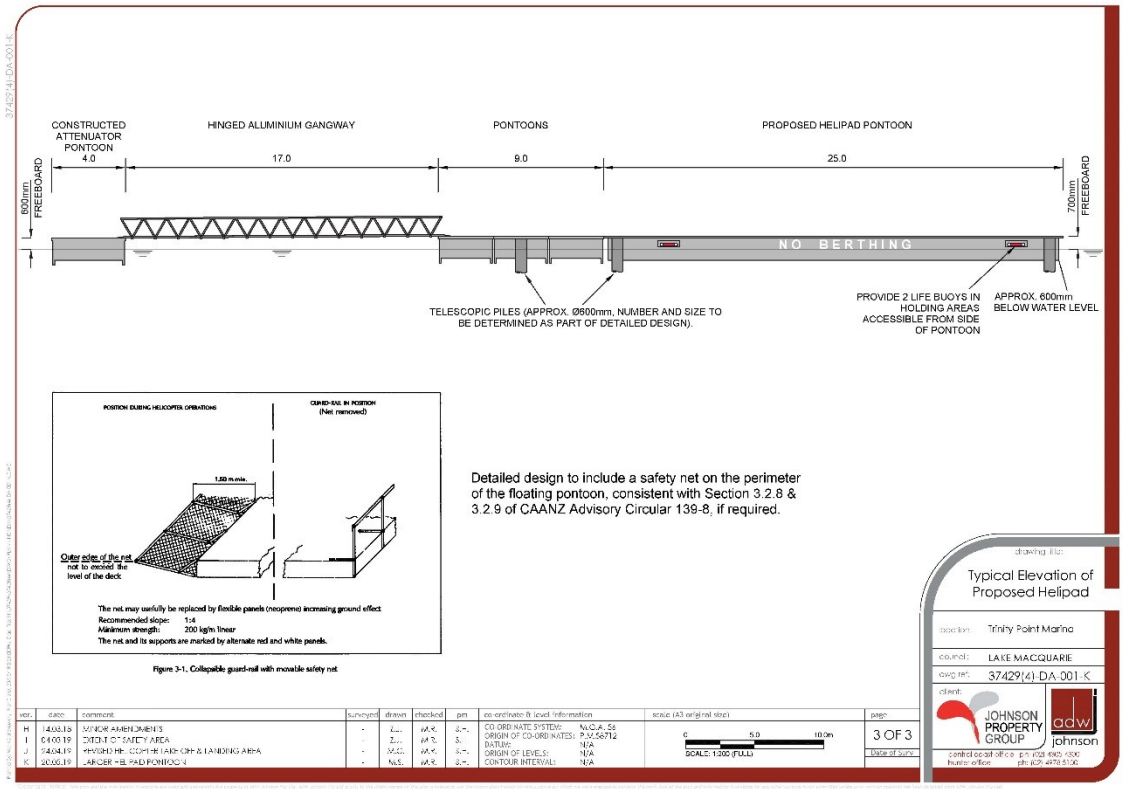

Figure A3 – Elevation of HLS.

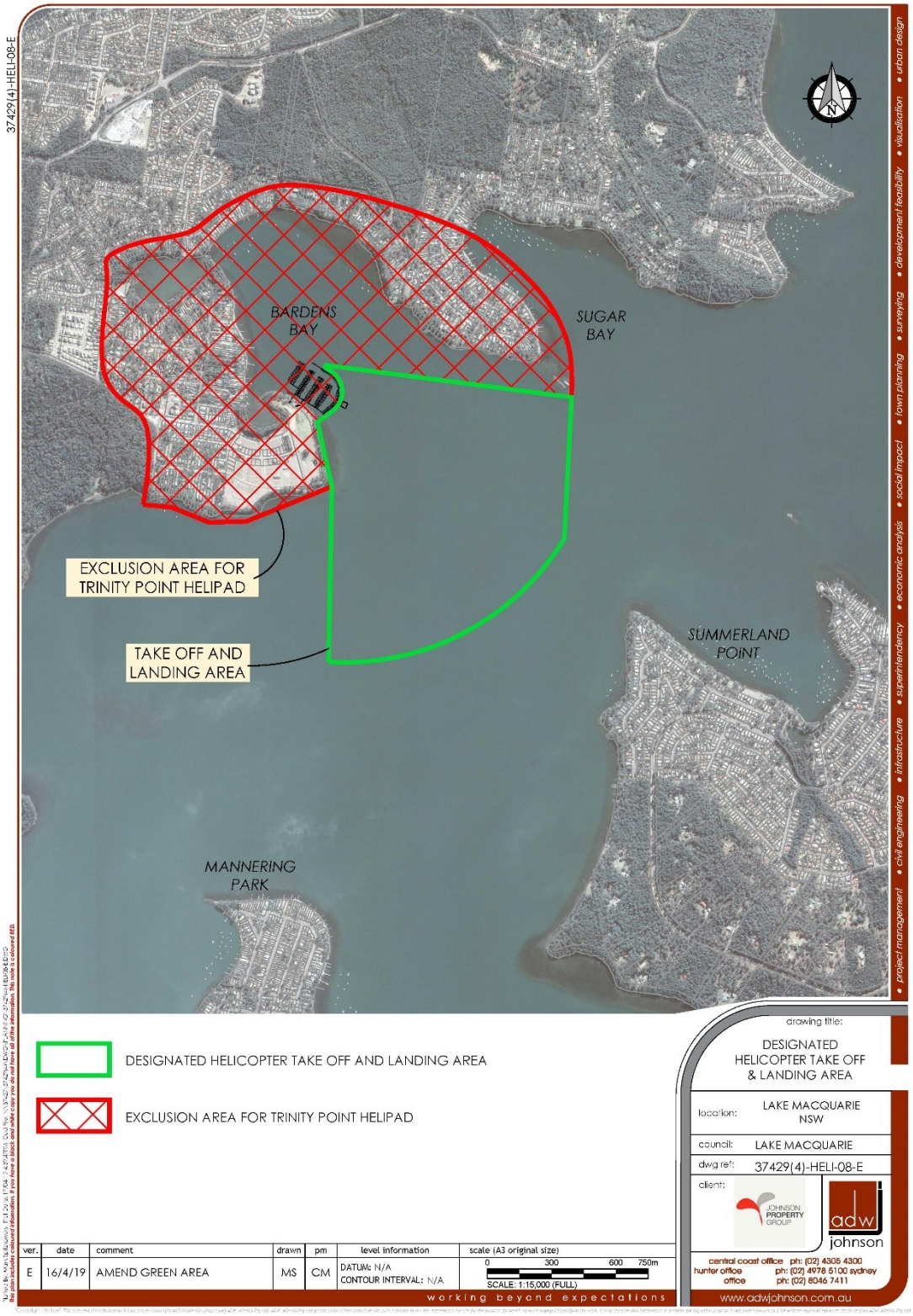

Figure A4 – Designated Helicopter Take-off and Landing Area.

Appendix B

FORMS & CHECKLISTS

APPENDIX B – FORMS & CHECKLISTS

Site & Surrounds Inspection Monthly & Pre HLS Use Checklist

Site & Surrounds Inspection Monthly & Pre HLS Use Checklist		
Item	**Yes**	**No**
HLS Gangway		
Clear of any loose or foreign items		
Safety net clear and serviceable (if applicable)		
Non-slip surface intact		
HLS Deck		
Clear of any loose or foreign items		
Life Buoys – in place and condition		
HLS Markings – serviceable and clear		
Non-slip surface undamaged		
Clear of fauna		
If not clear of fauna, is there a food or water source attracting them to the area		
Bunding functional and in good working order		
Marina Walkway within HLS Managed Safety Zone		
The outer breakwater between the access bollard / chains is free of any foreign or loose objects		
Signage in position		
Horn/Light Test (if applicable)		
Moored Vessels in Marina in HLS Managed Safety Zone (Maximum)		
Clear of people on deck		
HLS Managed Safety Zone (Outside of Marina)		
Clear of recreational marine craft		
Visual check approximately 130m for obstructions		
Radio Check (if applicable)		
Weather Advice		
Meteorology station functioning correctly		
Safety (other)		
Fire extinguishers serviceable		
Windsock serviceable and visible		
Flashing light to define clear zone for take-off and landing in working order		
Bollard and chains to prevent access to HLS in working order		
Emergency fuel spill kits and containment boom available		

Complaints / Incidents		
Were there any incidents during the month		
Were there any complaints during the month		
Other		
Is there a scheduled sailing event occurring, and if so, has pilots been advised?		
Do site conditions comply with the HOM		
Is there a copy of the current HOM on premises		
Is there a copy of the current EPL on premises		
Detail any Actions Taken as a result of the inspection:		
Certified Correct Name: Signature: Position: Date:		

Note:
The inspection activity required by the above checklist may be divided into 'monthly' and 'pre-arrival' inspections at the discretion of the HLS manager.

Trinity Point Daily Flight Movement Checklist (to be completed for each movement)

Daily Flight Movement Checklist (to be completed for each flight movement)	
Item	**Response**
Date	
Arrival or Departure	
Time of arrival / departure (Note: No more than 2 movements after 7.00pm)	
Daily Flight Number (ensure limit not exceeded)	of **6**
Weekly Flight Number (ensure limit not exceeded)	of **38**
Type of Helicopter	
Helicopter Call Sign	
Pilot Name and Contact Details:	Name: Charter Company (if applicable): Contact Phone: Contact Email: Address:
Number of Passengers Disembarking / Embarking	
Wind Condition (Relay real time weather to pilot from Trinity Point Meteorological Station)	
Helicopter equipped with floatation devices.	
Personnel floatation devices to be on board.	
Shutdown (Yes / No)	
Helicopter fitted with on board tracking software (ie. spidertrack or similar) or the pilot carrying an operational hand held device (such as an iPhone, iPad, or similar) that contains an application capable of recording	

the time, position, altitude and flight track of the helicopter.	
Designated Take-off and Landing area information conveyed to pilot.	
Exclusion area information relayed to pilot.	
Pilots instructed to climb as quickly as safely possible (departure movements only).	
Confirm if a sailing event is occurring / scheduled to occur. If so, notify pilot.	
Prior Permission Requested / Granted	
Fly Neighbourly Procedures Conveyed / Observed	
HLS Site & Surrounds Inspection Pre HLS Use Checklist Complete and relevant procedures actioned	
Any incidents recorded / observed	
Any Complaints / Community Feedback	
HLS Manager supplied with digital output from pilot from on board tracking software within 48 hours of movement?	
HLS Manager Name and Signature	Name: Signature: Date:

Weekly Flight Movement Schedule / Record

Weekly Flight Movement Schedule / Record							
Week Start Date:							
Movement No.	Sunday Time of Arrival/ Departure	Monday Time of Arrival/ Departure	Tuesday Time of Arrival/ Departure	Wednesday Time of Arrival/ Departure	Thursday Time of Arrival/ Departure	Friday Time of Arrival/ Departure	Saturday Time of Arrival/ Departure
1							
2							
3							
4							
5							
6							

Note: Refer to Flight Movement Log for Details of Each Flight

Incident Report Form

Incident Report Form	
Incident Location	
Date / Time of Incident	
Daily Flight Movement Number where Incident Occurred	
Nature of Incident (tick)	Spill / Leak ☐ Dust / Smoke / Odour ☐ Excessive Noise / Vibration ☐ Bird Strike ☐ Fire ☐ Natural Disaster ☐ Accident ☐ Rotor Downwash Incident ☐ Unauthorised Access into Managed Safety Zone or HLS ☐ Security Issue ☐ Other (Specify Further Below): ☐
Site Conditions at the time Incident Occurred (using information from site weather station):	Temperature: Wind Speed: Wind Direction: Rainfall:

Description of Incident	
Resulting Impact of Incident (was environmental harm caused or threatened)	
Extent of Impacted Area	
Probable Cause of the Incident	
Detail Immediate Corrective Action Taken (if any). If not detail why.	
Date / Time Corrective Action Completed	

Preventative Action To Be Taken (to prevent repeat occurrences)	
Has the incident triggered a pollution incident response (as outlined in the Marina Environmental Management Plan)	Yes ☐ No ☐
If the answer was yes to the above question, have the following been notified:	Yes / Date / No Environment Protection Authority ☐ ☐ WorkCover NSW ☐ ☐ Local Fire and Rescue NSW ☐ ☐ Local Community ☐ ☐
Any other Comments / Information	
Incident Report Completed by:	Name: Signature: Date:
Incident Report Number	

Complaint Form

Complaint Form	
Date & Time Complaint Received	
Method of Complaint (eg. phone)	
Complainant Name and Details (if supplied)	
Site Conditions at the time of Complaint (with reference to site weather station):	
Temperature	
Wind Speed	
Wind Direction	
Rainfall	
Nature of the Complaint (provide details):	
Actions Taken (if no action reasons to be provided):	
Complaint Recorded By:	
Complaint Report Number:	

Complaint Register

Complaint Register				
Complaint Report No.	**Complaint Received By**	**Name of Complainant**	**Nature of Complaint**	**Response Actions Taken**

HLS Staff Training Register

HLS Staff Training Register			
Completion and signing of this Training Register confirms that: • The trainees have received appropriate aviation industry training. • The trainees have completed a Helicopter Landing Site (HLSO) training course. • The trainees have received appropriate training and have a full understanding of the HOM for the Trinity Point HLS. • The trainees have received appropriate training in use of on-site weather station and communications to pilot. • The trainees commit to incorporating the HOM procedures into day to day work practices. • The HLS manager is confident that the trainee is competent in operating in accordance with the HOM.			
Trainee Name	Date of Training	Trainee Signature / Date	HLS Manager Name / Signature / Date

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Appendix C

CONDITIONS OF CONSENT – DA 1176/2014 (TO BE INSERTED)

Appendix D

CONDITIONS OF CONSENT – PROJECT APPROVAL 06_0309 (MOD 3) (TO BE INSERTED)