

**New South Wales  
State Highway No. 10  
Tweed Shire Council**

**Queensland  
State Highway 12B  
Gold Coast City Council**

**Design & Construction Alliance Brief  
for  
Pacific Highway  
Tugun Bypass  
89.4km to 96.8km North of Ballina**

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**SCOPE OF WORKS AND TECHNICAL CRITERIA**

**Appendix 17**

**Gold Coast Airport Limited**

**Technical and Civil Aviation Safety Requirements**

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# Appendix 17

## Gold Coast Airport Limited Technical and Civil Aviation Safety Requirements

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# 17. Gold Coast Airport Limited and Civil Aviation Safety Requirements

## 17.1 General

The proposed works in the Gold Coast Airport Limited (GCAL) site and in the vicinity of the site are to comply firstly with the requirements of the Australian Government Federal Legislative requirements for the airport as listed in clause 1.3 of Attachment G. In addition the works within the GCAL site are to cater for the existing and proposed runways and associated airspace requirements. In addition, the works are to accommodate a future prescribed airspace based on a runway length of 2858m for the main runway as described in GCAL's Approved Master Plan. The work processes adopted for construction are also to comply with the Australian Government Federal legislation and the airports requirements. The specific GCAL requirements and the responsibility for compliance with Australian Government Federal Legislative requirements are described in this document. GCAL's document in Attachment G outlines their desires.

### 17.1.1 Communications and Relationships

The Alliance will be required to communicate with GCAL on many matters during the course of the project. During construction an objective of the Alliance will be to retain good working relationships with GCAL. The Alliance is to prepare a communication and relationship plan defining the approach to liaison with GCAL. The communication plan is to identify protocols for all staff liaison and how good working relations are to be maintained with the airport. The plan is to outline a process for measuring the health of communication between the Alliance and GCAL and triggers for the need for any corrective action. The communications must:

- a) identify the processes to be adopted to ensure that all relevant management plans have been appropriately reviewed and endorsed by GCAL as outlined in Attachment G.
- b) be integrated with the Alliance's Project Management Plan and to identify the necessary approvals for works in and adjacent to the airport to meet GCAL and Federal Government Civil Aviation Safety requirements.
- c) define how day to day communications are to be addressed.

### 17.1.2 Environmental Requirements

Attachment G outlines a number of Legislative and GCAL Environmental standards. The environmental management plans for the Bypass are to ensure compliance with the relative Legislation and with the intent of GCAL's Environmental Standards. The environmental management plan for the project is to also contain a Bird Management Plan.

## 17.2 Civil Aviation Safety Requirements

To ensure that during and post construction, the works comply with Federal Government Civil Aviation Safety requirements, the Alliance is to engage an Aviation Consultant to review all project management plans and proposed works to ensure compliance with the relative legislation and the aerodrome certificate conditions and exemptions. The aviation consultant

is to be endorsed by GCAL. The consultant is to ensure all necessary measures are incorporated during construction and in the finished works to meet with Civil Aviation Safety requirements. The consultant will also be responsible for preparing all necessary documentation, and obtaining all necessary approvals, related to Federal Government Civil Aviation Safety requirements. This includes all Method of Working Plans (MOWP) and appropriate Notices to Airmen (NOTAM).

In addition to this, the Alliance is to engage a fulltime Aviation Works Safety Officer to for the duration of design and construction of the Bypass. The officer will be responsible for coordination and implementation of aviation safety and security requirements in project management plans for the project and ensure that measures identified have been implemented on a day to day basis. The Aviation Works Safety Officer will be required to inspect the site daily to confirm compliance with agreed safety and security measures.

### 17.2.1 Airspace Requirements

As part of ensuring the works meet with Federal Government Civil Aviation Safety requirements, the Alliance is required to develop airspace drawings for the Obstacle Limitation Surface (OLS) and Procedures for Air Navigation Services Aircraft Operations (PANS-OPS) surfaces. These drawings will be used to ensure that during and post construction, the construction activities and works can be assessed by the Aviation Consultant for operational safety requirements. The airspace drawings are to be based on runway layout drawings in Attachment F.

The airspace drawings (OLS & PANS-OPS) to be prepared for the following combination of situations and conditions.

**Table 17.1: Airspace Drawings**

Situation/ Condition	Current	Future	Future Prescribed Airspace (as described in GCAL and Approved Master Plan for a runway length of 2858m)
<b>Runway</b>	Cross and Main runways		Main runway
<b>Operational Condition</b>	Restricted runway during curfew hours. Runway outside curfew hours		

### 17.2.2 Airport Operating Procedures and Emergency Plan

The Aviation Consultant is to undertake the following updating of GCAL's procedures and plans during and post construction:

- a) operating procedures detailing agency notification and response times
- b) airport emergency plan
- c) emergency procedures for airside emergency
- d) evacuation procedures for any emergency
- e) emergency access for airside emergency vehicles

## 17.3 Bypass Construction

The Bypass works are to provide for the following design loads:

- a) Post Construction

The main runway and associated taxi-way is to cater for a worst case loading associated with an Aerodrome Reference Code element 2 value of E as defined in the current Civil Aviation Safety Authority's Manual of Standards or an Airbus A380 aircraft (refer details in Attachment H). In addition to the live aircraft loads, the Bypass tunnel is to provide for the dead load due to the proposed runway. Details of the proposed runway are in Attachment I.

b) During Construction

The tunnel works are to cater for the anticipated construction loads detailed in Attachment H.

### 17.3.1 Completed Works

The Bypass works are to accommodate the works associated with the proposed main runway extension to 2500m as shown on the runway drawings in Attachment F. The works to be allowed for include:

- a) Runways, graded strips and taxiways;
- b) Drainage works;
- c) Access tracks and security fencing;
- d) Fauna access provisions.

Perimeter access tracks and security fencing (including grills over drains) is to be constructed by the Alliance. An over bridge for emergency access is also required to be constructed and is described elsewhere in the SWTC.

The Bypass is to incorporate sufficient works that would allow for extension of the road tunnel to accommodate the future prescribed airspace plan based on a main runway length of 2858m as described in GCAL's Approved Master Plan. The works to be catered for include:

- a) Runway and graded strip extension;
- b) associated airport access tracks and security fence.

The Bypass design is to be developed sufficiently to demonstrate how the tunnel extension would be achieved for the tunnel and all associated systems and services. The extension to the tunnel roof must be designed to be carried out with one side of the tunnel (either northbound or southbound) only closed to traffic between 11.00pm and 5.00am (6 hour closure). Services and systems may be extended during night time closure of one lane in each direction only.

### 17.3.2 During Construction

The Alliance is to provide security fencing and access tracks as detailed in Attachment A and B. The fences are to include the necessary gates to provide access for GCAL fire and rescue vehicles as outline in section 3.6.3 of Attachment G.



## **Attachment A**

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### **Tugun Bypass Fence Alignment and Boundary Road Modifications**



## **Attachment B**

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### Standard General Airport Security Fencing Plan and Details



## **Attachment C**

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### Tugun Bypass Bird Management Plan



## Attachment D

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### GCAL Land Requirements – Sketches 36 to 39

- Sketch No. SK036 Rev. B: Volumetric Boundaries - Layout Plan
- Sketch No. SK037: Not used
- Sketch No. SK038 Rev. B: Volumetric Boundaries - Typical Tunnel Cross Sections
- Sketch No. SK039 Rev B: Volumetric Boundaries - Tunnel Longitudinal



## **Attachment E**

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GCAL Drawing MP05C005



## **Attachment F**

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GCAL Runway Drawings  
(to be supplied)



## **Attachment G**

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Gold Coast Airport Limited  
Information



## **Attachment H**

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### **Loading Details**

- Runway Pavements and Construction Loads
- Airbus A380 and Macro Roller Details



## Loading Details

### a) Runway Pavements and Construction Loads

The runway pavements are proposed to be flexible pavements. Embankments and pavements will be constructed using vibration compact equipment and the “macro” roller. The use of the “macro” roller will be above an embankment level of 1.5 m AHD.

### b) Airbus A380 Load Details

For details of loadings for the Airbus A380 refer to the current information available on the Airbus web site – [www.airbusworld.com](http://www.airbusworld.com).