

## Desktop Summary Report

<b>Client</b>	New South Wales Rugby League	<b>Project No.</b>	85640.00
<b>Project</b>	Proposed NSWRL Centre of Excellence	<b>Date</b>	9 Sep 2016
<b>Address</b>	Site 18, Dawn Fraser Avenue, Sydney Olympic Park	<b>Doc No.</b>	R.001.Rev0

**Introduction:** This Desktop Summary Report has been prepared for submission with the planning application for the above project. A geotechnical investigation is proposed for the site and more comprehensive information on subsurface conditions will be provided following the completion of the investigation. The comments provided in this report may need to be revised following the completion of the investigation works.

**Proposed Development:** A three-storey building and adjacent on-grade carpark are proposed on Site 18 which is located between the northern edge of the Sydney Olympic Park Athletic Centre and Dawn Fraser Avenue (refer to attached Drawing GA1). Basement levels are not proposed although there will be a stairway linking the new facility with an existing pedestrian tunnel to ANZ Stadium. Column loads are expected to vary between 500 kN and 3000 kN (working).

**Description of Site:** The site is approximately triangular in shape with an area of about 3133 m<sup>2</sup>. It is bounded by Dawn Fraser Avenue to the north, the entrance to the pedestrian tunnel and grassed parkland to the east, and the Sydney Olympic Park Athletic Centre to the south and west. The ground surface in the area slopes gently downwards to the north and east. A small retaining wall along the southern boundary of the site supports the adjacent athletic centre property.

**Regional Geology:** The *Sydney 1:100 000 Geological Series Sheet* indicates that the site is underlain by Ashfield Shale which generally comprises black to dark-grey shale and laminite. The *1:25 000 Prospect/Parramatta River Acid Sulphate Soil Risk Map* indicates no known occurrence of acid sulphate soils on the site. The *Sydney Olympic Park Remediated Lands Management Policy* (POL10/09 dated February 2014) shows that the site is not underlain by landfill material (refuse).

**Expected Subsurface Conditions:** Douglas Partners has undertaken several nearby investigations and/or inspections including for the Sydney International Aquatic Centre, Sydney Metro – Stage 2, Sydney Olympic Park Athletic Centre and ANZ Stadium. On the basis of our knowledge of the site, it is expected that the subsurface conditions may comprise filling and residual clayey soils to a depth of about 10 m, underlain by shale bedrock. Groundwater is expected to be below the bedrock surface although seepage/perched water is likely to be present within the filling and soils.

### Comments:

**Site Preparation:** The condition of the existing filling will need to be confirmed during the proposed investigation. If the filling is in a well-compacted condition then site preparation may simply involve compaction of the subgrade/formation level and proof-rolling to assess its suitability for supporting the proposed building slabs, services and pavements. If the filling is variably or poorly compacted then additional improvement works (e.g. remove and replace) may be required to improve the density of the existing filling.



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**Excavation:** Excavation for site re-grading, footings, services and the stairwell to the pedestrian tunnel is likely to be required within filling and possibly natural soils. Excavations in these materials should be readily achievable using conventional equipment such as hydraulic excavators. All materials removed from the site will need to be classified in accordance with *Waste Classification Guidelines* (NSW EPA, 2014).

**Excavation Support:** Vertical excavations will not be stable in the filling/soils expected on the site. The sides of temporary excavations will therefore need to be battered at an appropriate angle or shored to provide support. Permanent support for excavations/fills will need to be provided by either appropriately designed batters or retaining walls.

**Groundwater:** Groundwater is expected to be at depth and may only be an issue during construction if bored piles are utilised on the site. The existing pedestrian tunnel is presumably above the groundwater table and therefore the stairway excavation will presumably be above the groundwater table as well.

**Foundations:** The proposed building will probably need to be supported on piles founded within the bedrock. Non-displacement piles (e.g. bored piles, CFA piles etc.) should be suitable for supporting the proposed building. Displacement-type piles (e.g. driven pre-cast concrete or steel tube/H-piles) may also be suitable provided that significant obstructions are not encountered in the filling. The suitability of the existing filling for supporting slab-on-ground construction cannot be confirmed until the proposed investigation has been undertaken.

**Pavements:** The construction of light-vehicle pavements is likely to require some form of subgrade preparation works followed by the placement of pavement layers (e.g. DGB20, asphalt etc.) as determined following the completion of the investigation.

**Limitations:** Douglas Partners has prepared this report for the project at Site 18 in Sydney Olympic Park for the New South Wales Rugby League in accordance with our scope of work for the project. This report is provided for the New South Wales Rugby League for this project only and for the purposes described in the report. It should not be relied upon for other projects or by a third party. The report is based upon a desktop assessment of the site only and the advice may be superseded in a future report once intrusive investigation has been undertaken.

**Douglas Partners Pty Ltd**



**Peter Oitmaa**  
Principal

Reviewed by



**Scott Easton**  
Principal

Attachments:      Drawing GA1  
                             Notes About this Report



Approximate Site Location



CLIENT: NSW Rugby League

OFFICE: Sydney

DATE: 31 Aug 2016

Site Location Plan

Proposed NSWRL Centre of Excellence

SYDNEY OLYMPIC PARK

PROJECT No: 85640.00

DWG No: GA1

REVISION: 0

# About this Report

# Douglas Partners



## Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

## Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

## Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

## Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

## Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

# *About this Report*

## **Site Anomalies**

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

## **Information for Contractual Purposes**

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

## **Site Inspection**

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.