



## METHOD OF WORKING PLAN

Aerodrome:	Karratha Airport
Project Title:	<b>Karratha Airport Aircraft Stand and Heliport Aprons Fuel Hydrant Modification Works</b>
Project Description:	Modification of the Jet A1 Fuel Hydrant underground line in five locations on Aircraft Stand and Woodside Heliport Aprons.
MOWP Serial Number:	YPKA 01/23
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MOWP Commencement Date:	Friday 14 <sup>th</sup> May 2023
Works Commencement Date:	Monday 17 <sup>th</sup> April 2023
Works Completion Date (Scheduled):	Friday 19 <sup>th</sup> May 2023
MOWP Expiry Date:	Friday 2 <sup>nd</sup> June 2023

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**Amendment Notes:**

Rev 01 (this amendment) has resulted from a requirement from the CASA inspector for the MOWP to be reformatted to align with the revised Part 139. While the scope and conduct of the works have not been significantly altered, Rev 01 contains a significant reformatting and inclusion of new information.

To this end, Rev 01 should be reviewed by all addressees as a new document.

## 1. WORKS INFORMATION

### 1.1 Background to Works

Viva Energy (Viva) own and operate the Aviation Fuel Storage Facility and Hydrant System at Karratha Airport. The hydrant system supplies Jet A1 to Aircraft Bays 1, 2, 3 and 4, on the Aircraft Stand as well as three helicopter operating bases at the airport.

With changing aircraft operations at Karratha, the hydrant points at Bays 1, 2, 3 and 4 have previously been made inoperable with the removal of the hydrant valves. The hydrant system is now only used for Jet A1 supply to the helicopter bases, predominantly the Woodside Operating Base.

Following a condition review of the hydrant system, modification works are now required to address integrity issues with the hydrant.

### 1.2 Scope of Works

Management, supply, and construction of modifications to the existing Aviation Turbine Fuel (AvTur) hydrant pipeline including excavation to expose buried hydrant line, mechanical modifications to the pipeline and civil restoration of the apron pavement surface.

The works area consists of one location at Bay 1 on the Aircraft Stand and four locations from east to west across the middle of the Woodside Heliport apron, as described in the following.

### 1.3 Heliport Apron Works Summary

At each of four locations on the Heliport concrete apron, excavate to approximately 1.5m to expose hydrant pipeline. Apron concrete shall be removed by carrying out a series of wet cuts with a road saw to mitigate dust emissions. Slurry shall be captured with a wet vac; Apron concrete shall be loaded directly on to a truck as it is removed.

The location of BF1 was located by electronic detection and marked on the apron surface on 2<sup>nd</sup> March 2023. At this location granular pavement material beneath the concrete apron shall be removed by Non-Destructive Digging (i.e., by vacuum tanker “sucking” up the fill straight into the tanker truck) in order to pothole and “daylight” the hydrant line.

Excavation of the granular fill material shall then proceed using a small (e.g., up to 5T) excavator, loading directly into a truck. Spoil will not be stockpiled on the apron area to ensure FOD hazard does not occur.

The size of the excavation at each location shall be approximately 2.45m x 2.45m x 1.5m deep.

**TO1:** excavate to expose “T” junction fitting; cut “T” from header line and remove redundant *Take Off* point riser pipe; Insert a makeup pipe spool to render the hydrant header continuous. Remove surface pit can and reinstate natural ground.

**HP5:** excavate to expose “T” junction fitting on the hydrant line beneath HP5 riser; cut “T” from header line and remove riser pipe; Insert a makeup pipe spool to render the hydrant header continuous. Remove pit can and reinstate concrete apron.

**HP8:** expose riser pipe below existing pit can. Cut and replace riser pipe. Install replacement hydrant pit can and hydrant valve. Reinstatement concrete apron. Recommission hydrant point.

**BF1:** excavate buried hydrant pipeline to expose 90 deg horizontal bend with flanged connections. Remove flanged fitting and replace with welded elbow fitting to remove the hazard of buried flange connections. Reinstatement asphalt pavement.

#### 1.4 Aircraft Stand Works Summary:

##### **HP1 hydrant point and intersection of lateral line with main hydrant header:**

Generally:

- The location of HP1 tie into the main header was located by electronic detection and marked on the apron surface on 2<sup>nd</sup> March 2023.
- Excavate asphalt apron to create a 3.5m x 3.5m x 2m deep access pit to disconnect lateral line from supply header;
- Apron asphalt shall be removed by carrying out a series of wet cuts with a road saw to mitigate dust emissions. Slurry shall be captured with a wet vac; Apron asphalt shall be loaded directly on to a truck as it is removed.
- Granular pavement material beneath the asphalt apron shall be removed by Non-Destructive Digging (i.e., by vacuum tanker “sucking” up the fill straight into the tanker truck) in order to pothole and “daylight” the hydrant line.
- Excavation of the granular fill material shall then proceed using a small excavator (e.g., up to 5T), loading directly into a truck. Spoil will not be stockpiled on the apron area to ensure FOD hazard does not occur.
- Remove branch “T” fitting and insert a makeup pipe spool to render the hydrant header continuous.
- Reinstatement excavation and make good asphalt apron pavement.

At extremity of the lateral line (aircraft standing position), abandon hydrant pit can by grout filling.

#### 1.5 Sequence of Works

The works are programmed to take four (4) weeks to complete. At each location, the task sequence shall be:

- Civil work to expose pipeline at each required location
- Mechanical work to modify pipeline as required
- Civil reinstatement works
- Demobilisation activities

The detailed sequencing with respect to the *work locations* is:

1. Site setup for excavation works at TO1 & HP8

2. Site setup for excavation works at HP 05 & BF1
3. Site setup for excavation works at HP 01
4. Mechanical Modifications at HP1, BF1, HP5, HP8, TO1
5. Blast, Coat Wrap hydrant pipeline at HP1, HP5, HP8, BF1, T01
6. Backfill and compaction of HP1, Reinstate Asphalt
7. Backfill and compaction of HP5 & HP 8, Reinstate concrete
8. Backfill and compaction of BF1, Reinstate Asphalt
9. Backfill and compaction of TO1, reinstate surface with clean fill or select road base.
10. Demobilise from Area TO1, HP1 & BF1
11. Secure work area at HP5 & HP8 - Allow 14 Days for HP5 & HP8 Concrete to cure

## 1.6 Timing of the Works

The breakdown of the works is indicated in days number from the commencement of works. For this MOWP, Day 1 will be Monday 17th April 2023, day 2 will be Tuesday 18<sup>th</sup> April 2023, with subsequent days counting until the completion date.

Indicative timing and the sequence for each component is:

Excavate: Days 1- 8

- T01 and HP8
- HP5 and BF1
- HP1

Mechanical Modifications: Days 9- 18

- TO1
- HP8
- HP5
- BF1
- HP1

Civil Reinstatement: Days 19- 30

- HP1 – demobilise Day 22
- HP5 and HP8 – demobilise Day 30 after concrete curing is complete
- BF1– demobilise Day 22
- T01– demobilise Day 22

### 1.6.1 Commencement Date

The works are scheduled to commence Monday 17<sup>th</sup> April 2023.

### 1.6.2 Duration of Works

The works are expected to take thirty-two (32) days. In the event of delays or adverse weather, the duration may extend.

### 1.6.3 Completion Date

Based on the commencement date of Monday 17<sup>th</sup> April 2023, the completion date shall be Friday 19<sup>th</sup> May 2023.

### 1.6.4 Hours of Work

Hours of work shall be 06:30 – 18:00 seven days per week. The civil crew will commence the works and prepare for the mechanical crew. Handover to the mechanical crew will provide a shift change ensuring effective fatigue management for the civil crew. The civil crew shall take over again on completion of the mechanical works.

### 1.6.5 Notification of Commencement of Works

The actual date and time of commencement will be advised by a NOTAM, to be issued not less than 48 hours before work commences.

The wording of the NOTAM is detailed in section 2.5 of this MOWP.

### 1.6.6 Consultation With Stakeholders

To facilitate all the needs of the affected stakeholders, consultation meetings have been held to discuss individual requirements.

#### Air Transport Operators

Airlines (QANTAS and Virgin Australia) have been advised through their respective ground handling agents. There should be no impact to airline flight operations, as GHA's will manage parking bay deconfliction and passenger access on the apron.

Representatives from other operators were present at the Safety Management Systems (SMS) meeting on the 14<sup>th</sup> March 2023, and the Aerodrome Emergency Committee (AEC) meetings conducted on 15<sup>th</sup> March 2023 where details were provided.

#### Aeromedical Evacuation and Emergency Aviation Service Providers

The works will not affect RFDS transient operations, nor will it affect Aspen Medical flight operations. Therefore, no additional consultation outside of the Safety Management Systems and Aerodrome Emergency Committee meetings was undertaken.

#### Ground Handling Agents

A consultation meeting was held with GHA station managers on 17 February 2023. The meeting covered the works, the restrictions placed on GHA movements, and the process for deconflicting bays was discussed and finalised.

#### Air Traffic Control Services

A Head of Operations meeting was held on 22 February 2023. This meeting was chaired by AirServices Australia, and representatives from all the minor airport operators were invited or



present. The scope of the works was raised, and all those present were advised a MOWP would be issued in the lead up to the project start.

### Airport Rescue Fire Fighting Service (ARFFS)

A discussion was held with ARFFS staff as to the extent of the works. Training for the emergency procedures associated with the portable refuelling tank was provided to the ARFFS staff on the 4<sup>th</sup> and 6<sup>th</sup> April 2023.

### Refuelling Agents

VIVA Energy are the lead agency for the project and have been providing regular updates with their staff on site.

AirBP were not consulted by the airport management team directly. An AirBP representative was not present at the SMS Meeting on 15 March 2023.

## 2. RESTRICTIONS TO AIRCRAFT OPERATIONS

### 2.1 General

There shall be no restrictions to aircraft operations on the RWY 08/26, TWY A, TWY B, TWY E, TWY F, TWY G, TWY H, TWY J, TWY K, or TWY L. This project does not involve any interference with the approach or departure paths, nor the OLS.

There will be no restriction to CHC helicopter flight schedules operating from the heliport apron arising from the works. However; varied arrangements for helicopter movements on the ground shall be established regarding:

- Taxiing pathways / routing from / to Runway 26 and 08
- Hold points on Taxiways C and D and approach paths to the passenger hot spot
- Aircraft and refueller standing positions on the southern margin of the apron for refuelling
- Movements across the heliport apron between the taxiways and hangars

### 2.2 TWY C and TWY D

During the works on the heliport aprons, TWY C and D may be obstructed by aircraft queueing for fuel. CHC (sole heliport occupant) will manage the refuelling schedule to minimise this occurring, however; in the event of queueing occurring on TWY C or D, aircraft transiting to and from the heliport apron will hold position on the heliport apron or the Aircraft Stand clear of the apron taxiway.

A maximum of one (1) aircraft may queue on TWY C and TWY D at any one time, position at the temporary line markings, to ensure no tail rotor obstruction to aircraft on TWY K. Under no circumstances is TWY K to be obstructed by queuing aircraft. This restriction will be effective for the duration of the project and will apply to all rotary aircraft using the CHC heliport.

Refer to section 8.6 for a graphical view of the temporary holding positions and aircraft flow descriptions.

A NOTAM will be issued to reflect the possibility that TWY C and D may be obstructed by aircraft queueing for refuelling. The wording of the NOTAM is detailed in section 2.5 of this MOWP.

### 2.3 Aircraft Stand Bay 1

During the works on Aircraft Stand Bay 1, this bay will be unavailable to aircraft or ground handling agents. Alternative arrangements for aircraft parking areas have been made and is detailed in Appendix D.

For details on how the works area will be indicated as unserviceable, refer section 4.2.

### 2.4 Emergencies or Adverse Weather Conditions

These works are unlikely to affect the aerodrome response to aircraft emergencies. However, if the area is to be made safe to accept damaged aircraft, refer to section 3.5.

A Continuity of Operations plan is detailed at Appendix B.

Fuel emergencies will be managed in accordance with Viva Emergency and ARFFS procedures.

## 2.5 Restrictions on Aircraft Outside of the Manoeuvring Area

Works on the Aircraft Stand are confined to Bay 1. Excavation and mechanical works are limited to the northern periphery of the apron where the Bay 1 hydrant lateral line ties into the hydrant header line.

Following the disconnection of this lateral from the hydrant header, the HP1 hydrant pit can be abandoned by grouting solid (refer section 8.3) This activity will be limited to half a day and will require possession of the aircraft standing position on Bay 1.

Any works around the hydrant pit can will be demarcated using barriers. Should the works extend overnight, the corners of the works areas are to be illuminated using red eFlares. The eFlares are to be collocated with the unserviceability markings on the outside corners of the works areas.

## 2.6 NOTAMS

A NOTAM will be issued upon approval of the MOWP. The NOTAM will have the following wording:

*TWY C AND TWY D CLSD EXC HELOPS. REFER MOWP YPKA 01/23.*

The NOTAM will be effective until the completion of works on the heliport apron.

## 2.7 Restoration of Works Areas

For the duration of the works, the works areas will be under the control of the works contractor. As there are open work pits, fuel lines, sub-surface cables and services, confirmed spaces, and plant and materials involved, only the works contractor or their sub-contractors are to access the inside of the works areas.

Prior to releasing the works areas back to aviation operators, the AOpC is to be satisfied that:

- Any surface penetrations have been restored to as detailed in the Reconstitution Specification, including sufficient curing time for the settling of asphaltic surfaces.
- All surfaces, vehicle transit routes, vehicle access points, material storage areas, and plant processing spaces have been cleared of surface debris and swept clean.
- All aircraft wayfinding markings are to be reinstated.
- Any sub-surface services are to be covered using the appropriate materials and marked with appropriate warning tape / placards.
- Where services are terminated, any above ground infrastructure remaining in place is to be annotated as such.

The WSO, AOpC, PM, and CHCH Base Manager are to inspect the work site to confirm that the above tasks have been completed to their satisfaction, prior to releasing the works areas back to CHC.

## 3. PERSONNEL AND EQUIPMENT

### 3.1 General

The Airport Operations Coordinator (AOpC) has absolute authority to direct the Contractor on airfield operational requirements. This authority may be delegated to the Works Safety Officer (WSO) for the day-to-day monitoring and supervision of the works. The contractor shall comply with all instructions from the AOpC, WSO, or designated representative, including an Aerodrome Reporting Officer (ARO).

Works in each stage will be confined to the areas shown in sections 8.3 and 8.4. The limits of the works areas are to be defined in accordance with *Part 139 (Aerodromes) Manual of Standards 2019*.

The Works Organisation's site representative shall contact the WSO at least one (1) hour prior to the start of each working period to ascertain the status for the proposed work with respect to the operational requirements of the airport.

Prior to commencing each works period, the Works Organisation's personnel shall meet with the WSO to ensure that all parties including sub-contractors are aware of the working requirements and the work restrictions for each stage.

### 3.2 Inductions, Certifications, and Identity Cards

Prior to commencement of works, all contracted personnel are to have completed the Airside Safety Awareness Induction package through the AirDAT Passport system to the satisfaction of the AOpC. Access to site will be refused for all personnel not completing this requirement.

Access to airside is restricted to personnel holding an Aviation Security Identity Card (ASIC) or a Visitor Identity Card (VIC). Personnel holding a VIC are to be always under the direct supervision of an ASIC holder. Personnel without appropriate airside access qualifications will not be allowed within the airside boundary.

### 3.3 Smoking and the Use of eCigarettes

Smoking (including the use of vapes and eCigarettes) is not permitted airside, or within any Karratha Airport buildings. Designated smoking areas (if any) will be advised by the WSO at the contractor induction toolbox meetings.

### 3.4 Vehicles and Plant

No movement of vehicles or plant is to take place outside the works areas or access routes without the consent of the WSO. Only vehicles and plant engaged in the work shall be permitted at the work site. Private vehicles will not be permitted airside.

All vehicles entering the aerodrome must do so only via the allocated Vehicle Access Points (VAP). Refer sections 8.3 and 8.4 for a diagram of access routes. All vehicles are to be checked for FOD and loose materials prior to entering the airfield.

The vehicles entering the airport are to be in a roadworthy state. All vehicles shall comply with the requirements of *Part 139 (Aerodromes) Manual of Standards 2019*.

At the end of each work period, all vehicles, plant, equipment, and materials are to be shut down and made secure within the works area or removed to landside and parked in a designated parking area.

Vehicles and self-propelled items of plant are to have an orange rotating warning light operating whenever they are within the airside movement area. Passenger vehicles not fitted with an orange rotating warning light shall activate hazard lights whenever they are in the airside movement area.

To enable aircraft operations at night, the lights from vehicles and any portable lighting systems engaged in night work must not dazzle or cause confusion to pilots. Vehicle light fittings should be checked to ensure that the lights are not directed unduly upwards and portable lights should be shielded as required. Drivers are to be briefed that, as a matter of course, high beam is not to be used.

Passenger vehicles and vehicles operating plant are to be equipped with a portable fire extinguisher.

### 3.5 Emergencies or Adverse Weather Conditions

Under certain emergency situations or in the event of adverse weather conditions, there may be a requirement to vacate the works area and move personnel and plant landside. The scenarios which may trigger this requirement are too numerous to be listed here; however, the supervising WSO will consult with the AOpC / DARO and the Project Manager and determine what (if any) action is to be taken during the emergency.

Where required, and where time permits, loose materials are to be secured, plant shut down and made safe, and barriers / beacons to be re-erected. The WSO is then to ensure that all personnel vacate airside. He is also to account for all personnel and advise the AOpC when all personnel are clear, or if there are any unaccounted-for persons.

Additionally, the works organisation may be denied access to the airside of the airport and to the work areas. During these events, access will be determined on a case-by-case basis at the discretion of the AOpC and in the absence of the AOpC, by the Manager Airport.

Emergencies occurring during these works will be managed in accordance with the Aerodrome Emergency Plan.

In the event of adverse weather conditions preventing works from continuing safely, the contactor is to secure all equipment, materials, and work areas, and then vacate the works site(s). Prior to departure, the provisions put in place for marking, protecting, or otherwise making safe the works area during night hours.

### 3.6 Initiating Emergency Response

Karratha Airport operates with an Aviation Rescue Fire Fighting Service (ARFFS). This resource can be called upon to provide aid to any emergency at the airport – including confined space rescue. Emergency services should first be notified via placing a call to 000. When time permits, and if it is safe to do so, an additional call should be made to the ARFFS emergency number: 08 9183 6299.

## 4. AERODROME MARKERS, MARKINGS, AND LIGHTS

### 4.1 Works Limits

All works and the Works Organisation's plant, equipment, and personnel shall be confined to the areas directed by the WSO.

### 4.2 Marking the Unserviceable Area

Unserviceability cone markers will be required to delineate the HP1 works area at the north-eastern periphery of the Aircraft Stand at Bay 1 and when the hydrant pit can is grout filled (Bay 1 aircraft standing position). The cones will be placed on the corner peripheries of the works areas. At night, the cones will be supplemented with red eFlare markers. Behind the unserviceability cone markers, temporary fence panels will demarcate the works area.

Unserviceability cone markers will be required to delineate the two works areas on the Woodside / CHC Heliport Apron. At night, the cones will be supplemented with red eFlare markers. Behind the unserviceability cone markers, temporary fence panels will demarcate the works area. Within the works area.

### 4.3 Works Limit Markers

The work possession areas shall be demarcated with 2.1m high temporary fencing with shade cloth attached. The fencing shall be braced laterally and anchored with concrete mass weights. The Contractor shall provide portable markings for all work area limits. The contractor shall provide enough cones and other work limit markers to ensure that the prescribed markings are installed for each stage of the work.

The Contractor shall protect and maintain the works limit markers in good condition throughout their use in the works. Where markers remain in place overnight, red eFlares are to be co-located with cones to ensure visibility in the dark hours.

At the installation of work area fencing, witness marks are to be put onto the ground in temporary white paint. These marks will indicate if the fencing has moved and will ensure that the work areas do not encroach into aircraft taxi lanes.

All works limit cones for the identification of the limits of work areas are to be placed in accordance with the *CASA Part 139 (Aerodromes) Manual of Standards 2019* as directed by the Works Safety Officer (WSO).

The Contractor shall maintain all works limit markers so that they are clearly visible and are in the required locations.

The Contractor shall ensure that all works limit markings are established at the start of each phase of the works and removed at the completion of each phase as required by the MOWP.

The WSO shall ensure that the works limit markings are appropriate and always maintained.

### 4.4 Access to the Works Areas and Security

Specific vehicle access routes to and from the works areas are detailed in sections 8.3 and 8.4. Movement of vehicles, plant, and equipment must be confined to these routes to minimise tracking of dirt and debris onto aircraft movement area pavements and to prevent damage to airport lighting.

Access to and from the airfield for works on the Woodside heliport apron will be via the Non-Automatic Western Vehicle Gate beside the Woodside hangar (as also shown in section

8.4). Access for work on the Aircraft Stand shall be via the Automatic Eastern Vehicle Gate (as shown section 8.3). The Works Organisation will provide a suitably rated padlock for the gate to provide dual access, which will be managed by the WSO. The gates are not to be left open unattended.

If a gate is to remain open, a sentry holding a current red Aviation Security Identification Card (ASIC) must control and monitor any movements through the gate.

All personnel are to always display their valid ASIC or Airport issued Visitor Identity Card (VIC) on their person above the waist. Those personnel who only have a VIC are to be always accompanied by a red ASIC-holder while airside.

Personnel are only permitted to move about the designated work areas, and only using the designated access routes. Any person detected on the site outside these limits may be evicted from the site and denied return.

Section 8.4 indicates the intended work possession areas on the Heliport Apron. The four work locations are bundled in two pairs: TO1 / HP8 and HP5 / BF1.

The distance between the two areas and the separation distance from adjacent aircraft lead in lines is also shown in red.

#### 4.5 Access Routes

The access routes to each work possession area from the Non-Automatic Western Vehicle Access Point (behind the CHC hangar) is shown in green.

The brown squares indicated are the excavation areas contained within the work possession areas.

All personnel, plant and equipment shall remain contained within the work possession areas except when accessing or exiting the site area from / to landside. Stockpiles shall not be maintained airside – also refer section 6.2 Scope Summary pages 13-14.

## 5. SPECIAL REQUIREMENTS

### 5.1 Foreign Object Debris / Damage (FOD)

The Contractor is to ensure that all Foreign Object Debris (FOD) hazards are minimised throughout the works.

On completion of each workday, the Works Supervisor is to ensure the works area is made serviceable, including the removal of all FOD hazards, to the satisfaction of the WSO.

### 5.2 Prevention of Spills

The Contractor is to take every precaution to prevent any spillage of material on or in the vicinity of aircraft movement areas, or in transit to and from the work site. Any spillage which does occur is to be immediately removed by the Contractor to the satisfaction of the WSO.

All personnel associated with the work shall be bound by any instructions issued by the WSO, who may refuse access to persons likely, in his/her opinion, to compromise aircraft safety on the airfield.

When personnel and equipment are required to vacate aircraft movement areas, all directions of the WSO are to be followed immediately.

Any breaches of aviation safety by project personnel or airfield users must be reported to the WSO. The WSO is to initiate an immediate response in consultation with Karratha Airport. All incidents are to be reported in writing (preferably via AVCRM) to the AOpC within two (2) working days of the incident.

### 5.3 Foreign Object Debris / Damage (FOD) Control

The Contractor is to ensure that aircraft pavements used or crossed during the works are kept clean and free of debris. Any debris is to be immediately removed by the Contractor to the satisfaction of the WSO.

All loose material and equipment are to be secured against movement in strong winds or aircraft blast. The Contractor shall immediately respond to any direction by the WSO or Karratha Airport to eliminate any problem. The Contractor is responsible for implementing appropriate control measures.

On completion of each work period where airfield movement areas are required to be returned to active use, the Works Supervisor is to inspect the works area to ensure potentially affected aerodrome areas are made serviceable, including the removal of all FOD hazards, to the satisfaction of the WSO.

### 5.4 Protection of Electrical and Underground Services

The Works Organisation shall liaise with Karratha Airport to ensure that no subterranean services are disrupted during works. Where cable location is required, this is to be organised by the Works Organisation directly in consultation with Karratha Airport management.

Underground services such as fuel hydrant lines and fire mains shall be protected from damage by the Works Organisation. The works organisation shall ensure that any underground service is appropriately marked on the surface so that these restrictions may be enforced.



## 5.5 Other Restrictions

Measures shall be always taken to control dust or other nuisance materials and the Works Organisation shall immediately respond to any direction by the WSO to eliminate any identified problem.

Stockpiles and equipment parking must only be in designated areas as detailed in sections 8.3 and 8.4.

Lights for general floodlighting of the area shall be shielded above the horizontal and not directed towards approaching aircraft. No lighting tower shall be located outside the limit of works area unless permitted by the WSO.

Hot Works Permits (HWP) are to be obtained prior to any hot works commencing.

Toilet facilities are available in the Woodside hangar toilets and by arrangement with Karratha Airport for access to Terminal Meeting Room No. 3.

## 5.6 Continuation of RPT Operations

The details of how RPT flights will be managed while the Aircraft Stand Bay 1 is unavailable is detailed at Appendix C.

## 5.7 Communications and Navigations Systems (CNS)

There are no CNS facilities contained within the works areas, nor is it expected that the works will interfere with, or disrupt power to, any CNS systems.

## 5.8 Safeguarding of Electrical Services and Underground Infrastructure

Electrical and underground services surveys were completed on 10 March 2023. There are no services within the works areas, apart from those involved in the works project.

Prior to any excavations, penetrations, loading, or disruption of surfaces outside of the work zones commencing, additional site surveys are to be completed at the directions and discretion of the Airport Operations Coordinator.

## 5.9 Helicopter Start up Positions

Section 8.5 depicts the three Helicopter start up and end of shift positions at the southern side of the Heliport concrete apron.

Helicopters will be towed from the northern hangars at the commencement of the day between the two works possession areas to the start up positions at the southern side of the heliport concrete apron.

They will be fuelled in this location before commencing their scheduled movements.

Once operational they will observe a movements pattern as per section 8.4 depending on which runway is in use.

## 5.10 Helicopter Movements on the Heliport Apron

### 5.10.1 Operations when Runway 08 in use

Helicopters will wait at a hold point on Taxiway Delta until the refuelling position is available on the southern margin of the concrete apron. They will refuel or taxi to the hotspot for loading / unloading passengers. They will then exit from either the refuelling point or the hotspot via Taxiway Charlie thereby maintaining a clockwise movements direction.

### 5.10.2 Operations when Runway 26 in use

Helicopters will wait at a hold point on Taxiway Charlie until the refuelling position is available on the southern margin of the concrete apron. They will proceed to refuel (turn left) or taxi to the hotspot (turn right) for loading / unloading passengers. They will then exit from either the refuelling point or the hotspot via Taxiway Delta thereby maintaining a counterclockwise movements direction.

## 5.11 Hot Refuelling of Helicopters on Heliport Apron

The authority for CHC to conduct 'hot refuelling' operations on the apron is detailed in the CHC Flight Operations Manual, as ratified by CASA via the companies Air Operating Certificate (AOC).

For the purposes of this MOWP, the definition of hot refuelling is given as the refuelling of a helicopter with the engine or engines running. It may take place with the rotor or rotors turning.

For the duration of the period for which the fuel hydrant is off-line, refuelling of aircraft on the heliport apron will occur directly from an Aviation Refueller Tanker, when "hot fuelling" is required, this will be carried out by the Helicopter operators, drawing fuel from a temporary fuel trailer positioned as shown in section 8.7. The fuel trailer shall be replenished as required. The blue arrows indicate the access route to be used by the refueller tanker to replenish the fuel trailer.

## 5.12 Management of Change Planner

CHC have conducted their own Management of Change Assessment for the modified operations on the heliport apron. CHC has given KTA Management a copy of this document, who are satisfied that all practical steps have been taken to maintain the required safety practices for conducting works and flight operations concurrently. This includes assessment for portable tank operations, taxi route clearances, FOD mitigation, and passenger management.

The Management of Change Planner document is available on request.

## 6. ADMINISTRATION

### 6.1 Works Organisation

The Works Organisation will be Viva Energy Australia. The Works Organisation Project Manager will be Ross Knight, who will be contactable on mobile number +61 419227102.

### 6.2 Airport Representative

The Airport representative for these works will be the Airport Operations Coordinator, Dan Coe. The AOpC can be contacted via mobile phone on +61 417904053.

All questions concerning this MOWP are to be directed to the AOpC.

### 6.3 Works Safety Officers

The Works Safety Officers will be Todd McLaren and Luke Chambers. The WSO can be contacted via mobile phone on +61 400732535.

The WSOs have completed an Aerodrome Reporting Officer / Works Safety Officer course through Aerodrome Management Services (AMS) Ltd, with the practical component of their ARO course being supervised by the SARO on Karratha Aerodrome.

Two additional staff members, Sam English and Jake Throssell, will be provided for the management of the Vehicle Access Points (VAP). Both WSOs and the two VAP Controllers will hold Airport Driving Authority (ADA) Category 2 for the duration of the works.

The Manger Airport is satisfied that the training and qualifications of the WSOs meets the requirements of MOS Part 130 section 13.04.

A list of the WSOs duties and responsibilities are detailed at Appendix A.

### 6.4 Completion of Works

The WSO is to advise Karratha Airport when all works are completed.

## 7. AUTHORITY

### 7.1 Issue

This Method of Working Plan is issued in accordance with Chapter 16 of the *Part 139 (Aerodromes) Manual of Standards 2019*. All works must be carried out in accordance with the MOWP.

### 7.2 Expiry Date

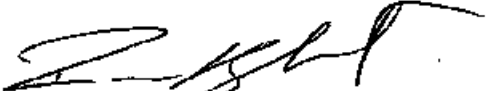
This MOWP is to remain in force until the conclusion of the works unless amended or reviewed by an amendment to this MOWP. Any alternation to the expiry date is to be indicted by a published amendment to the MOWP showing the new expiry date on the title page and appropriate sections.

### 7.3 Variations from MOWP


The approval of the Karratha Airport Operations Coordinator is to be obtained before any change is made to the MOWP. Any changes will be promulgated by reissuing the MOWP or by raising of an amendment to this MOWP.


### 7.4 Signatures

#### 7.4.1 Project Manager


<i>Name</i>	Ross Knight	<i>Signature:</i> 
<i>Organisation</i>	Viva Energy	
<i>Date</i>	14/04/2023	

#### 7.4.2 Works Safety Officers

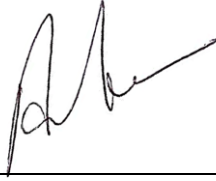
<i>Name</i>	Todd McLaren	<i>Signature:</i> 
<i>Organisation</i>	CPC Engineering Pty Ltd	
<i>Date</i>	14/04/2023	

<i>Name</i>	Luke Chambers	<i>Signature:</i> 
<i>Organisation</i>	CPC Engineering Pty Ltd	
<i>Date</i>	14/04/2023	

### 7.4.3 Airport Operations Coordinator

<i>Name</i>	Daniel Coe	<i>Signature:</i> 
<i>Organisation</i>	City of Karratha	
<i>Date</i>	14/04/2023	

### 7.4.4 Manager Airport

<i>Name</i>	Amol Virkar	<i>Signature:</i> 
<i>Organisation</i>	City of Karratha	
<i>Date</i>	14/04/2023	

## 8. DRAWINGS, DIAGRAMS, AND IMAGES

### 8.1 General

Drawings have been provided as per the table below, in accordance with *Part 139 (Aerodromes) Manual of Standards 2019 section 16.09 Drawings*

MOS Requirement	Details	Provisions
Specific details of Works Area	Areas shown in red for Aircraft Stand and Heliport areas	Figures 1 to 5
Restrictions to Aircraft	TWY C and D may be unavailable if aircraft have queued for the refuelling stand	Figure 7
Locations of CNS equipment, including the associated critical or sensitive areas in proximity to the works area		Not Applicable
The location of visual ground aids and markings in proximity to the works area, including any unserviceability markers or markings required by works	Unserviceability cones and LED beacons	Figures 4 and 5
Details of the height and location of critical obstacles		Not applicable
The location of temporary parts of the Movement Area (if applicable)		Not Applicable
Access information, including standard routes for vehicle and equipment not normally operated on the aerodrome	Vehicle access to Heliport Apron and vehicle access to Aircraft Stand.	Figures 4 and 5
Storage areas for material and equipment (if applicable)	Plant holdpoints shown. All other material stored landside	Figure 5
The location of critical electrical services and control cables which may be distributed in proximity to the works area (if applicable)	Survey found no other critical electrical infrastructure in works area	Not Applicable

### 8.2 Works Area Locations Overview

The works are to occur at one location on the Aircraft Stand (Bay 1) and four locations on the Heliport apron.



Figure 1: Aerial View of Woodside Heliport and Aircraft Stand at Karratha Airport

### 8.3 Aircraft Stand Works:



Figure 2: Aircraft Stand Works Areas

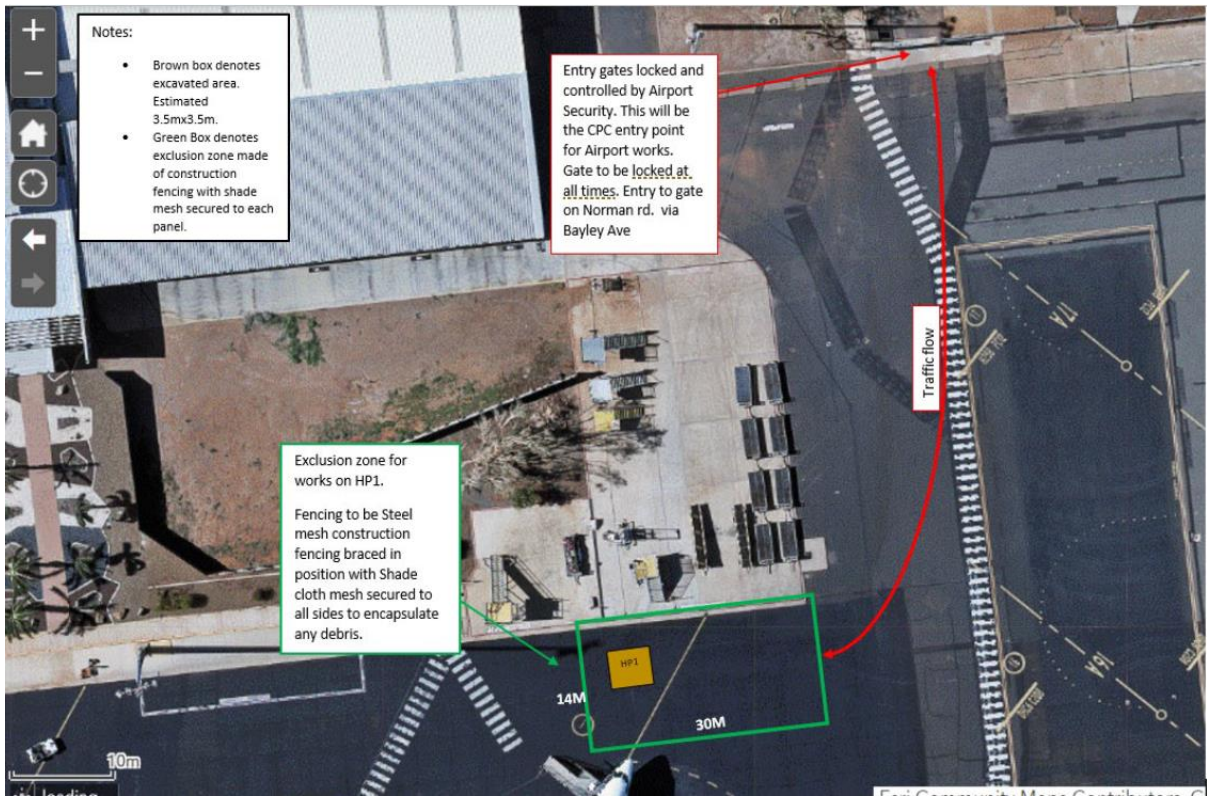


Figure 3: Aircraft Stand Works - Possession Area and Access Route

### 8.4 Heliport Apron Works

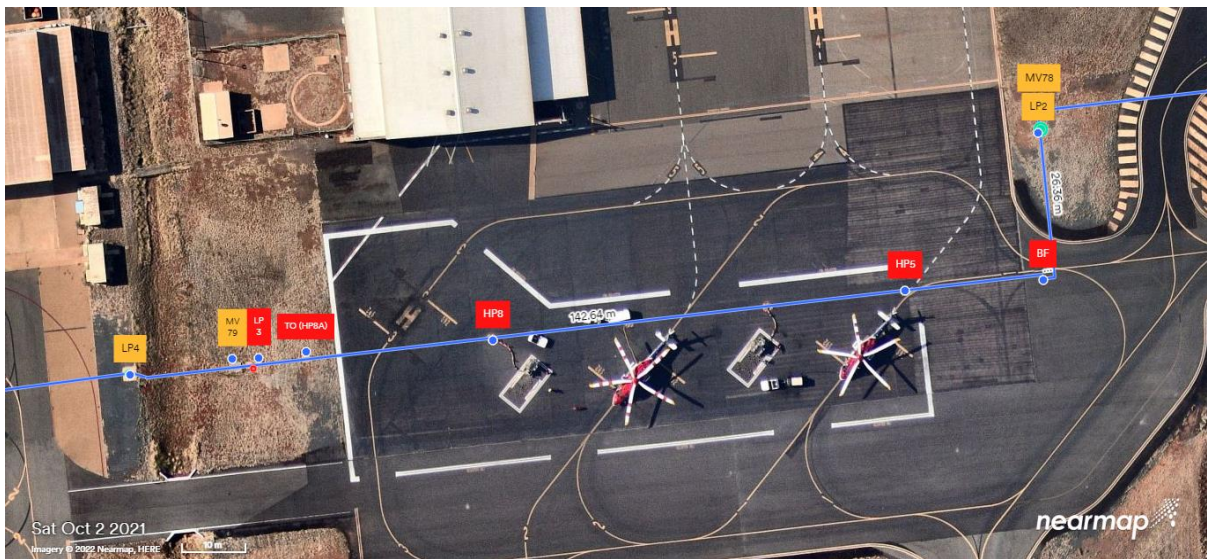


Figure 4: Heliport Apron Works Areas: Left to Right TO1, HP8, HP5, BF1



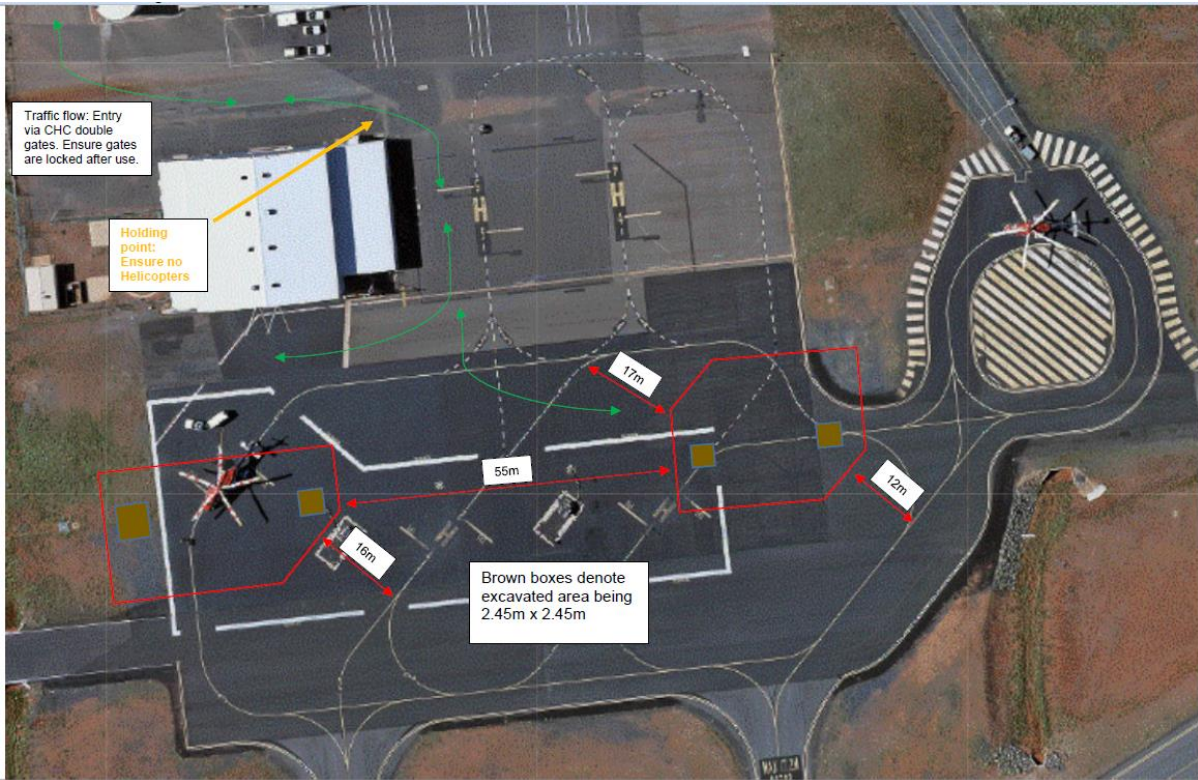


Figure 5: Heliport Apron Works Possession Area and Access Routes

## 8.5 Helicopter Start-Up Positions

### 8. Traffic Control Diagram

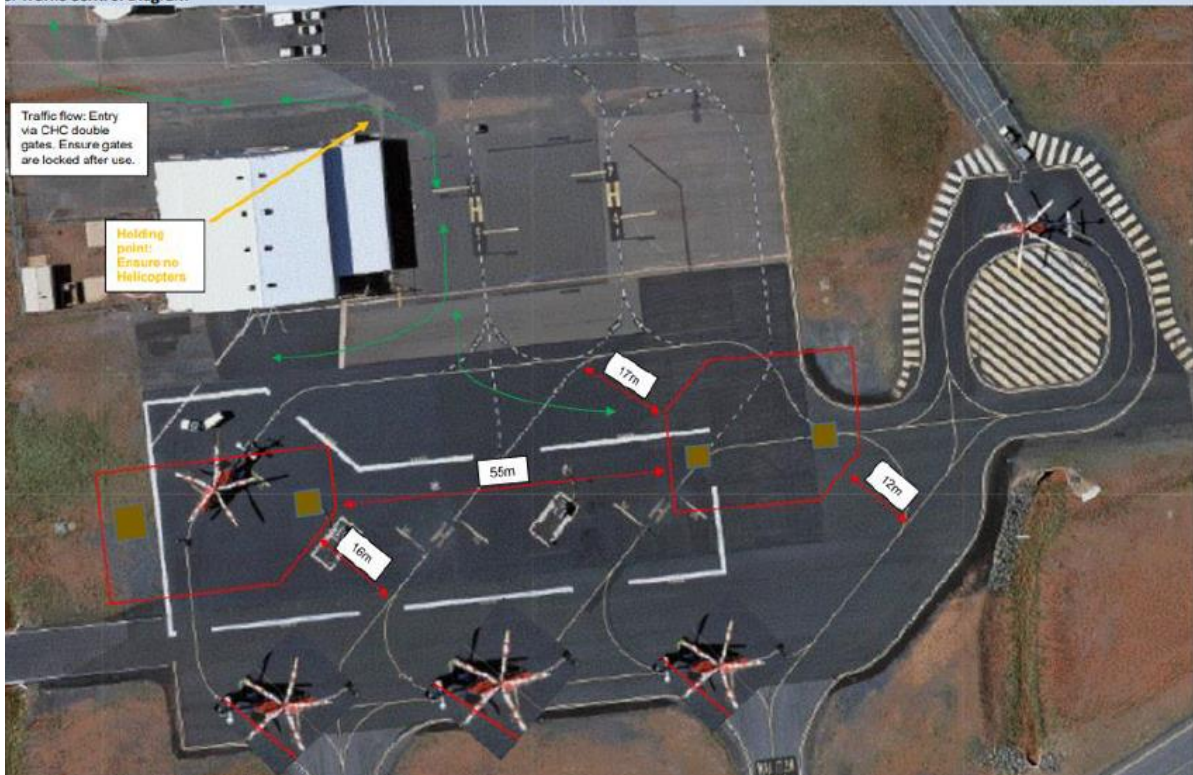


Figure 6: Helicopter Start-Up Positions

## 8.6 Heliport Helicopter Movement Patterns

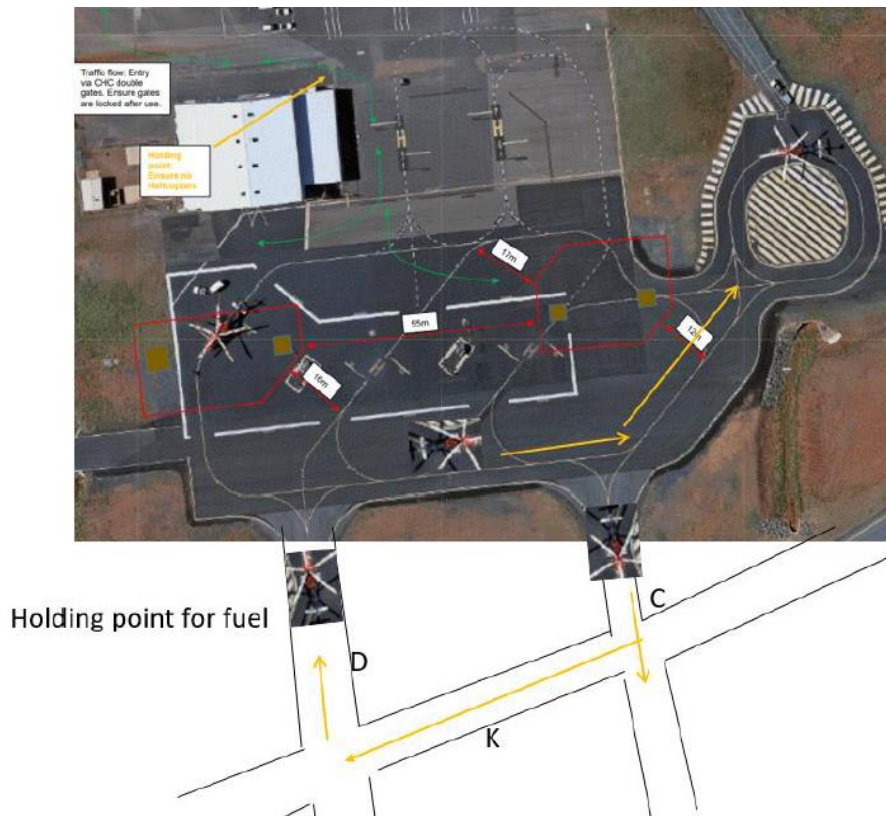


Figure 7: Operations when Runway 08 in use

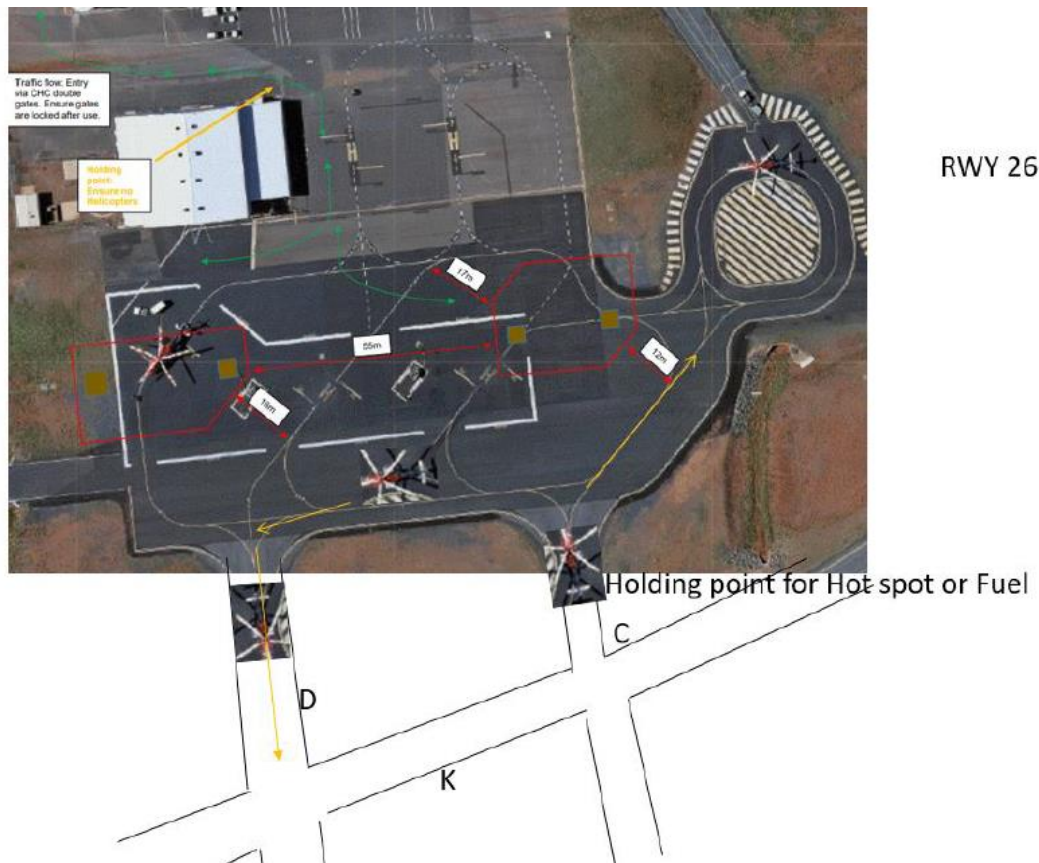


Figure 8: Operations when Runway 26 in use

## 8.7 Refuelling Truck and Trailer Positions



Figure 9: Heliport Refuelling Truck and Trailer Positions and Access Routes

## 9. DISTRIBUTION LIST

This MOWP (and any subsequent amendments) is to be distributed to the personnel, organisations, entities, and stakeholders detailed below.

NAME	POSITION	COMPANY	EMAIL
Amol Virkar	Manager Airport	City of Karratha	amol.virkar@karratha.wa.gov.au
Dan Coe	Airport Operations Coordinator		daniel.coe@karratha.wa.gov.au
Sue O'Toole	Airport Terminal and Commercial Coordinator		airportservices@karratha.wa.gov.au
Matthew Bowles	Senior Airport Reporting Officer		matthew.bowles@karratha.wa.gov.au
Phillip Halligan	Airport Safety and Compliance Coordinator		phillip.halligan@karratha.wa.gov.au
Karratha Tower	Duty Air Traffic Controller	AirServices Australia	karratha.tower@airservicesaustralia.com
Dave O'Hanlan	Superintendent ARFFS Line Leader		dave.ohanlon@airservicesaustralia.com
Yas Hishmeh	Fire Commander		yaser.hishmeh@AirservicesAustralia.com
Candice Ryan	Team Leader - Tech Controllers		teamleader.toc@airservicesaustralia.com
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Kirstie Looke	Project Manager WA – Supply Chain Engineering		Kirstie.Looke@vivaenergy.com.au
Aaron Bruhn	Project Reliability & Integrity Manager		aaron.bruhn@vivaenergy.com.au
Hugh Pearce-Wilson	Project Coordinator		hugh.pearce-wilson@vivaenergy.com.au
Todd McLaren	Works Safety Officer	CPC Engineering Pty Ltd	tmclaren@cpceng.com.au

**Continued...**

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Maria Coutinho	Operations Manager		maria.coutinho@chcheli.com
	Admin Office		karratha-admin@chcheli.com
	Base and Contract Manager	PHI International	ka92bcmsbp@phi-int.com
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	Duty Manager	RFDS WA	westops@rfdswa.com.au
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Continued...

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Seb Walker-Magee	Senior Base Pilot		karratha@aviair.com.au
Max Marani	Chief Pilot	Maxem Aviation	max.marani@maxem.com.au
Dean Cash	Airport Security Contractor	MSS Security	karratha.airport@msssecurity.com.au
Brian Newcomb	Bureau of Meteorology Maintenance Coordinator WA	BOM	brian.newcomb@bom.gov.au
Gary McGivern	Aerodromes Inspector – Karratha Airport	CASA	Gary.McGivern@casa.gov.au
David Russell	Aerodromes Inspector – Karratha Airport		David.Russell@casa.gov.au
	CASA Aerodrome Generic Address		aerodromes@casa.gov.au

## 10. APPENDICES

### 10.1 Appendix A – Work Safety Officers (WSO) Responsibilities

The Works Safety Officer is responsible for ensuring that the works, insofar as they affect the safe operation of aircraft, are conducted in accordance with *Part 139 (Aerodromes) Manual of Standards 2019* section 13.04, CASA directions related to aerodrome works, and this MOWP.

In particular, the Works Safety Officer shall:

- ensure the safety of aircraft operations in accordance with:
  - the standards for aerodrome works; and
  - the procedures in the aerodrome manual; and
  - the procedures in the applicable MOWP (the *MOWP*);
- ensure that, if applicable, aerodrome works are notified by the issue of a NOTAM whose text reflects the MOWP;
- ensure that ATC (if applicable) is provided with whatever information is necessary for the safety of aircraft operations;
- ensure that the works party or organisation is briefed, on a daily basis, on any matters necessary for the safety of aircraft operations;
- ensure that unserviceable portions of the movement area, temporary obstructions, and the limits of the works area are correctly marked and lit in accordance with the standards in this MOS and the MOWP;
- ensure that vehicles, plant and equipment carrying out aerodrome works are:
  - properly marked and lit; or
  - under works safety officer supervision; or
  - within a properly marked and lit works area.
- ensure that all other requirements of the directions within the MOWP are complied with relating to vehicles, plant, equipment and materials;
- ensure that access to work areas is restricted to clearly identified access routes in accordance with the MOWP;
- ensure that excavation is carried out in accordance with the MOWP and, in particular, so as to avoid damage or loss of calibration to any underground power or control cable associated with a lighting system or any navigational aid;
- ensure reports are immediately made to the aerodrome reporting officer of any incident, or damage to facilities, likely to affect:
  - ATC services; or
  - the safety of aircraft; or
  - published information in the AIP;

- ensure works are continually supervised while in progress, and that the aerodrome is open to aircraft operations.
- ensure that works vehicles, plant and personnel are evacuated from the movement area when necessary for the safety of aircraft operations;
- ensure that the movement area is returned to a safe condition for aircraft operations following removal of vehicles, plant, equipment and personnel from the works area;
- in the case of time-limited works — ensure that all reasonable measures are taken to return the works area to normal safety standards not less than 5 minutes before the time scheduled or notified for an aircraft movement;
- ensure that floodlighting, and any other lighting required for carrying out aerodrome works, is managed so as not to represent a hazard to aircraft operations.



## 10.2 Appendix B – Operations Continuation Plan

It is expected that the Hydrant Modification works prioritise heliport operations scheduled by CHC. As the Hydrant works and heliport operations are to be concurrent, this plan outlines how aircraft movements and ground works will be managed and maintained:

1. On notification that aircraft are to be towed to or from the CHC hangars, any intended vehicle, plant or personnel movements between the works area (as delineated by temporary fencing) and a Vehicle Access Point (VAP) is to be deferred until such time as the aircraft has been towed to or from the hangar and the aircraft standing area at the southern edge of the heliport apron (adjacent to the entrances to Taxiways Delta and Charlie) as depicted as the Start Up Positions on Figure 6.3.2.
2. CPC shall maintain communications with CHC to actively ensure that all aircraft movements are not impeded (e.g., by works, plant or vehicle). UNDER NO CIRCUMSTANCES are unsterile personnel to interact with passengers or flight crew on the apron. It is the responsibility of the WSO to actively ensure this.
3. All portable hand tool and power tools are to remain within the demarcated work areas or be secured, within vehicles or within site boxes when moving between the work areas and the VAP.
4. A physical barrier is to be erected and maintained around any active work zones to ensure that no unauthorised individuals may access the works area, and to prevent passengers tripping on the uneven surfaces. Physical barriers and equipment are to be secured and maintained accurately in the approved position so as not to affect the taxi path of the aircraft or become a hazard in jet-wash.
5. All works personnel are to remain within the demarcated work area or remain at the landside areas during proximate aircraft movements.
6. These measures are to remain in force until the aircraft has departed the airfield to ensure that there is no obstruction to the aircraft if it is required to return to the bay.
7. Access between the works area and the VAP will not be released to the Works Organisation until the WSO is satisfied that the movement can resume without operational or safety risk.

## 10.3 Appendix C – RPT Flight Movements Parking Schedule

Below is the parking allocation for RPT flights during the works period. These parking locations have been agreed to by the station managers for each Ground Handling Agent (GHA). Aircraft are to be parked on the primary bay as indicated. In the event of a conflict / delay, aircraft are to park in the alternate bay as indicated.

All divert aircraft are to be directed to park on bay 6 or bay 5 if bay 6 is occupied.

Any deviations to the below parking plan are to be discussed with the AOpC, or in their absence, the Duty ARO.

Note: Bay 4 is not suited to B737 aircraft. The schedule is correct at time of publication but may be subject to change at any time without prior notification.

Flt No	Flt Type	From	Time	Pri Bay	Sry Bay	Flt No	To	Time	A/C Type
<b>MONDAY</b>									
QF1212	RPT	Perth	0715	2		QF1213	Perth	0800	737
QF1826	RPT	Perth	0815	4	8	QF1827	Perth	0900	A320
VA1723	RPT	Perth	0850	3		VA1724	Perth	0940	A320
QF1828	RPT	Perth	0915	2	6	QF1829	Perth	1000	A320
QF1830	RPT	Perth	1245	2		QF1831	Perth	1330	A320
QF1832	RPT	Perth	1515	2		QF1833	Perth	1600	A320
VA1727	RPT	Perth	1550	3		VA1728	Perth	1630	A320
QF1836	RPT	Perth	1815	2		QF1837	Perth	1900	A320

<b>TUESDAY</b>									
QF1212	RPT	Perth	0715	2		QF1213	Perth	0800	737
VA9471	CHTR	Perth	0800	4		VA9470	Perth	0900	A320
QF1214	RPT	Perth	0815	2	6	QF1215	Perth	0915	737
VA1723	RPT	Perth	0850	3	5	VA1724	Perth	0940	737
QF1830	RPT	Perth	1245	2		QF8131	Perth	1330	A320
QF1832	RPT	Perth	1515	2		QF1833	Perth	1555	F100
VA1729	RPT	Perth	1705	3		VA1730	Perth	1745	F100
VA9447	CHTR	Perth	1805	4		VA9446	Perth	1845	F100
QF1836	RPT	Perth	1815	2		QF1837	Perth	1930	A320

Flt No	Flt Type	From	Time	Pri Bay	Sry Bay	Flt No	To	Time	A/C Type
<b>WEDNESDAY</b>									
QF1824	RPT	Perth	0715	2		QF1825	Perth	0800	A320
QF1826	RPT	Perth	0815	2	4	QF1827	Perth	0900	A320
VA1723	RPT	Perth	0850	3		VA1724	Perth	0940	737
QF1828	RPT	Perth	0915	2	4	QF1829	Perth	1000	A320
QF2902	CHTR	Solomon	0930	8		QF2903	Solomon	1005	F100
QF1830	RPT	Perth	1245	2		QF1831	Perth	1330	A320
QF1220	RPT	Perth	1515	2		QF1221	Perth	1600	737
VA1727	RPT	Perth	1550	3		VA1728	Perth	1630	737
QF1836	RPT	Perth	1815	2		QF1837	Perth	1900	A320

<b>THURSDAY</b>									
QF1824	RPT	Perth	0715	2		QF1825	Perth	0800	A320
QF1826	RPT	Perth	0815	2	4	QF1827	Perth	0900	F100
VA1723	RPT	Perth	0850	3		VA1724	Perth	0940	737
QF1830	RPT	Perth	1250	2		QF1831	Perth	1330	A320
QF1832	RPT	Perth	1515	2		QF1833	Perth	1600	F100
VA1727	RPT	Perth	1550	3		VA1728	Perth	1630	F100
QF1836	RPT	Perth	1815	2		QF1837	Perth	1900	A320

<b>FRIDAY</b>									
QF1824	RPT	Perth	0715	2		QF1825	Perth	0800	A320
QF1214	RPT	Perth	0815	2	3	QF1215	Perth	0900	737
VA1723	RPT	Perth	0850	4		VA1724	Perth	0940	A320
QF1830	RPT	Perth	1245	2		QF1831	Perth	1330	A320
QF1832	RPT	Perth	1515	2		QF1833	Perth	1600	A320
VA1727	RPT	Perth	1550	3		VA1728	Perth	1630	F100
QF1834	RPT	Perth	1615	2		QF1835	Perth	1700	A320
QF1836	RPT	Perth	1815	2		QF1837	Perth	1900	F100

<b>SATURDAY</b>									
VA1723	RPT	Perth	0850	3		VA1724	Perth	0940	737
QF1828	RPT	Perth	0915	2		QF1829	Perth	1000	A320
QF1834	RPT	Perth	1615	2		QF1835	Perth	1700	A320

<b>SUNDAY</b>									
QF1832	RPT	Perth	1515	2		QF1833	Perth	1600	A320
VA1727	RPT	Perth	1550	3		VA1728	Perth	1625	A320
QF1836	RPT	Perth	1815	2		QF1837	Perth	1900	A320

## 10.4 Appendix D – List of Abbreviations

This table details the abbreviations used throughout this document.

<b>AIRDAT</b>	AIRDAT (Company)	<b>HWP</b>	Hot Works Permit
<b>AOC</b>	Air Operators certificate	<b>KTA</b>	Karratha Airport
<b>AOpC</b>	Airport Operations Coordinator	<b>LTD</b>	Limited
<b>ARFFS</b>	Aviation Rescue Fire Fighting Service	<b>MOS</b>	Manual of Standards
<b>ARO</b>	Aerodrome Reporting Officer	<b>MOWP</b>	Method of Working Plan
<b>ASIC</b>	Aviation Security Identity Card	<b>MSS</b>	MSS Security (Company)
<b>AVCRM</b>	Aviation Compliance and Risk Management (Software)	<b>NOTAM</b>	Notice to Airman
<b>AvTur</b>	Aviation Turbine Fuel	<b>PHI</b>	PHI International Helicopters Ltd (Company)
<b>CASA</b>	Civil Aviation Safety Authority	<b>PRI</b>	Primary
<b>CHC</b>	CHC Helicopter (Company)	<b>PTY</b>	Proprietary
<b>CHTR</b>	Charter (Flight)	<b>RFDS</b>	Royal Flying Doctors Service
<b>FLT</b>	Flight	<b>RPT</b>	Regular Passenger Transport
<b>FOD</b>	Foreign Object Damage	<b>SRV</b>	Secondary
<b>GHA</b>	Ground Handling Agent	<b>VAP</b>	Vehicle Access Point
<b>GSE</b>	Ground Support Equipment	<b>VIC</b>	Visitor Identity Card
<b>HNZ</b>	Helicopters New Zealand Ltd (Company)	<b>WSO</b>	Works Safety Officer

### Contacting Emergency Services

Emergency Services: **000**  
 ARFFS Emergency Line: **08 9183 6299**  
 Poisons Information Centre: **13 11 26**  
 (including snake bites)  
 Spill Response Karratha: **08 9119 5500**