Aviation Management Plan (incl. Method of Working Plan)

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Document control

This Plan interfaces with the other associated plans, which together describe the proposed overall project management system for the project.

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Attachments/Appendices to this plan are revised independently of this plan.

Revision history

[redacted]				

Roads and Maritime Services approval and authorisation

Title	Aviation Management Plan (incl. Method of Working Plan) Albion Park Rail bypass (Stage 2 – Princes Motorway between Yallah and Oak Flats)
Accepted on behalf of NSW Roads and Maritime Services by	Peter Chudleigh
Signed	[redacted]
Dated	29 July 2021

Environmental Representative endorsement

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Endorsed by the Environmental Representative	Toby Hobbs
Signed	[redacted]
Dated	27 July 2021

Table of contents

1. Introduction 8
1.1. Context and purpose 8
1.2. Objectives 8
1.3. Minister's Conditions of Approval 8
1.4. Revised Environemental Management Measures 10
1.5. Relevant legislation and guidelines 11
1.6. Guidelines and standards 11
1.7. Project description 11
2. Description of airport and surrounding area 12
2.1. Shellharbour Airport 12
2.2. Surrounding environment 12
2.3. Runways 12
2.4. Airspace protection 12
3. Consultation 15
3.1. Previous consultation 15
3.2. Consultation requirements during the MoWP preparation 15
3.3. Consultation during construction 15
3.4. Availability and distribution 16
4. Design 16
5. Construction 17
5.1. Special Events 18
5.2. Identification of work areas likely to cause intrusions into the OLS 18
5.2.1. Yallah Road 18
5.2.2. Maquarie Rivulet 18
5.2.3. Illawarra Highway North 18
5.2.4. Illawarra Interchange 18
5.2.5. Croome Complex 18
5.3. Drone Flights to full project alignment 18
5.4. Aviation Safety Mitigation Measures 19
6. Method of Working Plan 22
7. Compliance management 23
7.1. Roles and responsibilities 23
7.2. Work safety officer 23

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7.3. Training 24
7.4. Monitoring and inspections 25
8. Review and improvement 25
8.1. Continuous improvement 25
8.2. AMP update and amendment 25

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List of tables

Table 1 - Conditions relevant to this AMP 8
Table 2 - REMMs relevant to this AMP 10
Table 3 - OLS – Key parameters for the current OLS 13
Table 4 - Aviation safety mitigation measures..... **Error! Bookmark not defined.**
Table 5 – Monitoring program 25

List of figures

Figure 1 – Shellharbour Airport and OLS 14

Appendices

Appendix A – Method of Working Plan
Appendix B – Consultation with Airport Operator

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Definitions and acronyms

APRb	Albion Park Rail bypass, the Project
Aerodrome	A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft
Aerodrome Facility Reference Code	Also known as the Aerodrome Reference Code, is a two-element, alpha-numeric notation (for example 1B, 3C) that describes the critical aeroplane for that aerodrome facility and is based on the aeroplane's dimensions and runway length requirements. Aerodrome Reference Codes are defined in *CASA Design Standards for Licensed Aerodromes*
Aviation Management Plan (AMP)	The overarching plan that details the approach and processes involved in working around the Shellharbour Airport and includes the Method of Working Plan
AHD	Australian Height Datum
Airport	A general term covering aerodrome and ancillary infrastructure such as terminals, hangars and other associated development
ARO	Aerodrome Reprting Officer
CASA	Civil Aviation Safety Authority
CL	Centreline
CRSC	Croom Regional Sporting Complex
Displaced threshold	A threshold not located at the extremity of a runway
Elevation	The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from the mean sea level
Instrument approach procedures	The procedures to be followed by aircraft in letting down from cruising level and landing at an aerodrome. (A series of predetermined manoeuvres by reference to flight instruments for the orderly transfer of an aircraft from the beginning of the initial approach to a landing, or to a point from which a landing may be made.)
Instrument runway	A runway intended for the operation of aircraft using instrument approach procedures
IRA	Illawarra Regional Airport – Now known as Shellharbour Airport
Method of Working Plan	A document which sets out arrangements for the safe conduct of works which affect aerodrome operations, the format of which is specified in *CASA Manual of Standards Part 139 - Aerodromes*
MGA	Map Grid of Australia
MoWP	Method of Working Plan
NASF	National Airports Safeguarding Framework
Non-instrument runway	A runway intended for the operation of aircraft using visual approach procedures.
Non-precision approach runway	An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.

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NOTAM	Notice to Airmen A standardised way of communicating changes in operating conditions to pilots and aircraft operators
OAS	Obstacle assessment surface
OLS	Obstacle Limitation Surface(s)
AOLS	Aspirational Obstacle Limitation Surface(s)
PANS-OPS	Procedures for Air Navigation Systems – Aircraft Operations Defines the criteria for ensuring minimum aircraft to object separations are maintained when aircraft are following instrument flight procedures
PAPI	Precision Approach Path Indicator
Primary runway(s)	Runway(s) used in preference to others whenever conditions permit
RMS	Roads and Maritime Services, the Principal
RWY	Runway
Runway	A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft. The runway number is a two-digit abbreviation of the runway's magnetic heading, for example, Runway 16 would be aligned to a heading of 160° Magnetic
SCC	Shellharbour City Council
SSI	The State Significant Infrastructure, as generally described in Schedule 1 [SSI 6878], the carrying out of which is approved under the terms of the state project approval.
Threshold	The beginning of that portion of the runway usable for landing
Approach surface	The component of the OLS designed to protect approaching aircraft from collision with objects
Take-off climb surface	The component of the OLS designed to minimise the operational restrictions on aircraft taking off due to obstacles
Inner horizontal surface	The component of the OLS designed to protect aircraft undertaking standard circuit manoeuvres from collision with objects
Visual segment surface	Part of the PANS-OPS surfaces required to be kept clear of obstacles to protect aircraft during the final, visual, segment of an instrument approach procedure

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1. Introduction

1.1. Context and purpose

This Aviation Management Plan (AMP) has been prepared for the Albion Park Rail bypass (Stage 2 - Princes Motorway between Yallah and Oak Flats). This AMP has been prepared to address the requirements of the conditions of approval (CoA) set out in the Infrastructure Approval (SSI 6878 dated 30 January 2018), the Revised Environmental Management Measures (REMMs) and all applicable legislation relating to management of impacts of construction of the APRb on aircraft and airport operation at the Shellharbour Airport.

The APRb Environmental Impact Statement (EIS), as amended by the Submissions and Preferred Infrastructure Report (SPIR), assessed the impacts of the Croom Regional Sporting Complex (CRSC) reconfiguration on aircraft and airport operation at the Shellharbour Airport.

1.2. Objectives

The key objective of the AMP is to ensure that any impacts on aviation at the Shellharbour Airport during the APRb works are minimised and are within the scope permitted by the Infrastructure Approval through the implementation of an Aviation Method of Working Plan (MoWP). An Aviation MWoP has been prepared for the APRb works and is appended to this AMP (Appendix A).

To achieve this key objective, Fulton Hogan will undertake the following:

- Ensure appropriate controls and procedures are implemented during construction activities to avoid, minimise or manage potential adverse aviation impacts due to the CRSC reconfiguration works
- Ensure appropriate measures are implemented to address the relevant CoAs and REMMs outlined in Table 1 and 2 respectively
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 1.5 and Section 1.6 of this AMP.

1.3. Minister's Conditions of Approval

The CoAs relevant to this plan are listed in Table 1 below. A cross reference is also included to indiciate where the condition is addressed in this Plan or other Project management documents.

Table 1 - Conditions relevant to this AMP

CoA No.	Condition Requirements	Document Reference
E2	The SSI must be delivered and operated to comply with the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS for the Illawarra Regional Airport, except as provided for under Condition E3 and Condition E7.	Sections 2.4; 5; 6.1.5
E3	An **Aviation Method of Working Plan** must be developed for the Illawarra Regional Airport by an appropriately qualified expert in aviation safety in consultation with the airport operator. The Plan must provide details of any proposed works that may impact on airport operations and events. The plan must include:	This AMP Section 3.2
	a) Identification of works likely to cause a hazard to or impact on aircraft and airport operations including but not limited to, intrusions into the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS, dust and debris, wildlife hazards, lighting and light spill, glare and reflection, and impacts from plant and equipment on aviation infrastructure (such as communication, navigation and surveillance facilities and structures)	Section 6.1

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CoA No.	Condition Requirements	Document Reference
	b) Identification and consultation with appropriate operators of impacted aviation infrastructure and instrument flight procedures at the airport, and known flight scheduling	Section 3.2
	c) Procedures to ensure that the runways can operate when required	AMP Appendix A - MoWP Section 3 and 4.1
	d) Procedures to ensure impacts resulting in the closures or restriction of operations at either runway are limited to a duration considered reasonable in consultation with the airport operator	AMP Appendix A - MoWP Section 3 and 4
	e) Mitigation measures for the management of those impacts and hazards to aircraft and airport operations from works and	AMP Appendix A – MoWP Section 3 and 4
	f) Monitoring of the effectiveness of mitigation measures to ensure impacts and hazards to aircraft and airport operations is managed at all times throughout the works.	Section 7.4 AMP Appendix A - MoWP Section 6.3
	The Plan must be made publicly available prior to the commencement of any works that impact the operation of the Illawarra Regional Airport or within two weeks of any update to the Plan.	Section 3.4
E4	Should any works have the potential to interfere with aircraft operations, CASA, ASA, the Airport Operator and aircraft operators must be advised at least two weeks in advance of such works.	Section 3.3; 3.4; 6.1.5; 7.1; 7.2 and the MoWP in Appendix A
E5	Works must not impede the running of the Wings Over Illawarra Air Show (nominally the first weekend of May (12:00 am Thursday to 11:59 pm Sunday). This includes the full operation of Runway 16/34 for the duration of the Air Show. Consultation	Section 6
E6	All lighting associated with works (including outside standard construction hours) and operation of the SSI, including lighting associated with the Croom Regional Sporting Complex, must comply with Section 9.21 of the Manual of Standards Part 139 – Aerodromes (as updated from time to time) and the National Airports Safeguarding Framework Guideline E 'Managing the Risk of Distraction to Pilots from Lighting in the Vicinity of Airports."	Section 5; 7.2
E7	Where an intrusion into the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS is unavoidable during operation of the SSI, an OLS Intrusion Aeronautical Study for each intrusion must be prepared by an appropriately qualified expert in aviation safety. Each Study must identify all intrusions height and location information, assess risks to ongoing aviation safety and demonstrate how these risks will be satisfactorily managed.	Intrusions covered in Section 5, 6.1 and Appendix A. Management is covered in Appendix A and was reviewed by JJ Ryan

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CoA No.	Condition Requirements	Document Reference
E8	Vegetation and landscaping other than groundcover within the road reserve must not intrude into the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS.	Section 4
E9	Mitigation measures described in section 4 of the Albion Park Rail Bypass SPIR, Appendix B Addendum Aviation Assessment, September 2017, Hyder Cardno Joint Venture, must be implemented, except as required by this approval.	Table 2

1.4. Revised Environemental Management Measures

Relevant REMMs from the SPIR are listed in Table 2 below. This includes a cross reference as to where the measure is addressed in this Plan or other Project management documents.

Table 2 - REMMs relevant to this AMP

ID No.	Revised Environmental Management Measure	Document Reference
TT02	As part of the project a Method of Working Plan, in accordance with the CASA Manual of Standards Part 139, is to be prepared. The Method of Working Plan would set out the arrangements for carrying out all works which may impact on aviation safety, any necessary restrictions to aircraft operations, how these would be implemented, administered and managed to ensure safety. The Method of Working Plan will be agreed with the aerodrome operator (Shellharbour City Council) and subject to consultation with all stakeholders including regulatory agencies (CASA, Airservices Australia) and all aircraft operators at Illawarra Regional Airport prior to the commencement of works which may affect operations at the airport.	Appendix A - MOWP
TT03	Any construction impact on the airspace operational requirements of the Illawarra Regional Airport will be managed in consultation with Shellharbour City Council and incorporated into the construction environmental management plan.	Consultation with SCC (covered in section 3.1; 3.2 and 3.3)
TT04	The detailed design of the project will comply with the airspace operational requirements of the Shellharbour City Council for the Illawarra Regional Airport. The design will be undertaken in consideration of the requirements of the Civil Aviation Safety Authority Manual of Standards Part 139, and will consider aspects such as the risk of intrusions of the obstacle limitation surfaces and potential for windshear and turbulence.	Section 4
TT05	The detailed design of lighting for the project will demonstrate it has considered: – The operational airspace requirements of the Illawarra Regional Airport in accordance with Civil Aviation Safety Authority Manual of Standards Part 139 – Impacts on nearby residences or sensitive receivers.	Section 4

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1.5. Relevant legislation and guidelines

Legislation relevant to aviation includes:

- *Civil Aviation Act 1988*
- *Civil Aviation Regulations 1988* (and supporting Civil Aviation Orders)
- *Civil Aviation Safety Regulations 1998.*

All pilots and aircraft operators must comply with this legislation which defines standards for airworthiness, licensing requirements, rules for the operation of aircraft and maintenance.

In addition, aerodromes may be registered or certified by the Civil Aviation Safety Authority (CASA) under Part 139 of the Civil Aviation Safety Regulations 1998. Registered and certified aerodromes must comply with the applicable Part 139 requirements. Aerodromes with published instrument flight procedures must also comply with certain requirements under Part 173 of these regulations.

CASA regulates the industry for adherence to the various regulations, as well as providing a range of guidance to operators as to how this may be achieved.

1.6. Guidelines and standards

The main guidelines, specifications and policy documents relevant to this AMP include:

- International Civil Aviation Organisation (ICAO) Standards and Recommended Practices
- Manual of Standards Part 139 – Aerodromes (CASA Manual of Standards Part 139)
- National Airports Safeguarding Framework (developed by the National Airports Safeguarding Advisory Group).

1.7. Project description

Roads and Maritime Services (Roads and Maritime) propose to extend the M1 Princes Motorway between Yallah and Oak Flats to bypass Albion Park Rail. The motorway would complete the 'missing link' for a high standard road between Sydney and Bomaderry. The Project is known as the Albion Park Rail bypass (Stage 2 – Princes Motorway between Yallah and Oak Flats).

Key features of the Project are:

- 10km of highway bypassing Albion Park Rail
- Extension of central median island for the full length of the Project
- Improved lighting
- 13 over and under bridges
- A bridge over South Coast Railway at Yallah, including rail service relocations
- Significant utilities works
- New or modified grade separated intersections at:
  - Illawarra Highway Albion Park
  - Tongarra Road Albion Park Oak Flats interchange.
- Ancillary facilities AS1 to AS13 along the alignment will be utilised during construction for storage, stockpiling of material and site office accommodation.

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2. Description of airport and surrounding area

2.1. Shellharbour Airport

Shellharbour Airport (formally know as Illawarra Regional Airport / Wollongong Aerodrome) is a security controlled, Registered Aerodrome under Part 139 of the Civil Aviation Safety Regulations 1998. The airport is owned and operated by Shellharbour City Council (SCC). It is the base for a growing Light Aeronautics Industry, which provides maintenance and engineering services for aircraft ranging from ultralight to medium size turboprop and jet aircraft. There are a number of flying schools, general aviation services, emergency services and the Historical Aircraft Restoration Society (HARS) museum and workshop located at the airport.

In addition to RPT passenger flights commencing from 12 November 2018, a general mix of light aircraft operate every day normally commencing from around 0700 to 1800. Other flights also at times conduct night flying training. The airport has skydiving operations every 20 minutes between 0700- 1800. There is also have itinerant Airforce and corporate jet operations. Toll rescue helicopter operates 24/7 as do fixed wing medical flights. General airport operating hours are 0600-2000 but as per above 24hrs operations occur.

2.2. Surrounding environment

The existing Princes Highway passes next to the northern boundary of the airport. The roundabout intersection with the Illawarra Highway is some 260 m north of the Runway 16 obstacle limitation surface threshold. The terrain surrounding the airport is undulating, with substantial hills about 3 km south-south-east and 4 km south-south-west. The Illawarra Escarpment is about 10 km to the West.

2.3. Runways

There are two operational runways at the airport.

Runway 16/34 is the primary runway, aligned in a north-south orientation. The runway is 1,819 m long, 30 m wide and is provided with lighting to allow night time operations. The threshold of Runway 34 is currently displaced by 176 m due to terrain which leaves an operational landing distance of 1,643 m, Runway 16 has no such restriction. A Precision Approach Path Indicator (PAPI) system is provided to both ends of this runway to assist pilots in following an accurate approach gradient when landing. In its physical characteristics, the primary runway meets the Code 3C requirements, subject to correction of vertical grading at the northern end and widening of the runway strip within which the runway is located. The existing Obstacle Limitation Surfaces currently do not meet Code 3 standards; however, the Aerodrome Operator is investigating options to enable this to be achieved. All permanent designed infrastructure is being assessed against Code 3 OLS for Runway 16/34, however following consultation with Shellharbour Airport on 10 August 2018, it was agreed that construction works and temporary plant as part of the MOWP will be assessed against Code 2. A record of this consultation is included in Appendix B.

Runway 08/26 is a secondary runway aligned east-west, 1331 m long and 30 m wide. This runway is used when wind conditions dictate the crosswind component for operations on Runway 16/34 exceeds the maximum allowable. Due to its length and current pavement strength, it is only used by smaller aircraft. There are currently no night time operations on Runway 08/26 and it is not lit. All permanent designed infrastructure is being assessed against Code 2 OLS for Runway 08/26 and construction works and temporary plant as part of the MOWP will be assessed against Code 2 also.

2.4. Airspace protection

The Obstacle Limitation Surfaces (OLS) are a set surfaces associated with an aerodrome to protect aircraft operations. They define the volume of airspace that should typically be kept free from obstacles in order to minimise the danger to aircraft during an entirely visual approach. These surfaces are of a permanent nature and comprise the reference datum which defines an obstacle.

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Anything above the vertical limits of the OLS is regarded as an obstacle. In some cases, an obstacle that exceeds the height of the OLS would not be considered an obstacle because it is "shielded" by a more critical obstacle. A new obstacle is not to be considered as being shielded by an existing obstacle unless CASA determines in writing that it is shielded.

CASA Manual of Standards Part 139 defines the OLS for registered aerodromes such as Shellharbour Airport. The characteristics of the OLS are determined with reference to a series of parameters which relate to the physical features and operational capability of the runways at the aerodrome.

The data that defines the parameters for the OLS is contained in the table below.

Table 3 - OLS – Key parameters for the current OLS

Parameter	RWY 08 RWY 26	RWY 16	RWY 34
Runway classification	Code 2 Non-instrument	Code 3 Instrument non-precision	Code 3 Instrument non-precision
Approach surfaces:			
Threshold coordinates (MGA94)	E 296484.71 N 6173261.68	E 296795.82 N 6174463.15	E 297136.40 N 6172855.80
Length of inner edge	90m	150m	150m
Distance from threshold (m)	60m	60m	60m
Divergence each side	10%	15%	15%
Inner edge elevation (AHD)	9.22m	6.72m	8.61m
Slope	4%	3.33%	3.33%
Offset from Runway CL	Nil	Nil	5° W
Transitional surfaces:			
Slope	1 : 5	1 : 7	1 : 7
Inner horizontal surface			
Elevation (AHD)		52.0m	
Take-off climb surfaces:			
Runway end coordinates (MGA94)	E 296484.71 N 6173261.68	E 297172.74 N 6172684.29	E 296795.82 N 6174463.15
Length of inner edge	80m	180m	180m
Distance from runway end	60m	60m	60m
Divergence each side	10%	12.5%	12.5%
Slope	4%	2%	2%
Offset from Runway CL	Nil	5° W	Nil

All permanent designed infrastructure is being assessed against Code 3 OLS for Runway 16/34, and Code 2 OLS for Runway 08/26 with all construction works and temporary plant as part of the MOWP being assessed against Code 2.

The APRb project boundary (brown) and the interaction with the Airport and the permanent design OLS are shown in plan view in Figure 1 below.

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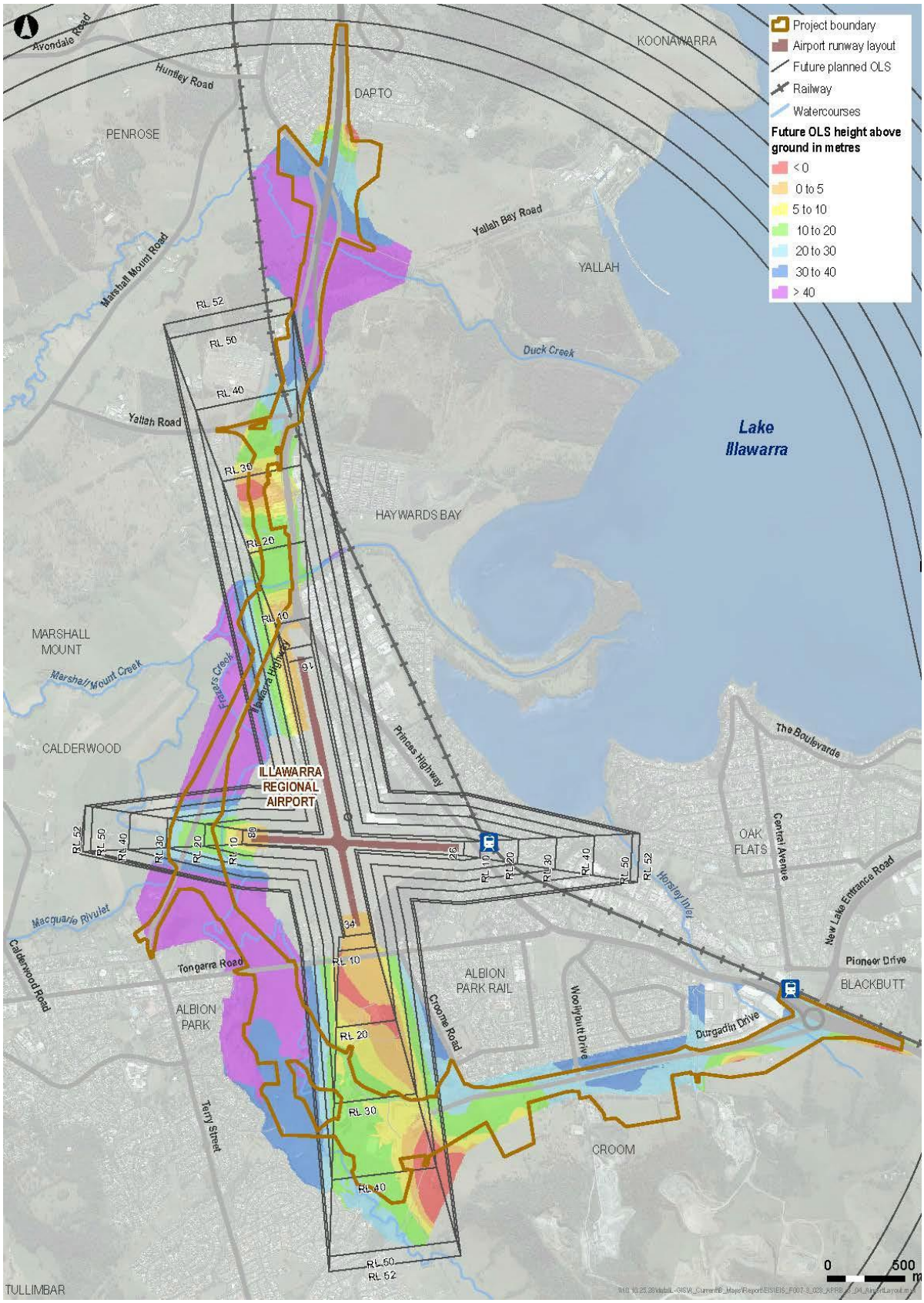

Figure 1 - Shellharbour Airport and OLS

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3. Consultation

3.1. Previous consultation

To complete the assessment of impacts on the Shellharbour Airport's operational airspace, confirmation of the obstacle limitation surfaces (OLS) which apply was required. The airport operator, SCC, was consulted during the preparation of the EIS to obtain a copy of the OLS which it seeks to protect from development. This Code 3 OLS was provided by RMS to Fulton Hogan and used for design during the tender phase.

3.2. Consultation requirements during the MoWP preparation

Consultation has been undertaken with the appropriate operator in relation to the impacted aviation infrastructure and instrument flight procedures at the airport, including known flight scheduling in accordance with CoA E3(b).

The MoWP has been prepared in consultation with the airport operator, SCC. Fulton Hogan met with SCC in July 2018 and discussed the areas that the OLS will be breached and will require an MoWP, and consultation on any specific requirements of the MoWP process. Comments received during the meeting were used to update this plan. Refer to the meeting minutes contained at Appendix B.

CoA E3 also requires an appropriately qualified expert in aviation safety. Fulton Hogan have engaged Jason Ryan of JJ Ryan Consulting. A summary of Jason Ryan's experience is shown below. The AMP was issued to JJ Ryan Consulting for review and comment and these comments have been incorporated into the plan. Refer to the revision history on page 2.

Jason Ryan, Principal Engineer

Jason has a range of experience in the planning, design, construction, asset management, project management and operation management of airports. At Queensland Airports Limited (Council), Jason was General Manager of Planning & Projects and was responsible for overseeing planning, as well as the engineering, design and delivery of both aeronautical and non-aeronautical projects. Jason has an intimate understanding of Council's aerodrome assets. Jason is a Chartered Professional Engineer (CPEng) Civil/Structural, Registered Building Practitioner (Engineer Civil) and is responsible for the overall project deliverables.

3.3. Consultation during construction

During construction Fulton Hogan will be required to undertake liaison with the airport operator (SCC) as outlined in this plan and detailed in the MoWP.

This AMP and MoWP are blanket documents and Controlled Activity Permits will be approved for inidivdual areas as required with the duration and conditions of the of the permit agreed for each area individually. The permits will be labelled with the prefix FH1, FH2 etc.

Notices to Airmen (NOTAM) will be prepared as required during construction to provide details of works with the potential to intrude into airspace. All appropriate notices including NOTAM will be prepared in advance by SCC and they will ensure that they are received by the stakeholders 3 days prior to the carrying out of the works. Requirements for NOTAM are identified in the MoWP.

As required by CoA E4, should any works have the potential to interfere with aircraft operations, CASA, ASA, the Airport Operator and aircraft operators will be advised by Fulton Hogan at least six weeks in advance of such works. The procedures provided in the MoWP and summarised in the corresponding table will ensure that the runways can operate when required and that impacts resulting in the closures or restriction of operations at the airport will not be required.

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3.4. Availability and distribution

This AMP, including the MoWP, will be made publicly available via the Project website in accordance with CoA B11. The AMP and MoWP will be published on the website prior to the commencement of any works that impact the operation of the Shellharbour Airport or within six weeks of any update to the Plan.

The MoWP will be distributed to the following organisations prior to the commencement of any works which may impact on the airport:

- Airport Manager
- Roads and Maritime Project Manager
- Works Safety Officer (WSO)
- CASA Aerodrome Inspector
- Airport Compliance and Operations Coordinator
- Airservices Australia (ASA) (Canberra NOTAM Office nof@airservicesaustralia.com and Procedures Design Section pds.procs@airservicesaustralia.com).

4. Design

All road surfaces, including but not limited to main carriageways, entry and exit ramps, property accesses, service roads, medians and shoulders, must be designed so that a vehicle envelope of 4.6 m height will not penetrate any element of the AOLS. This excludes two locations. At these locations, the existing road and landform intrudes into the AOLS. The project must not produce a greater intrusion into the AOLS than the existing situation in these locations. These locations are as follows:

- Croome Road – The southern connection where the project connects to the existing Croome Road.
- Yallah Road – The western connection where the project connects to the existing Yallah Road.

The following criteria were applied to the design process to ensure compliance:

- All permanent structures, including but not limited to ancillary structures such as street lights, power poles, buildings and signposting and other road furniture, must be designed so that their maximum height will not penetrate the AOLS.
- When considering shielding of a potential OLS penetration, only the natural landform can be considered a critical obstacle. Items such as buildings, lighting and power poles, and other structures or any item that the Aerodrome Operator could potentially remove, may not be considered as critical shielding obstacles.
- The design must ensure that all road and vehicle lighting does not interfere with aircraft operations and aerodrome lighting. All lighting must comply with the *CASA Guidelines for Lighting in the Vicinity of Airports – Advice to Designers*.
- Conduct a wind shear and turbulence assessment in accordance with the NASF Guideline B ‘managing the Risk of Building Generated Wind shear and Turbulence at Airports. This additional assessment should be undertaken in consultation with the relevant aerodrome authorities.
- All structures, including bridges, road embankments and cuttings, within an area 1,200 m or closer perpendicular to the runway centreline and 900 m along the extended centreline of the runway prior to the runway threshold and 500 m along the runway, must be designed in a manner that will not increase the risk of building induced wind shear and turbulence. For guidance refer to the *National Airports Safeguarding Framework*.

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- All elements of the project, including temporary and permanent water quality basins, must be designed in a manner that will not increase the risk of bird and wildlife hazard to users of the airport. For guidance refer to the *National Airports Safeguarding Framework*.
- Vegetation and landscaping other than groundcover within the road reserve must not intrude into the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS.
- The detailed design of the project was undertaken to comply with the airspace operational requirements of the SCC for Shellharbour Airport. The design takes into consideration the requirements of the Civil Aviation Safety Authority Manual of Standards Part 139, and considers aspects such as the risk of intrusions of the obstacle limitation surfaces and potential for windshear and turbulence.
- The detailed design of lighting for the project considers:
  - The operational airspace requirements of Shellharbour Airport in accordance with Civil Aviation Safety Authority Manual of Standards Part 139
  - Impacts on nearby residences or sensitive receivers.

5. Construction

The potential impacts of the APRb construction works on Shellharbour Airport fall into two categories:

- intrusion of airspace by construction plant and equipment
- other hazards to aircraft operations as a result of construction activities

The plant and equipment to be used for the APRb construction and utility works has a likely potential to intrude into the OLS of the airport, which could potentially impact on the airport operational requirements, increase operational hazards to aircraft and reduce safety.

Any construction activities on site that will not penetrate the OLS but will involve cranes, concrete boom pumps etc will be covered by a blanket assessment for approval by the airport. This will outline the location, duration and scope of works and the maximum height of any cranes. These works which do not intrude into the OLS will be notified on the day of the activity to the ARO by the relavant FH area supervisor.

Any construction activities that will penetrate the OLS are governed by the following Scenarios, approval and operational requirements:

1. *Temp intrusions with <10min recall time do not require NOTAM* and require a WSO*
2. *Temp intrusion with >10m to <30 min recall time requires NOTAM to be issued 48hrs in advance of works and requires a WSO*
3. *Temp intrusion with >30min recall time will require a specific MoWP and IRA/CASA/ASA review*

* Note: While under scenario 1 a NOTAM is not strictly required, however FH will ensure a NOTAM request is submitted to SCC a min of 48 Hrs before works are due to occur.

Works under Sceanrio 3 require a MoWP to be issued by SCC and approved by CASA (covered in the next section).

All works outside the areas defined in the MoWP will comply with the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS for Shellharbour Airport (this is the more stringent of the two OLS levels).

All lighting associated with works (including outside standard construction hours) will comply with Section 9.21 of the Manual of Standards Part 139 – Aerodromes and the National Airports Safeguarding Framework Guideline E ‘Managing the Risk of Distraction to Pilots from Lighting in the Vicinity of Airports.”

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5.1. Special Events

Shellharbour Airport conduct a number of planned and un-planned special events.

FH will consult with SCC on the dates of these events. FH will ensure that no impact occurs to the Airport operation as a result of construction activities during these planned or unplanned special events or during the landing or take off of selected aircraft. This includes but is not limited to the following:

- Wings Over Illawarra (including from the Thursday prior to the event until the Monday after the event (inclusive). This is currently held on the first weekend in May including the Friday prior; and
- Take-off and landing of aircraft requiring a longer runway including the "Bombardier Global Express", "Boeing 707" or any other aircraft at the discretion of the Aerodrome Operator.

During these events, the runways must be operating at the full length and no obstacles are allowable in the OLS. Consultation will be undertaken with SCC to address this matter at least six weeks prior to the Air Show.

5.2. Identification of work areas likely to cause intrusions into the OLS

The sections below highlight the areas the Method of Working Plan will cover which will likely cause intrusion into the OLS.

5.2.1. Yallah Road

- Bridge piling and crane lifts
  - Scenario 3 – MoWP required (Refer Appendix A with approved MOWP)

5.2.2. Maquarie Rivulet

- Bridge piling and crane lifts
  - Time Limited Works
  - Scenario 1 – NOTAM request required

5.2.3. Illawarra Highway North

- Earthworks operations
  - Time Limited Works
  - Scenario 1 – NOTAM request required

5.2.4. Illawarra Interchange

- Bridge piling and crane lifts
  - Time Limited Works
  - Scenario 1 – NOTAM request required

5.2.5. Croome Complex

- Earthworks operations
  - Time Limited Works
  - Scenario 1 – NOTAM request required

5.3. Drone Flights to full project alignment

- No Flight zones will exceed 45min in flight time
- Total Flight duration to be completed within 1 day

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- Flights to be conducted between 20th and 25th of each month
- Altitude will be set to 300ft and 150ft in front of runway splays
- Flight direction is wind dependant and could change on the day
- Flight cruise speed is approx. 30 knots
- Proposed plane is VTOL (vertical take-off and landing), so no big approaches for landing or take-offs.

5.4. Aviation Safety Mitigation Measures

The approach to managing impacts on aviation safety provided in the MoWP is to identify the appropriate controls for working within the areas shown above, and assign mitigation measures for the management of those impacts and hazards to aircraft and airport operations from identified work activities.The impact mitigation and management measures provided in the MoWP and addressing the requirements of the CoAs and REMMs are summarised in table 4 below. The procedures provided in the MoWP and summarised below will ensure that the runways can operate when required and that impacts resulting in the closures or restriction of operations at either runway will be avoided.

Table 4 - Aviation safety mitigation measures

ID	Mitigation measure	Timing	Responsibility
A01	Where possible the OLS should be preserved or appropriate risk mitigators applied to ensure ongoing safe operations	Construction	Project Manager
A02	The Contractor will be required to work on a ten (10) minute recall in which time all equipment will be lowered to a height below the OLS	Construction	Project Manager
A03	Where work is to be carried outside of daylight hours between 0700 and 1800 local time, Mondays to Fridays inclusive, SCC will be advised of any works that may affect runway operations	Construction	Project Manager
A04	Where applicable equipment will be lowered to below the restrictive OLS surface in the event of an aircraft emergency or as directed by the WSO	Construction	Project Manager
A05	Information for the preparation of a NOTAM must be received by the aerodrome at least 3 days prior to the carrying out of the works.	Pre-Construction	Project Manager WSO
A06	The WSO will: – ensure NOTAM are in accordance with the MoWP – ensure work requiring NOTAM is not conducted unless NOTAM are in place and adequately cover the extent of the works – provide a draft of any additional NOTAM requirements to Shellharbour City Council	Pre-Construction Construction	WSO
A07	The Project Manager will liaise with the WSO to initiate and cancel work related NOTAMS through the NOTAM Office in Sydney	Pre-Construction Construction	Project Manager WSO
A08	The Contractor's personnel will be briefed on the MoWPs. All personnel must complete an induction approved by Shellharbour City Council prior to the commencement of works. The induction must remain current for the duration of the works.	Pre-Construction Construction	Project Manager WSO
A09	All personnel will wear high visibility vests.	Construction	All personnel

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ID	Mitigation measure	Timing	Responsibility
A10	All vehicles and plant not engaged in the works will be parked clear of the works area or below the protected airspace surface.	Construction	Project Manager All personnel
A11	To ensure the safety of aircraft operations and site personnel, plant, materials and equipment are to vacate within 10 minutes (time-limited works) as directed by the WSO in all work areas and any other areas as directed by the WSO.	Construction	Project Manager All personnel
A12	All personnel associated with the work will follow any instructions issued by the WSO.	Construction	All personnel WSO
A13	Vehicle rotating hazard beacons, as required by CASA MOS Part 139 subsections 9.19.1 and 10.9.2 are required to be used to indicate to aircrew and others of the presence of vehicles or mobile plant. Hazard beacons must be mounted on the top of the vehicle, to provide 360° visibility. Beacons must be flashing amber	Construction	Project Manager All personnel
A14	At the end of each work period, all plant and equipment will be parked in a location determined by the WSO.	Construction	Project Manager WSO All personnel
A15	No personnel are envisaged to require airside access in undertaking the works. Any access airside by personnel will be under the direction and appropriate escort of an approved person.	Construction	Project Manager WSO All personnel
A16	Any Contractor staff required to work airside will be subject to Shellharbour City Council's Drugs and Alcohol Management Program (DAMP).	Construction	Project Manager All personnel
A17	Any Contractor staff required to work airside will be subject to the security requirements of Shellharbour City Council and Illawarra Regional Airport. No building, container, vehicle or equipment will be parked/left within 3 m of the airside fence.	Construction	Project Manager All personnel
A18	Access for the Contractor's work vehicles airside is not envisaged to be required. In cases where access is required vehicles will be escorted by the WSO. Drivers operating airside must obey all signs and, unless otherwise indicated, adhere to the following speed limits: 10 km/hr within 15 m of an aircraft 25 km/hr elsewhere on an aircraft parking apron and 40 km/hr elsewhere unless posted otherwise. Access to the applicable work areas will be via public and private thoroughfares. No vehicular access will be required airside.	Construction	Project Manager WSO All personnel
A19	Planned commencement date: 01/01/2019 Planned completion date: 31/12/2021 Works will not commence until the date specified above or as amended by NOTAM The actual date and time of commencement of the works will be advised by NOTAM	Pre-construction Construction	Project Manager WSO

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ID	Mitigation measure	Timing	Responsibility
	Works for each area must be completed by the date/time specified above or by agreement with Shellharbour City Council Works will not commence in each area until approved to do so by the WSO on each day		
A20	The Contractor will notify the WSO of commencement and end of works	Pre-construction	Project Manager
A21	Information in relation to position, magnitude and duration of penetration for works utilising cranes and construction equipment which may penetrate the OLS take-off surface associated with Runways will be published via NOTAM	Pre-construction	Project Manager WSO
A22	The Contractor's construction activities must not extend beyond a 20 m radius of any planned component of construction	Construction	Project Manager
A23	The Contractor will be subject to time-limited works and subject to a 10- minute recall of all plant, equipment, materials and personnel as directed by the WSO in which equipment will be lowered below the OLS	Construction	Project Manager
A24	Works will only recommence on the direction of the WSO.	Construction	Project Manager WSO
A25	The Contractor will undertake consultation with the Illawarra Air Show organisers and SCC at least two weeks prior to the Air Show or any other events likely to be impacted by the Project to minimise disruption to these events.	Construction	Project Manager
A26	Temporary fixed and portable lighting structures will meet the requirements for light control described in Section 9.21 of the CASA Manual of Standards Part 139.	Construction	Project Manager
A27	Floodlighting or any other lighting required for carrying out aerodrome works will be shielded so as not to represent a hazard to aircraft operations.	Construction	Project Manager
A28	Vegetation and landscaping other than groundcover within the road reserve will not intrude into the Code 2 (Runway 08/26) and Code 3 (Runway 16/34) OLS.	Construction	Project Manager
A29	The air quality measures identified in the Air Quality Management Sub-plan will be implemented to ensure that construction activities which generate dust and debris do not reduce visibility.	Construction	Project Manager

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6. Method of Working Plan

No works with Scenario 3 from Clause 5 (above) will commence unless a Method of Working Plan has been prepared and approved in writing by SCC, CASA and ASA. These works would include, but are not limited to:

- an item of plant to operate at a height greater than the OLS;
- the closure of any runway; or
- the displacement of the threshold of any runway.

Any displacement of the threshold of the runways for the purposes of construction would need to be negotiated with the Aerodrome Operator and would be Fulton Hogan's responsibility. Minimum acceptable runway lengths may apply based on requirements of the aircraft using the Aerodrome. Agreement in writing is required by the Aerodrome Operator prior to any displacement of the threshold of the runways.

Any closure of a runway for the purposes of construction will be negotiated with the Aerodrome Operator. The Aerodrome Operator will determine the minimum requirements to close a runway. This would include but is not limited to the requirement that a minimum of one lit runway must be available to air traffic at night. Note that Runway 08/26 is currently not lit. Agreement in writing is required by the Aerodrome Operator prior to the closure of any runway.

The following are minimum requirements for all plant operating any higher than the OLS that are included in the Method of Working Plan.

All plant operating any higher than the OLS must be:

- marked in alternating bands of red and white or orange and white in accordance with CASA Manual of Standards Part 139 – Aerodromes (Version 1.14 January 2017), Section 8.10.2 (Marking of Obstacles), and must be lit with white flashing obstacle lighting during daylight hours;
- operated in daylight hours only, when horizontal visibility is greater than 2,000 m and when vertical visibility is greater than 300 feet (AHD);
- fully lowered when not in use or when the visibility does not permit the item's operation; and
- any other measure required by the Aerodrome Operator.

Following the approval of a Method of Working Plan, Fulton Hogan will allow at least five working days prior to any plant being erected higher than the Operational OLS, and in additional we will notify the Aerodrome Operator, SCC and the RMS Representative, and include:

- a signed agreement to pay required fees and charges including Aerodrome Supervisor hourly rate applicable at all times when items are raised
- an approved Controlled Activity form including start and finish times of activities, proposed height in metres AHD, name and contact details of onsite responsible officer and GPS location in MGA zone 56 of items.

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7. Compliance management

7.1. Roles and responsibilities

Fulton Hogan will be responsible for implementing the requirements of this AMP and the Aviation MoWP. Fulton Hogan's Project Manager will liaise with the WSO for the duration of the works. The Project Manager will also be responsible for liaising with other regulatory authorities (CASA, ASA) when implementing the AMP and the MoWP. Fulton Hogan will be responsible for consultation and notifications to SCC and consultation with the organisers of the Wings Over Illawarra Air Show and any other local events.

The Project Manager will also be responsible for:

- ensuring that the approved aviation safety mitigation measures are implemented and maintained in accordance with the approved plans
- conducting regular inspections of the measures in the AMP and MoWP to ensure that they are being effectively implemented
- informing the WSO on matters relating to the Project
- liaising with the SCC so they can initiate and cancel work related NOTAMS through the NOTAM Office in Sydney (tel 02 6268 5063)
- providing training to Fulton Hogan personnel on the safety precautions required during the works under the AMP and the MoWP
- receiving and responding to queries concerning the MoWP
- amending and updating the AMP to ensure that it remain current as the works progresses
- identifying situations where unsafe conditions are occurring and providing recommendations for improvement
- maintaining current copies of the AMP and MoWP and their controlled distribution
- liaising with Roads and Maritime and other authorities
- facilitating aviation safety awareness and giving toolbox talks to site personnel.

7.2. Work safety officer

The WSO will be engaged by Fulton Hogan in coordination with SCC. The WSO is responsible directly to Shellharbour City Council for the maintenance of standards and aircraft safety aspects of the works. The WSO's responsibilities include:

- use the call-signs "Safety One", "Safety Two" and "Safety Three" etc
- be in contact at all times while work is in progress and maintain radio listening watch
- ensure that work is carried out in such a manner that no hazard to aircraft operations exists at any time
- ensure that the works are conducted in accordance with the MoWP in relation to safe operation of aircraft
- be responsible for the correct positioning of equipment as shown on the MoWP sketches
- provide liaison between Shellharbour Airport (IRO) and construction staff
- liaise with the Fulton Hogan Project Manager and initiate and advise SCC to cancel NOTAMS as required.

The specific functions of WSO are contained within CASA MOS 139 Section 10.12 and include:

- ensure the safety of aircraft operations
- maintain radio communications on the appropriate frequency operating at the time
- ensure NOTAM are in accordance with the MoWP

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- ensure work requiring NOTAM is not conducted unless NOTAM are in place and adequately cover the extent of the works
- provide a draft of any additional NOTAM requirements to SCC
- provide daily works updates to IRO and SCC through Fulton Hogan to ensure the safety of aircraft operations
- ensure that temporary obstructions and time limited works are undertaken in accordance with MOS 139 and the MoWP
- ensure that vehicles, plant and equipment are properly marked and lit
- ensure that access routes are clearly identified with suitably controlled access
- protect underground power and control cables, especially to navigation aids, by requiring dig permits
- report immediately to the appropriate authority any incident, accident or damage likely to affect aircraft safety
- remain on call while work is in progress (during standard working hours and any out of hours works) and the aerodrome is open to aircraft operations and remain on standby after hours
- ensure that radio call signs are properly assigned to vehicles
- ensure that the movement area is safe for normal aircraft operations following the removal of vehicles, plant equipment and personnel from the works area
- with time limited works, ensure that the area is properly restored for aircraft operations, within timeframes agreed to by the WSO and IRO, before the time scheduled or notified for an aircraft movement
- ensure that work is carried out in such a way that no hazard to aircraft operations exist at any time
- briefing Fulton Hogan's Project Manager, Superintendent, staff and subcontractors on the safety precautions outlined within this MoWP to ensure safe and timely progress
- ensure that floodlighting or any other lighting required for carrying out aerodrome works is shielded so as not to represent a hazard to aircraft operations.
- Ensure all lighting associated with works (including outside standard construction hours) complies with Section 9.21 of the Manual of Standards Part 139 – Aerodromes and the National Airports Safeguarding Framework Guideline E 'Managing the Risk of Distraction to Pilots from Lighting in the Vicinity of Airports."

7.3. Training

All employees, contractors and utility staff working on site will undergo site induction training relating to aviation issues and will complete an induction on the MoWP approved by SCC prior to the commencement of works. This induction must remain current for the duration of the works. The induction training will address elements related to aviation management including:

- existence and requirements of this AMP and the MoWP, including any modifications or updates
- relevant legislation
- roles and responsibilities for avoiding impacts on aviation
- response procedure for dealing with aviation incidents.

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7.4. Monitoring and inspections

Monitoring and inspections of activities with the potential to cause aviation impacts will occur for the duration of the works, as detailed in Table 5.

Table 5 – Monitoring program

Monitoring details	Record	Responsibility	Frequency
Inspection of activities with the potential to cause aviation impacts (including review against the mitigation measures contained in Table 4)	Inspection Checklist	Fulton Hogan's Project Manager	Monthly
Review of MoWP to ensure identified areas of OLS penetration remain correct.	Review Record	Fulton Hogan Project Manager	Every 3 months

8. Review and improvement

8.1. Continuous improvement

Continuous improvement of this AMP will be achieved by the ongoing evaluation of performance to identify opportunities for improvement. The continuous improvement process will:

- identify areas of opportunity for improvement and performance
- determine the cause or causes of non-conformances and deficiencies
- develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- verify the effectiveness of the corrective and preventative actions
- document any changes in procedures resulting from process improvement.

8.2. AMP update and amendment

This AMP and MoWP may be revised as required during the Project if required. No variation to the MoWP will be made without consultation with and the approval of SCC.

Copies of any updated AMP and MoWP will be distributed to all relevant stakeholders (Section 3.4).

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Appendix A – Method of Working Plan

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Appendix B – Consultation with Airport Operator

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MOWP No.:	YWOL1901
Revision No:	6
Date of Approval:	01/02/2019
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Date of Revision (6):	03/05/2021
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Fulton Hogan

Method of Working Plan (MOWP)

Albion Park Rail bypass
(Stage 2 - Princes Motorway between Yallah and Oak Flats)
Airport: Wollongong (YWOL)

Table of contents

1. WORKS INFORMATION 3
1.1. Scope of works 3
1.2. Timing 3
1.3. Permitted Working Hours 4
2. RESTRICTIONS TO AIRCRAFT OPERATIONS 4
2.1. Work areas which will cause infringement of the OLS 4
2.1.1. Drone Flights to full project alignment 5
2.1.2. Procedures to ensure that runways can operate when required 5
2.2. WORKS STAGES 6
3. EMERGENCIES AND ADVERSE WEATHER 8
4. NOTAMS 9
5. Restrictions to work organisations 17
5.1. Commencement of works 17
5.2. Completion of works 18
6. PERSONNEL AND EQUIPMENT 19
7. ADMINISTRATION 20
7.1. Project Managers 20
7.2. Works Safety Officer 21
7.3. Variation of work from MOWP 22
7.4. AUTHORITY 22
7.5. DISTRIBUTION 23
7.6. DRAWINGS 24

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1. WORKS INFORMATION

1.1. Scope of works

This Method of Working Plan (MOWP) has been prepared for the Albion Park Rail bypass (APRB) Stage 2 - Princes Motorway between Yallah and Oak Flats. The proposed works involves the construction of a new section of motorway around the Western side of the airport from Duck Creek to Oak Flats Interchange. The bypass is located to the north, western side and to the south of Illawarra Regional or Wollongong Airport (ICAO: YWOL).

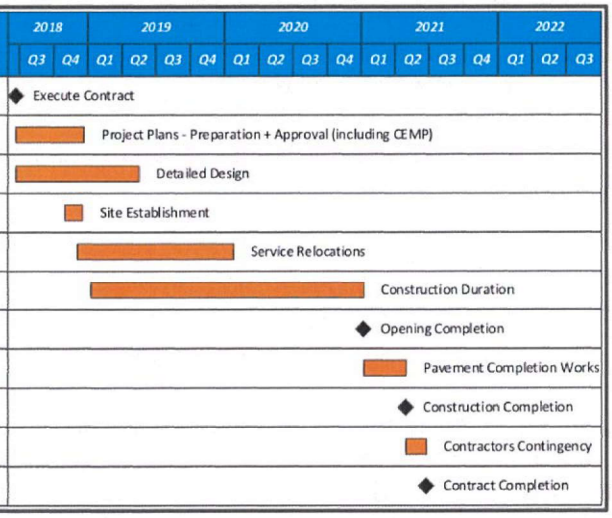
Construction works will only have impact the Obstacle Limitation Surface. Displaced thresholds and runway closures where applicable will be undertaken to minimise impact to aircraft operations. Works will be carried out at night where possible.

The actual date and time of commencement of works will be advised by a NOTAM, to be issued not less than 48 hours before work commences. All times and dates listed in this MOWP are Australian Eastern Daylight Time

1.2. Timing

The overall timing of the project is shown below in the summary programme:

ID	Activity	Start	Finish
1	Execute Contract	22/06/2018	22/06/2018
2	Project Plans - Preparation + Approval (including CEMP)	22/06/2018	21/12/2018
3	Detailed Design	22/06/2018	16/05/2019
4	Site Establishment	1/11/2018	17/12/2018
5	Service Relocations	5/12/2018	24/01/2020
6	Construction Duration	9/01/2019	6/01/2021
7	Opening Completion	6/01/2021	6/01/2021
8	Pavement Completion Works	7/01/2021	29/04/2021
9	Construction Completion	29/04/2021	29/04/2021
10	Contractors Contingency	30/04/2021	22/06/2021
11	Contract Completion	22/06/2021	22/06/2021



The actual date and time of commencement will be advised by Notices to Airmen (NOTAM). Information for the preparation of a NOTAM must be received by the aerodrome at least 14 days prior to the carrying out of the works.

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1.3. Permitted Working Hours

The standard work will be carried out between 0700 and 1900 local time, Mondays to Fridays, and 0800 to 1700 Saturdays.

Night works may be required for certain activities, and 14 days' notice will be provided to the Airport Manager in these instances.

2. RESTRICTIONS TO AIRCRAFT OPERATIONS

2.1. Work areas which will cause infringement of the OLS

Refer to drawing MOWP 1901-01
At various locations along the APRB works zone, the existing ground terrain infringes the existing Obstacle Limitation Surfaces (OLS). Transient vehicles such as construction equipment, to a maximum height of 4.6m will essentially be operating along the route in order to carry out general day to day duties. Vehicles above this approved maximum height of 4.6m will not be permitted to operate without review and appropriate NOTAM as required.

Refer to drawing MOWP 1901-02 to 04 (Stages 1-4)
Infringements of the OLS HZS, southwest of the airport on the APRB at the CUT 5 Access Track will occur for the installation of electrical power poles. NOTAMS will be promulgated as groups of 3 power poles given the close proximity of the structures to each other. NOTAM information will be based on bearing and distance to the centre pole, with height infringements based on the worst case scenario of all 3 poles.

This approach has been adopted to provide construction flexibility to the contractor and to avoid overloading the NOTAM system.

Refer to drawing MOWP 1901-05 + 20-01 (Stage 5)
A number of major bridge structures along the Albion Park Rail bypass (APRB) will require cranes to temporarily infringe the Wollongong Airport OLS.

Infringements of the OLS, indicated in yellow infringe the OLS Inner Horizontal Surface (HZS) or transitional Surface (TNS). Cranes will be lowered for RPT operations where the crane is located in the TNS in close proximity to APCH (approach) and TKOF (take-off) surfaces only. For infringements of the inner horizontal surfaces the crane will remain in place.

Infringements of the OLS, indicated in red infringe the OLS and will require a displaced threshold or runway closure. Where possible works will be staged at night to reduce the impacts to aircraft operations.

20-01 provides and updated assessment for SB03 and SB04's installation works due to finalisation of the project requirements for the works methodology.

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Refer to drawing MOWP 1901-06 (Stage 5)
For the Macquarie Rivulet, piling works on the southern bridge abutment and pier 9 north and south bound will be undertaken at night with Runway 16/34 closed.

For the Macquarie Rivulet, piling works on piers 8 to 5 north and south bound lanes require a displacement of the RWY 16 THR for a length of 81m. This provides the standard 3.33% approach slope for a Code 2 runway. The displacement will remain effective during the day for all piling undertaken on piers 8, 7, 6 & 5 on both the north and southbound lanes. Piling works for piers 4, 3, 2 & 1 remain below the OLS with no impact to gradients.

Refer to drawing MOWP 19-01 (Stage 6)
For the compound demobilisation between Macquarie Rivulet and the airport runway works will be undertaken to lift and remove the portable sheds/compound. The box shown highlights the approx. area of the compound, which is between SB06 and the runway.

Infringements of the OLS, indicated in yellow infringe the OLS Inner Horizontal Surface (HZS) or Transitional Surface (TNS). Cranes will be lowered for RPT operations where the crane is located in the TNS in close proximity to APCH (approach) and TKOF (take-off) surfaces only. For infringements of the inner horizontal surfaces the crane will remain in place.

2.1.1. Drone Flights to full project alignment

Whilst not a mandatory reporting topic for an MOWP, Unmanned Aerial Vehicles (UAV) will be utilised along the APRB for surveying and photography purposes. UAV operators will be CASA certified, will be accompanied by trained spotters and will monitor the YWOL CTAF 127.3 frequency during flights. Flight details will be in excess of 3Nm from the airport and will be NOTAM'd where required 48 hrs prior to missions and will have CASA flight approval given the close proximity to YWOL.

- No flight zones will exceed 45 minutes in flight time and works to be completed within 1 day
- Flights to be conducted monthly between 20th and 25th of each month
- Altitude will be set to 300ft and 150ft in front of runway splays
- Flight direction is wind dependant and may change and flight cruise speed is approximately 30 knots
- Proposed plane is VTOL (vertical take-off and landing)

2.1.2. Procedures to ensure that runways can operate when required

The following NOTAM procedure has been developed to assist in mitigating the risks covered in Section 2. Works undertaken in the areas utilising cranes and construction equipment may penetrate the OLS take-off surface associated with runways. Appropriate information in relation to position, magnitude and duration of penetration will be published via NOTAM (Shellharbour City Council (SCC) will issue this NOTAM). All works are subject to a short notice, ten (10) minute, recall in which equipment will be lowered below the OLS.

SCC will issue a recall to Fulton Hogan via radio/mobile phone communication.

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2.2. WORKS STAGES

The following dates are applicable to the APRB where infringement of the OLS will occur. All times and dates listed in this MOWP are Australian Eastern Standard Time unless otherwise specified.

TBA: Too be advised

#	LOCATION	START	FINISH	TIMING	REMARKS
STAGE 1 – UNLOADING POLES (20m HIGH FRANNA) -Works Completed					
Unloading poles have all been completed using a truck mounted crane with low lifting heights					No infringement of OLS
STAGE 2 – AUGERING POLES (7m HIGH AUGER)					
26-27/1-4	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
7,9,11/5-7	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
13,16,20/8-13	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
22,24,26/14-16	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
28,30,32/17-19	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
34,36,38/20-22	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
41,44/23-24	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
49-51	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
52-54	CUT 5 ACCESS TRACK	06/05/2019	24/05/2019	MON-FR 0700-1800	Crane not lowered for RPT
55-57	CUT 5 ACCESS TRACK	06/05/2019	24/05/2019	MON-FR 0700-1800	Crane not lowered for RPT
58-60	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
61-63	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS

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#	LOCATION	START	FINISH	TIMING	REMARKS
STAGE 3 – INSTALLING POLES (35m HIGH CRANE)					
26-27/1-4	CUT 5 ACCESS TRACK	13/05/19 08/07/19	31/05/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT
7,9,11/5-7	CUT 5 ACCESS TRACK	13/05/19	31/05/19	MON-FR 0700-1800	Crane not lowered for RPT
13,16,20/8-13	CUT 5 ACCESS TRACK	13/05/19 08/07/19	31/05/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT
22,24,26/14-16	CUT 5 ACCESS TRACK	13/05/19	31/05/19	MON-FR 0700-1800	Crane not lowered for RPT
28,30,32/17-19	CUT 5 ACCESS TRACK	13/05/19	31/05/19	MON-FR 0700-1800	Crane not lowered for RPT
34,36,38/20-22	CUT 5 ACCESS TRACK	13/05/19	31/05/19	MON-FR 0700-1800	Crane not lowered for RPT
41,44/23-24	CUT 5 ACCESS TRACK	13/05/19	31/05/19	MON-FR 0700-1800	Crane not lowered for RPT
49-51	CUT 5 ACCESS TRACK	03/06/19	21/06/19	MON-FR 0700-1800	Crane not lowered for RPT
52-54	CUT 5 ACCESS TRACK	03/06/19	21/06/19	MON-FR 0700-1800	Crane not lowered for RPT
55-57	CUT 5 ACCESS TRACK	03/06/19	21/06/19	MON-FR 0700-1800	Crane not lowered for RPT
58-60	CUT 5 ACCESS TRACK	03/06/19	21/06/19	MON-FR 0700-1800	Crane not lowered for RPT
61-63	CUT 5 ACCESS TRACK	03/06/19 08/07/19	21/06/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT
STAGE 4 – STRINGING OVERHEAD CABLES (25m HIGH CRANE)					
26-27/1-4	CUT 5 ACCESS TRACK	20/05/19 08/07/19	07/06/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT
7,9,11/5-7	CUT 5 ACCESS TRACK	20/05/19	07/06/19	MON-FR 0700-1800	Crane not lowered for RPT
13,16,20/8-13	CUT 5 ACCESS TRACK	20/05/19 08/07/19	07/06/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT
22,24,26/14-16	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
28,30,32/17-19	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
34,36,38/20-22	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
41,44/23-24	CUT 5 ACCESS TRACK			MON-FR 0700-1800	No infringement of OLS
49-51	CUT 5 ACCESS TRACK	10/06/19	28/06/19	MON-FR 0700-1800	Crane not lowered for RPT
52-54	CUT 5 ACCESS TRACK	10/06/19	28/06/19	MON-FR 0700-1800	Crane not lowered for RPT
55-57	CUT 5 ACCESS TRACK	10/06/19	28/06/19	MON-FR 0700-1800	Crane not lowered for RPT
58-60	CUT 5 ACCESS TRACK	10/06/19	28/06/19	MON-FR 0700-1800	Crane not lowered for RPT
61-63	CUT 5 ACCESS TRACK	10/06/19 08/07/19	28/06/19 26/07/19	MON-FR 0700-1800	Crane not lowered for RPT

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#	LOCATION	START DATE	FINISH DATE	TIMING	REMARKS
STAGE 5 – BRIDGE STRUCTURES					
SB03	PRINCES MWY	22/07/2020	31/07/2020	20:00 – 05:00	Crane not lowered for RPT
SB04	STH CST RAILWAY	01/08/2020	02/08/2020	04:00 – 22:00 continuous over 2 days	Crane not lowered for RPT
SB05	YALLAH RD	25/09/19	27/09/2019	19:00 – 05:30	**Runway 16/34 Closed**
SB06	MACQUARIE RIV				
	PILING South Abutment and Pier 9 North & South Bound	24/07/2019	19/08/2019	17:00 – 07:00	**Runway 16/34 closed for works HN**
	PILING Pier 8-5 North & South Bound	03/07/2019	24/07/2019	07:00 – 17:00	**Displaced Threshold with revised declared distances for works HJ**
	CRANE		NO OLS INFRINGMENT		No NOTAM required
SB08	ILLAWARA I/CHANGE	12/12/2019	13/12/2019	07:00 – 15:00	**Crane lowered for RPT only**
SB09	FRAZERS CK CROOM	14/05/2020	15/05/2020	07:00 – 17:00	Crane not lowered for RPT
SB10	TONGARRA RD	22/05/2020	25/05/2020	07:00 – 17:00	Crane not lowered for RPT
SB12	CROMME RD	29/06/2020	30/06/2020	07:00 – 17:00	Crane not lowered for RPT
SB13	NTH BND O/PASS	TBA Sept 2020	Mar 2021	07:00 – 17:00	Crane not lowered for RPT
STAGE 6 – COMPOUND DEMOBILISATION					
STAGE 1	MAIN OFFICE 1 & TRAINING HUB	28/6/2021	31/07/2021	07:00 – 17:00	Crane not lowered for RPT
STAGE 2	MAIN OFFICE 2 + REMAINING SHEDS	TBA OCT 2021	TBA NOV 2021	07:00 – 17:00	Crane not lowered for RPT

3. EMERGENCIES AND ADVERSE WEATHER

Adverse weather such as very heavy showers, storms or fog may result in a cancelled or delayed works shift. Should adverse weather such as very heavy showers, storms or fog generate after works have begun, the Contractor and Airport operator will consult as a group to determine if the weather event requires a suspension or reduction in the allowable crane height where applicable. In the event of adverse weather, or as directed by the Work Safety Officer (WSO), equipment will be lowered to below the OLS surface.

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4. NOTAMS

Field A – Aerodrome Name
Field B – Start date and time in UTC
Field C – Finish Date and time in UTC (EST – means the finish time is estimated)
Field D – Activity period UTC
Field E - NOTAM text

Where cranes are required for night works, they will be lit with a red steady light and the NOTAM will be amended to: TEMPO OBST CRANE LIT
NOTAMS are not required for # SB01, SB03, SB07, SB14 & SB11.

#	LOCATION	A	B	C	D	E
STAGE 1 – UNLOADING POLES 20m HIGH CRANE (FRANNA) - SUPERSEDED						
Unloading poles have all been completed to use a truck mounted crane with low lifting heights						NOTAM not required

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#	LOCATION	A	B	C	D	E
STAGE 2 – AUGERING POLES 7m HIGH AUGER						
26-27/1-4	EAST WEST LINK					NOTAM not required
7,9,11/5-7	EAST WEST LINK					NOTAM not required
13,16,20/8-13	EAST WEST LINK					NOTAM not required
22,24,26/14-16	EAST WEST LINK					NOTAM not required
28,30,32/17-19	EAST WEST LINK					NOTAM not required
34,36,38/20-22	EAST WEST LINK					NOTAM not required
41,44/23-24	EAST WEST LINK					NOTAM not required
49-51	CUT 5 ACCESS TRACK					NOTAM not required
52-54	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 249FT AMSL BRG 109DEG MAG 1.7NM FM ARP INFRINGES HZS BY 79FT REFER MOWP YWOL 1901 STAGE 2
55-57	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 232FT AMSL BRG 107DEG MAG 1.7NM FM ARP INFRINGES HZS BY 63FT REFER MOWP YWOL 1901 STAGE 2
58-60	CUT 5 ACCESS TRACK					NOTAM not required
61-63	CUT 5 ACCESS TRACK					NOTAM not required

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#	LOCATION	A	B	C	D	E
STAGE 3 – INSTALLING POLES – 35m HIGH CRANE						
26-27/1-4	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 230FT AMSL BRG 136DEG MAG 1.1NM FM ARP INFRINGES HZS BY 60FT REFER MOWP YWOL 1901 STAGE 3
7,9,11/5-7	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 230FT AMSL BRG 131DEG MAG 1.2NM FM ARP INFRINGES HZS BY 60FT REFER MOWP YWOL 1901 STAGE 3
13,16,20/8-13	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 229FT AMSL BRG 126DEG MAG 1.2NM FM ARP INFRINGES HZS BY 59FT REFER MOWP YWOL 1901 STAGE 3
22,24,26/14-16	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 201FT AMSL BRG 122DEG MAG 1.3NM FM ARP INFRINGES HZS BY 31FT REFER MOWP YWOL 1901 STAGE 3
28,30,32/17-19	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 194FT AMSL BRG 118DEG MAG 1.3NM FM ARP INFRINGES HZS BY 24FT REFER MOWP YWOL 1901 STAGE 3
34,36,38/20-22	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 199FT AMSL BRG 114DEG MAG 1.4NM FM ARP INFRINGES HZS BY 29FT REFER MOWP YWOL 1901 STAGE 3
41,44/23-24	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 199FT AMSL BRG 114DEG MAG 1.4NM FM ARP INFRINGES HZS BY 29FT REFER MOWP YWOL 1901 STAGE 3
49-51	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 261FT AMSL BRG 111DEG MAG 1.6NM FM ARP INFRINGES HZS BY 90FT REFER MOWP YWOL 1901 STAGE 3

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#	LOCATION	A	B	C	D	E
STAGE 3 – INSTALLING POLES – 35m HIGH CRANE						
52-54	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 341FT AMSL BRG 109DEG MAG 1.7NM FM ARP INFRINGES HZS BY 171FT REFER MOWP YWOL 1901 STAGE 3
55-57	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 325FT AMSL BRG 107DEG MAG 1.7NM FM ARP INFRINGES HZS BY 155FT REFER MOWP YWOL 1901 STAGE 3
58-60	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 234FT AMSL BRG 104DEG MAG 1.7NM FM ARP INFRINGES HZS BY 64FT REFER MOWP YWOL 1901 STAGE 3
61-63	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 216FT AMSL BRG 104DEG MAG 1.7NM FM ARP INFRINGES HZS BY 46FT REFER MOWP YWOL 1901 STAGE 3

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#	LOCATION	A	B	C	D	E
STAGE 4 – STRINGING OVERHEAD CABLES -25m HIGH CRANE (EWP)						
26-27/1-4	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 191FT AMSL BRG 136 DEG MAG 1.1NM FM ARP INFRINGES HZS BY 21FT REFER MOWP YWOL 1901 STAGE 4
7,9,11/5-7	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 191FT AMSL BRG 131 DEG MAG 1.2NM FM ARP INFRINGES HZS BY 21FT REFER MOWP YWOL 1901 STAGE 4
13,16,20/8-13	EAST WEST LINK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 189FT AMSL BRG 126 DEG MAG 1.2NM FM ARP INFRINGES HZS BY 19FT REFER MOWP YWOL 1901 STAGE 4
22,24,26/14-16	EAST WEST LINK					NOTAM not required
28,30,32/17-19	EAST WEST LINK					NOTAM not required
34,36,38/20-22	EAST WEST LINK					NOTAM not required
41,44/23-24	EAST WEST LINK					NOTAM not required
49-51	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 228FT AMSL BRG 111 DEG MAG 1.6NM FM ARP INFRINGES HZS BY 58FT REFER MOWP YWOL 1901 STAGE 4
52-54	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 309FT AMSL BRG 109 DEG MAG 1.7NM FM ARP INFRINGES HZS BY 138FT REFER MOWP YWOL 1901 STAGE 4

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#	LOCATION	A	B	C	D	E
STAGE 4 – STRINGING OVERHEAD CABLES -25m HIGH CRANE (EWP)						
55-57	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 292FT AMSL BRG 107 DEG MAG 1.7NM FM ARP INFRINGES HZS BY 122FT REFER MOWP YWOL 1901 STAGE 4
58-60	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 201FT AMSL BRG 104 DEG MAG 1.7NM FM ARP INFRINGES HZS BY 31FT REFER MOWP YWOL 1901 STAGE 4
61-63	CUT 5 ACCESS TRACK	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI -	TEMPO OBST CRANE 192FT AMSL BRG 104 DEG MAG 1.7NM FM ARP INFRINGES HZS BY 22FT REFER MOWP YWOL 1901 STAGE 4

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#	LOCATION	A	B	C	D	E
STAGE 5 – BRIDGE STRUCTURES						
SB03	PRINCES MWY	YWOL	07 22 20:00	07 28 05:00	2000/0500 DAILY	OBST CRANE 219FT AMSL BRG 341 MAG 2943M FM ARP INFRINGES IHS BY 65FT CTC: 'WORKS SAFETY OFFICER' ON COMMON TFC ADVISORY FREQ (CTAF) 127.3
SB04	STH CST RAILWAY	YWOL	08 01 04:00	08 02 18:00	2000/0700 DAILY MON-FRI	OBST CRANE 204FT AMSL BRG 338 MAG 2746M FM ARP INFRINGES IHS BY 49FT CTC: 'WORKS SAFETY OFFICER' ON COMMON TFC ADVISORY FREQ (CTAF) 127.3
SB05	YALLAH RD	YWOL	MM DD HH:MM	MM DD HH:MM	0900/1930 DAILY	RWY 16/34 NOT AVBL DUE TO WIP CTC WSO ON 127.3 OR 0407721664 REFER MOWP YWOL 1901 STAGE 5 TEMPO OBST LIT CRANE 183FT AMSL BRG 334 DEG MAG 1.4NM FM ARP INFRINGES HZS BY 13FT REFER MOWP YWOL 1901 STAGE 5
SB06	MACQUARIE RIV Piling works for southern abutment and Piers Row 9 (Nth and Sth bound lanes) completed HN under closed runway Piling works for Piers Row 8-5 (nth and sth bound) completed HJ under displaced threshold – Refer to DRG FH19-06)	YWOL	MM DD HH:MM	MM DD HH:MM	-	RWY 16/34 NOT AVBL DUE TO WIP CTC WSO ON 127.3 OR 0407721664 REFER MOWP YWOL 1901 STAGE 5 TEMPO OBST LIT CRANE 183FT AMSL BRG 327 DEG MAG 1583m FM ARP REFER MOWP YWOL 1901 STAGE 5 - TEMPO OBST EQUIP 76FT AMSL 2299M FM SOT RWY 34 RWY 16 THR DISP 81M RWY 34 LDA 1738(5702) RWY 16 PAPI NOT AVBL STODAS RWY 34 - 1020(3346)(2.2) 1330(4363)(2.5) 1798(5898)(3.3) CTC WSO ON 127.3 OR 0407721664 REFER MOWP YWOL 1901 STAGE 5
SB06	MACQUARIE RIV					NOTAM not required

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	(Crane operations)					
SB08	ILLAWARRA INTERCHANGE	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI -	TEMPO OBST CRANE 157FT AMSL BRG 240 DEG MAG 0.6M FM ARP INFRINGES TNS BY 26FT CRANE WILL BE LOWERED FOR RPT OPS REFER MOWP YWOL 1901 STAGE 5
SB09	FRAZERS CK CROOM	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 173FT AMSL BRG 217 DEG MAG 0.6NM FM ARP INFRINGES HZS BY 3FT REFER MOWP YWOL 1901 STAGE 5
SB10	TONGARRA RD	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 183FT AMSL BRG 195 DEG MAG 0.6NM FM ARP INFRINGES HZS BY 13FT REFER MOWP YWOL 1901 STAGE 5
SB12	CROMME RD	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 223FT AMSL BRG 147 DEG MAG 1.1NM FM ARP INFRINGES HZS BY 52FT REFER MOWP YWOL 1901 STAGE 5
SB13	NTH BND O/PASS	YWOL	MM DD HH:MM	MM DD HH:MM	2000/0700 DAILY MON-FRI	TEMPO OBST CRANE 183FT AMSL BRG 183 DEG MAG 1.6NM FM ARP INFRINGES HZS BY 13FT REFER MOWP YWOL 1901 STAGE 5
STAGE 6 – COMPOUND DEMOBILISATION						
STG 1	MAIN OFFICE 1 & TRAINING HUB	YWOL	MM DD HH:MM	MM DD HH:MM	0700/1900	OBST CRANE 103FT AMSL BRG 329 MAG 1535M FM ARP INFRINGES TNS BY 41FT CRANE LOWERED FOR ALL ACFT ARRIVALS RWY 16 CTC: 'WORKS SAFETY OFFICER' ON COMMON TFC ADVISORY FREQ (CTAF) 127.3
STG 2	MAIN OFFICE 2 + REMAINING SHEDS	YWOL	MM DD HH:MM	MM DD HH:MM	0700/1900	OBST CRANE 103FT AMSL BRG 329 MAG 1535M FM ARP INFRINGES TNS BY 41FT CRANE LOWERED FOR ALL ACFT ARRIVALS RWY 16 CTC: 'WORKS SAFETY OFFICER' ON COMMON TFC ADVISORY FREQ (CTAF) 127.3

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5. Restrictions to work organisations

5.1. Commencement of works

Equipment or objects at height assessed as penetrating protected airspace are subject to assessment and approval by the Civil Aviation Safety Authority and/or Airservices Australia. This process may take up to six weeks. Unapproved penetrations of protected airspace will not be permitted, and works may be delayed if expected assessments have not been made. In addition to the above works are not to commence for each area until:

- NOTAM is issued and approved by the Airport Manager.
- Approved to do so by the Works Safety Officer (WSO) on each day.
- The work organisation is to notify the WSO of commencement and end of works.
- The work organisation's construction activities must not extend beyond a 20 m radius of any planned component of construction.
- The work organisation is subject to time-limited works and subject to a 10 minute recall of all plant, equipment, materials and personnel as directed by the WSO.
- The work organisation is to notify the WSO of commencement and end of works.
- Works may recommence on the direction of the WSO.
- All cranes that infringe the OLS during night works will have the top of the boom lit with either a steady red light

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All effort must be made to ensure works and related activity does not increase the wildlife hazard at the Airport. The Operations team reserves the right to halt any activity deemed as increasing wildlife hazard to unacceptable levels. Contractors should notify the Works Safety Officer or the Wollongong Airport Operations team of any unusual or increased wildlife activity.

The contractor must also manage waste onsite in a way that does not attract wildlife to the airfield.

In addition to the above, no crane works or OLS infringements are to occur on the following dates each year to facilitate the increased traffic and change of airspace.

TBC - To be Confirmed

Start Date/Time	*Finish Date/Time*	*Event*
Fri 3rd May 12.00pm	*Mon 6th May 12.00pm*	*2019 Wings Over Illawarra Airshow*
Fri 1st May 12.00pm	*Mon 4th May 12.00pm TBC*	*2020 Wngs Over Illawarra Airshow*
Fri 30th April 12.00pm	*Mon 3rd May 12.00pm TBC*	*2021 Wings Over Illawarra Airshow*

5.2. Completion of works

- Works for each area must be completed by the date/time specified in the NOTAM or by agreement with SCC.
- Plant to be lowered when not in use or when adverse weather affects the airport or an emergency occurs or as directed by the WSO.

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6. PERSONNEL AND EQUIPMENT

- Works personnel must be briefed on this MOWP. All personnel must complete an induction approved by SCC prior to the commencement of works. This induction remains current for the duration of the works.
- All personnel are required to wear high visibility vests.
- All vehicles and plant not engaged in the works shall be parked clear of the works area or below the protected airspace surface.
- To ensure the safety of aircraft operations and works personnel, plant, materials and equipment are to vacate within 10 minutes (Time-limited works) as directed by the WSO in all work areas and any other areas as directed by the WSO.
- All personnel associated with the work shall follow any instructions issued by the WSO.
- Vehicle rotating hazard beacons, as required by CASA MOS Part 139 subsections 9.19.1 and 10.9.2 are required to be used to indicate to aircrew and others of the presence of vehicles or mobile plant. Hazard beacons must be mounted on the top of the vehicle, to provide 360° visibility. Beacons must be flashing amber.
- At the end of each work period, all plant and equipment are to be parked in a location determined by the WSO.
- No personnel are envisaged to require airside access in undertaking these works. Any access airside by personnel will be under the direction and appropriate escort of an approved person.

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7. ADMINISTRATION

The table below shows the key members of staff involved in the project and their role within the MOWP process along with their contact details and radio call signs.

Apointment	Name	Agency	Mobile and/or AH	Radio Call sign
Project Manager (Contractor)	Scott Bryce	Fulton Hogan	[redacted]	PM
Works Safety Officer (WSO1)	Rod Cecchini	Oz Airports	[redacted]	SAFETY ONE
Works Safety Officer (WSO2)	Mark Yeaman	Oz Airports	[redacted]	SAFETY TWO
Works Organiser	James Mowbray	Fulton Hogan	[redacted]	WO
Project Manager (Principal)	Warren Blacka	RMS	[redacted]	RMS1
Project Officer (Complaints/ Contract / Operations)	Peter Hawkins	RMS	[redacted]	RMS2

7.1. Project Managers

The Project Managers for the implementation of this MOWP are:

- Nominated Project Manager (Principal) – Transport for NSW, Warren Blacka
- Nominated Project Manager (Contractor) – Fulton Hogan, Scott Bryce

All queries concerning this MOWP shall be directed to the Project Manager. The Project Manager will brief the WSO on matters relating to the project. The Project Manager will liaise with the WSO for:

- Initiating and cancelling work related NOTAMS through the NOTAM Office in Sydney. ([redacted])
- Briefing the Works Organiser and contractors on the safety precautions required during the works.

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7.2. Works Safety Officer

The Works Safety Officer (WSO1 of WSO2) shall be the duty WSO. The WSO's will use the call-signs "Safety One", "Safety Two" and "Safety Three" etc during the works.

The WSO will:

- Ensure that work is carried out in such a manner that no hazard to aircraft operations exists at any time;
- Maintain radio communications on the appropriate frequency operating at the time;
- Ensure NOTAM are in accordance with the MOWP;
- Ensure work requiring NOTAM is not conducted unless NOTAM are in place and adequately cover the extent of the works;
- Provide a draft of any additional NOTAM requirements to SCC;
- Provide daily works updates to IRO and SCC through the Contractor to ensure the safety of aircraft operations;
- Ensure that temporary obstructions and time limited works are undertaken in accordance with MOS 139 and the MOWP;
- Ensure that vehicles, plant and equipment are properly marked and lit;
- Ensure that access routes are clearly identified with suitably controlled access;
- Protect underground power and control cables, especially to navigation aids, by requiring dig permits;
- Report immediately to the appropriate authority any incident, accident or damage likely to affect aircraft safety;
- Remain on call (insert contact number) between 0700-1530 while work is in progress and the aerodrome is open to aircraft operations. Remain on standby after hours;
- Ensure that radio call signs are properly assigned to vehicles.
- Ensure that the movement area is safe for normal aircraft operations following the removal of vehicles, plant equipment and personnel from the works area.
- With time limited works, ensure that the area is properly restored for aircraft operations, within time frames agreed to by the WSO and IRO, before the time scheduled or notified for an aircraft movement.
- Ensure that work is carried out in such a way that no hazard to aircraft operations exist at any time.
- Briefing the Contractor's Project Manager, Works Manager, staff and sub- contractors on the safety precautions outlined within this MOWP to ensure safe and timely progress; and
- Ensure that floodlighting or any other lighting required for carrying out the works is shielded so as not to represent a hazard to aircraft operations.
- Provide liaison between the Illawarra Regional Airport (IRO) and construction staff; and
- Liaise with the project manager and initiate and cancel NOTAMS as required.

SCC is appointed as the agency responsible for the provision of WSO for the works. Accordingly, regardless of any sub-contractual arrangement for the engagement of the WSO, the WSO is responsible directly to SCC for the maintaining of standards and aircraft safety aspects of the works.

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7.3. Variation of work from MOWP

No variation to this MOWP shall be made without the approval of SCC.

However, monitoring of the effectiveness of mitigation measures will be undertaken throughout the works to ensure impacts and hazards to aircraft and airport operations are managed at all times. Where necessary proposed changes will be discussed with SCC.

The MOWP will be monitored for the duration of the project to ensure that the identified areas of OLS penetration are still correct. Any new areas of penetration will be added as they are discovered throughout the project, although this review and monitoring process will be the trigger for any additional activities to be added. This monitoring will be completed by the Fulton Hogan Project Manager (Glen Schembri) in consultation with SCC. The monitoring process will investigate the activities and the maximum potential for OLS penetration and whether this is still within the initial MOWP and NOTAM values.

7.4. AUTHORITY

All works will be carried out in accordance with this MOWP.

This MOWP is issued in accordance with MOS Part 139 under the authority of the Shellharbour City Council as the Aerodrome Operator.

Name and Signature of Authorising Person: ANDREW TABRETT [redacted]

Title: COMPLIANCE & OPERATIONS COORDINATOR

Date: 05 JULY 2021

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7.5. DISTRIBUTION

ORGANISATION	NAME	TITLE	EMAIL
Fulton Hogan	Scott Bryce	Project Manager	[redacted]
Shell Harbour City Council	Ben Rawson	Airport Manager	[redacted]
Shell Harbour City Council	Adele Badenhorst	Airport Compliance and Operations Coordinator	[redacted]
OZ Airports	Peter Johnson	WSO	[redacted]
CASA	Slavica Despotovic	CASA Airport Inspector	[redacted]
Airservices Australia		MOWP	[redacted]
Air Services Australia		PDS Obs	[redacted]
Air Services Australia		Flight Path Design Team	[redacted]
Fly Corporate	Andrew Webb	Chief Operating Officer	[redacted]
Fly Corporate	Jeff Boyde	Commercial Manger	[redacted]
Bright Events	Mark & Kerry Bright	Event Coordinator	[redacted]
Capital Aircraft	Neil Allen	Managing Director	[redacted]
HARS	Bob De La Hunty	President	[redacted]
Illawarra Flyers	John Cleary	President	[redacted]
NSW Air Flight Training	Bill Quintal	CEO	[redacted]
Southern Biplanes / 5 Point Aviation	Chris Clark	Head of Operations	[redacted]
Skydive	Anthony Boucaut	CEO	[redacted]
Skydive	Ryan Roche	General Manger Fixed-Wing Aircraft	[redacted]
Sydney Microlight Centre	Ned McIntosh	Instructor	[redacted]
TOLL Rescue Helicopters	Nathan Haythorpe	Wollongong Base Manager	[redacted]
Touchdown Helicopters	Brett Kiteley	CEO	[redacted]
Total Aerospace Solutions	Gavin Parker	Operator	[redacted]
Viva Energy Australia	Wayne Perry	Refuelling Operations	[redacted]

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7.6. DRAWINGS

Drawing Number	Revision	Title
MOWP-FH19-01	A	METHOD OF WORKS PLAN VEHICLE MAX 4.6m OLS INFRINGEMENT
MOWP-FH19-02	B	METHOD OF WORKS PLAN CUT 5 POWER POLES – 7m HIGH AUGER
MOWP-FH19-03	B	METHOD OF WORKS PLAN CUT 5 POWER POLES – 35m HIGH CRANE
MOWP-FH19-04	B	METHOD OF WORKS PLAN CUT 5 POWER POLES – 25m HIGH CRANE
MOWP-FH19-05	B	METHOD OF WORKS PLAN CRANE/ BRIDGE ASSESSMENT
MOWP-FH19-06	B	METHOD OF WORKS PLAN SB06 (MAQ RIVULET) – RWY 16/34 DISPACED THRESHOLD FOR PILING WORKS FOR PIERS ROW 8-5 NORTH AND SOUT BOUND
MOWP-FH19-07	A	METHOD OF WORKS PLAN SB05 (YALLAH RD) – RWY 16/34 CLOSED FOR CRANE OPERATIONS

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