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## DEICORP PTY LTD



# Dewatering Management Plan

Tallowong Station Precinct South, Rouse Hill NSW -  
Site 1

E24445.E16.1\_Rev2  
2 May 2023

# DOCUMENT CONTROL

**Report Title:** Dewatering Management Plan;  
Tallawong Station Precinct South, Rouse Hill NSW - Site 1

**Report No:** E24445.E16.1\_Rev2

Copies	Recipient
1 Soft Copy (PDF – Secured, issued by email)	Deicorp Pty Ltd Level 4, 161 Redfern Street, <b>REDFERN NSW 2016</b>
1 Original (Saved to Digital Archives)	EI Australia Suite 6.01, 55 Miller Street, <b>PYRMONT NSW 2009</b>

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Revision	Details	Date	Amended By
0	Original	26 March 2021	-
1	Update of GTA information	2 August 2021	LW/MD
2	Reviewed and updated in response to the Independent Environmental Audit	2 May 2023	LW/MD

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# 1. INTRODUCTION

## 1.1 Background

Deicorp Pty Ltd (the client) engaged EI Australia (EI) to prepare a Dewatering Management Plan (DMP) for Tallawong Station Precinct South, Rouse Hill NSW (the site).

The site is located within the local government area of Blacktown City Council (**Figure 1, Appendix A**), covering an area of approximately 4.4 hectares (**Figure 2, Appendix A**). The overall site consists of two vacant lots, divided by Conferta Avenue into a northern half (Site 1, Lot 294 in Deposited Plan (DP) 1213279) and a southern half (Site 2, Lot 293 in DP 1213279). It was understood that Site 1 (covering an area of approximately 1.6 hectares) is the subject of this DMP.

A DMP was previously prepared by EI (Ref. E24445.E16.1\_Rev1, dated 2 August 2021), which outlined the site-specific measures for the management of groundwater discharge required during construction of the basement, to achieve compliance with any requirements of Blacktown City Council and the NSW Office of Water (WaterNSW) in relation to the proposed dewatering activities. The DMP was submitted to WaterNSW as part of a temporary dewatering licence application.

Based on the information provided by the client and multiple site inspections during excavation, dewatering of groundwater was not required during construction of the basement. The clay and shale material within the basement excavation was observed to be dry. Intermittent dewatering was only required following the heavy rainfall events to remove any ponded surface water on the site. The following letters were prepared to summarise the surface water dewatering at the site:

- EI (2022a) Response Letter on the Dewatering at Site 1 Tallawong Station Precinct South, Rouse Hill NSW, Ref. E24445.E09.006\_Rev0, dated 21 April 2022; and
- EI (2022b) Letter on the Surface Water Dewatering at Site 1 Tallawong Station Precinct South, Rouse Hill NSW, Ref. E24445.E09.007\_Rev0, dated 6 May 2022.

This DMP, therefore, was reviewed and updated in response to the Independent Environmental Audit of Tallawong Station Precinct South (SSD-10425), to provide general requirements for the management of surface water dewatering at the site. Should groundwater encountered and requiring dewatering during excavation, the previous DMP prepared by EI (2021) should be referred to.

## 1.2 Proposed Development

Based on the supplied plans (**Appendix B**), the proposed development of the overall site involves the construction of up to 16 mixed-use apartment towers, with two to three basement levels and interconnected roadways and landscaped areas including a private park.

Site 1 will consist of two to three levels of basement car park, with the lowest basement proposed to have a finished floor level (FFL) of 46.0m Australian Height Datum (AHD). A bulk excavation level (BEL) of 44.7m AHD has been assumed, which includes allowance for the construction of the basement slab. Locally deeper excavations may be required for footings, lift overrun pits, crane pads and service trenches.

### 1.3 DMP Objectives

The objectives of this DMP are to:

- Describe the dewatering methodology, water treatment requirements, monitoring and reporting procedures to be employed during surface water dewatering activities for the construction phase of the proposed basement; and
- Provide effective management and contingency procedures, to ensure that the discharge of extracted water does not pose unacceptable risks to the receiving environment, in compliance with the *Protection of the Environment Operations Act 1997*.

### 1.4 Scope of Work

With reference to the DMP objectives, the following works were undertaken:

- Review of the development proposal;
- Review of geological, landscape and acid sulfate soil (ASS) risk maps for the area;
- Review of relevant existing reports and revision of this Dewatering Management Plan.

### 1.5 Regulatory Framework

The following regulatory framework and guidelines were considered during the preparation of this report:

**Table 1-1 Regulatory Framework**

<b>NSW Legislation and Regulatory Instruments</b>	<b>Requirements</b>
<i>Contaminated Land Management Act 1997</i> (CLM Act)	Promotes the effective management of contaminated land in NSW by setting out the roles and responsibilities of the EPA and the rules they use.
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)	The EP&A Act stipulates the regulations and gives rise to state environmental planning policy (SEPP) to assist regulators with the protection of human and environmental health.
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	The objective of the POEO Act is to achieve the protection, restoration and enhancement of the quality of the environment.
<i>Water Management Act 2000</i> and <i>Water Act 1912</i> (WM Act)	Protects the health of rivers, streams and groundwater systems and gives rise to Water Sharing Plans and quality objectives for catchments within the state of NSW. Manages aquifer interference activities which involve: <ul style="list-style-type: none"> <li>▪ The penetration of an aquifer</li> <li>▪ The interference of water in an aquifer</li> <li>▪ The obstruction of water flow or taking of water from an aquifer when carrying out prescribed activities; and</li> <li>▪ The disposal of water taken from an aquifer.</li> </ul>
NSW Office of Water (2012) <i>NSW Aquifer Interference Policy</i>	Details the scope of aquifer interference activities and provides specific guidance on the licensing and approval requirements for activities that interfere with aquifers.
State Environmental Protection Policies (SEPPs)	<ul style="list-style-type: none"> <li>▪ State Environmental Planning Policy No.55 - <i>Remediation of Land</i> (1998); and</li> <li>▪ SEPP (<i>Sydney Regional Growth Centres</i>) 2006.</li> </ul>

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## NSW Legislation and Regulatory Instruments Requirements

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National Protection (Assessment of Site Contamination) Measures, 1999, Amendment 2013 (NEPM)	Outlines methodology for contaminated land assessment and provides risk-based criteria for ecological and human health receptors of site contamination.
Blacktown City Council Plans and Policies	Provides controls and guidelines for development in the area. <ul style="list-style-type: none"><li>▪ The <i>Blacktown City Council Growth Centre Precincts Development Control Plan (2010)</i>;</li><li>▪ The <i>Blacktown Development Control Plan (2015)</i>; and</li><li>▪ The <i>Blacktown Local Environmental Plan (2015)</i>.</li></ul>
Relevant Guidelines (but not limited to)	<ul style="list-style-type: none"><li>▪ ANZG (2018) <i>Guidelines for Fresh and Marine Water Quality</i>;</li><li>▪ NHMRC (2011) <i>Australian Drinking Water Guidelines</i>;</li><li>▪ NHMRC (2008) <i>Guidelines for Managing Risks in Recreational Water</i>;</li><li>▪ NSW DEC (2007) <i>Guidelines for the Assessment and Management of Groundwater Contamination</i> (March 2007);</li><li>▪ NSW DPIE (2021) <i>Minimum Requirements for building site groundwater investigations and reporting</i>, January 2021 (DPIE, 2021);</li><li>▪ NSW EPA (1995) <i>Sample Design Guidelines</i>; and</li><li>▪ EPA (2020) <i>Guidelines for Consultants Reporting on Contaminated Land</i>.</li></ul>

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## 2. SITE DESCRIPTION

### 2.1 Property Identification, Location and Physical Setting

The site identification details and associated information are summarised in **Table 2-1**. Site locality and layout plans are provided in **Appendix A**.

**Table 2-1 Site Identification, Location and Zoning**

Attribute	Description
Street Address	Tallawong Station Precinct South, Rouse Hill NSW - Site 1
Lot and Deposited Plan	Site 1 - Lot 294 in DP 1213279
Site Area	Site 1 - approximately 1.6 hectares
Site Coordinates	Northern-eastern corner of site (GDA2020-MGA56): <ul style="list-style-type: none"> <li>▪ Easting: 305996.104;</li> <li>▪ Northing: 6270045.058.</li> </ul> (Source: <a href="http://maps.six.nsw.gov.au">http://maps.six.nsw.gov.au</a> )
Local Government Authority	Blacktown City Council
Parish	Gidley
County	Cumberland
Current Zoning	B4: Mixed Use ( <i>State Environmental Planning Policy (Sydney Regional Growth Centres) Amendment (Area 20 Precinct), 2015</i> )
Surrounding Land Use	Site 1 is bounded by Themeda Avenue (north), Cudgegong Road (east), Conferta Avenue (south) and an open car park (west).
Typical Soil Profile	Based on previous environmental investigations, the soil profile was described as a layer of anthropogenic filling overlying residual clays then weathered shale.

### 2.2 Regional Setting

The topography, hydrogeology, geology and soil landscape information is given in **Table 2-2**.

**Table 2-2 Regional Setting Information**

Attribute	Description
Topography	Site 1 appears to have been substantially filled, sloping towards the south east. Elevations of Site 1 range from approx. 60m AHD in the north-western corner to approx. 52m AHD in the south-eastern corner.
Site Drainage	Site drainage is likely to consist of mostly surface infiltration. Any run off would be expected to flow into the municipal stormwater pits on Conferta Avenue and then flow to the nearest drainage line.
Regional Geology	Site 1 lies on the boundary of two formations within the Wianamatta Group, comprising the Bringelly Shale (Rwb) and Ashfield Shale (Rwa) <i>1:100,000 scale Geological Series Sheet 9130</i> (Penrith).
Soil Landscape	The Soil Conservation Service of NSW <i>Soil Landscapes of the Penrith 1:100,000 Sheet</i> (Bannerman SM and Hazelton PA, 1990) indicates that the site overlies a Blacktown ( <i>bt</i> ) residual soil landscape. This landscape type is characterised by gently undulating rises on Wianamatta Group shales.

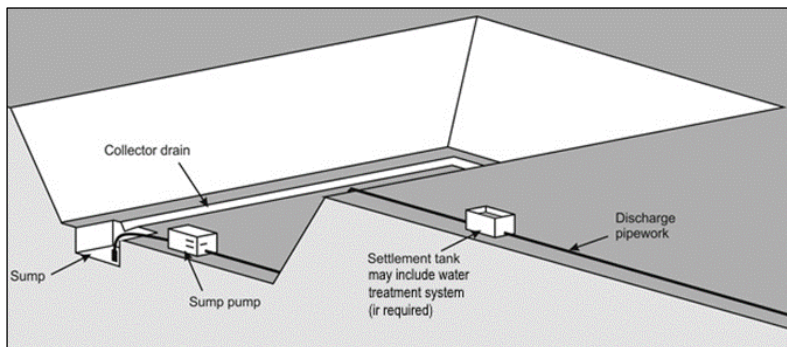


Attribute	Description
Acid Sulfate Soils	The <i>Acid Sulfate Soil (ASS) Risk Maps</i> (1:25,000 scale; Murphy, 1997) and <i>Blacktown Local Environmental Plan 2015</i> indicate the site is not located in an ASS classed area. EI (2020a) conducted an acid sulfate soil assessment during the Detailed Site Investigation (DSI) of the site, which indicated no ASS were present.
Nearest Surface Water Feature	Second Ponds Creek, located approximately 182m east of the site.
Hydrogeology & Groundwater Use	Groundwater was interpreted to flow north-easterly towards Second Ponds Creek (EI, 2020d). An online search for groundwater bores registered with WaterNSW showed that there are no registered bores within a 500m radius of the site.

### 3. DEWATERING METHODOLOGY

Dewatering at sites with similar geological conditions is generally undertaken sump and pump system as illustrated in **Figure 4-1**.

**Figure 4-1 Hypothetical layout of a *Sump and Pump* seepage collection System**



During construction, it is recommended that, any pumped-out water be discharged initially into a vessel (basin, or equivalent). This would allow for the treatment of extracted water within the vessel prior to discharge (if necessary). EI assumed that all water removed from the site would be discharged to the municipal stormwater system, which drains into Second Ponds Creek.

The Principal Contractor/Site Manager, Dewatering Contractor and Water Treatment Specialist must agree on a dewatering strategy to confirm that dewatering treatment systems (if required) and water retention tanks can be positioned appropriately within approved areas of the site, prior to the commencement of excavation works.

## 4. WATER QUALITY MANAGEMENT

### 4.1 Responsibility

The Principal Contractor or Site Manager, appointed by the client for the construction works, will be responsible for implementing the management procedures for water quality as described by this DMP.

### 4.2 Adopted Criteria for Discharging Water

In accordance with the NSW Water Quality and River Flow Objectives, extracted waters from site dewatering operations must be tested to ensure compliance with the Australian and New Zealand Government, *Guidelines for Fresh and Marine Water Quality* (ANZG, 2018) trigger values for the 95% species protection of Fresh Water (and 99% Trigger Values for bio-accumulative contaminants). Where the ANZG (2018) guidelines do not provide values, relevant default criteria may be applied in accordance with the *National Environmental Protection (Assessment of Site Contamination) Measure* 1999, as amended in 2013 (NEPC, 2013).

The water acceptance criteria for discharging waters were selected in accordance with the guidelines endorsed from time to time by Section 105 of the *Contaminated Land Management Act* (1997), and complies with the requirements of the *NSW Protection of the Environment Operations Act 1997*. The criteria adopted are presented in **Table 4-1** and must be adhered to during the dewatering program.

**Table 4-1 Discharge Water Criteria**

Analyte	Discharge Water Criterion (µg/L) <sup>1</sup>
<b>Physico-Chemical Parameters</b>	
pH	6.5 to 8.0 <sup>3</sup>
Turbidity (NTU)	1-50 <sup>4</sup>
Electrical Conductivity (µS/cm)	125 - 2,200 <sup>4</sup>
Total Dissolved Solids (mg/L)	<1200 <sup>5</sup>
Hardness (mg/L as CaCO <sub>3</sub> )	<60 – 500 <sup>5</sup>
<b>Metals</b>	
Aluminium (pH>6.5)	55
Arsenic <sup>III</sup>	24
Arsenic <sup>V</sup>	13
Cadmium	0.2
Chromium <sup>III</sup>	27.4
Chromium <sup>VI</sup>	1.0
Copper	1.4
Lead	3.4
Mercury (total)	0.06
Nickel	11
Zinc	8

Analyte	Discharge Water Criterion (µg/L) <sup>1</sup>
<b>Total Recoverable Hydrocarbons (TRH)</b>	
F1 (C <sub>6</sub> -C <sub>10</sub> minus BTEX)	50 <sup>6</sup>
F2 (>C <sub>10</sub> -C <sub>16</sub> minus naphthalene)	60 <sup>6</sup>
F3 (>C <sub>16</sub> -C <sub>34</sub> )	500 <sup>6</sup>
F4 (>C <sub>34</sub> -C <sub>40</sub> )	500 <sup>6</sup>
<b>Monocyclic Aromatic Hydrocarbons (BTEX)</b>	
Benzene	950
Toluene	180 <sup>2</sup>
Ethylbenzene	80 <sup>2</sup>
o - xylene	350
p - xylene	200
m - xylene	75 <sup>2</sup>
<b>Polycyclic Aromatic Hydrocarbons (PAH)</b>	
Total PAH	1 <sup>6</sup>
<b>Other Parameters</b>	
Phenol (total)	320
Cyanide (total)	7

Note 1 Discharge water quality criteria are the ANZG (2018) *95% Fresh Water Trigger Values* (with the *99% Trigger Values* applied for the bio-accumulative parameters - mercury), unless otherwise indicated.

Note 2 Low reliability toxicity data, refer to ANZECC / ARMCANZ (2000).

Note 3 From Table 3.3.2 in ANZECC/ARMCANZ (2000) *Default trigger values for physical and chemical stressors*.

Note 4 In the absence of an ANZG (2018) criterion, an alternative criterion from ANZECC / ARMCANZ (2000) is applied (turbidity and electrical conductivity values sourced from Table 3.3.3 *Default trigger values for physical and chemical stressors*, with the marine criterion for EC applied, in the absence of a fresh water criterion).

Note 5 Based on NHMRC (2018) *Drinking Water Guidelines*.

Note 6 In lack of a published criterion, the laboratory PQL will be adopted, as per DEC (2007). The PQL of SGS Australia Pty Ltd is given here.

## 4.3 Water Quality Monitoring

### 4.3.1 Visual Monitoring

Visual inspections of the dewatering measures and equipment should occur regularly (daily where possible) by the Principal Contractor or Site Manager to ensure:

- The effective operation of all dewatering treatment equipment;
- Short circuiting of water around baffles and filter media within sediment retention tanks;
- No hydrocarbon sheens are visible and no hydrocarbon odours are emitted from the extracted water or sediment;
- No green blue or extremely clear water indicating high levels of dissolved aluminium is present;
- No sediment or suspended load is allow to bypass the baffles and sediment tanks; and
- Appropriate quantities of chemical product are available for use within the dosing system (if required).

The Site Manager must keep a record of all visual observations, as well as flow rates to enable the determination of water extraction/discharge volumes following the completion of dewatering activities.

#### 4.3.2 Discharge Water Quality Monitoring

To assess the ongoing suitability of the extracted water for discharge to the municipal stormwater system, monitoring of the water quality will be required. The monitoring should be completed by a suitably qualified environmental scientist or equivalent, and samples should be analysed by a NATA accredited laboratory, for the parameters listed in **Table 4-1**.

All laboratory analytical results for the water samples must be retained, and kept onsite by the appointed contractor, to be made available upon request by Council and/or Water NSW. The contractor should seek advice from the environmental consultant prior to deviating from any of the above monitoring requirements. The Site Manager should seek advice from the environmental consultant prior to deviating from the agreed monitoring program, to ensure the quality of discharged water is not compromised. Once the Site Manager and consultant have been appointed, their names and contact information are to be clearly displayed in the site office.

The following activities are to be implemented:

- A trial run period should include sampling of the ponded water prior to treatment and a subsequent sample following treatment (if required), while treated water is being collected and pumped back on site. After confirmation that the water quality complies with criteria, the water will be directed to the stormwater discharge point.
- A weekly sampling frequency will be adopted thereafter (if intermittent dewatering continues longer than 1 week) and the collected samples are to be analysed for the parameters stated in **Table 5-1**. The weekly sampling frequency may be extended to fortnightly monitoring and then monthly for the remaining duration of surface water dewatering, provided the analytical monitoring results indicate the treated water quality consistently meets the adopted criteria.

#### 4.3.3 Reporting of Water Quality Results

Dewatering management procedures and monitoring results will be reviewed by the appointed environmental consultant to ensure that the treatment procedures are effective, and that the discharge waters are in compliance with the adopted criteria (**Table 4-1**). Discharge water quality reporting will be required as follows:

- Interim Monitoring Reports will be prepared upon receipt of laboratory data for each round of water quality monitoring for the discharged waters. The interim reports will provide a comparison of historic and current results obtained from the site, against the adopted criteria and shall corrective actions and recommendations based on the results, where required.
- Following completion of dewatering activities, a Dewatering Completion Report will be prepared by the appointed environmental consultant, and must include copies of all analytical results and interim monitoring reports issued during the dewatering period. A clear statement will be made regarding the overall quality of water discharged to the stormwater system in comparison to the acceptable quality standards. The final report will be submitted to Council and Water NSW.

#### Reporting of Other Information

The Site Manager must keep records of complaints, water treatment chemicals and treatment methods employed (if required) and cumulative discharge volume records as measured from the installed calibrated flow meter. In addition, any periods of dewatering stoppage should also be recorded. These records must be available on-site at all times and should be provided to the appointed water quality expert for monitoring report purposes.

#### 4.3.4 Discharge Flow and Volume Monitoring

The cumulative volume of water discharged to stormwater must be monitored by calibrated flow meter (or equivalent alternative means) to comply with regulatory requirements. This will require a regular (preferably) daily record to be maintained, to document the total volume discharged, and reporting of the cumulative volume discharged in the interim monitoring report.

Flow monitoring will be undertaken by a suitably trained site employee under the supervision of the Project Manager and tabulated records should be maintained on site and made available to the environmental consultant for inclusion in the routine monitoring event reports.

These records will be used to calculate the actual water volume discharged from the site and will be included in the final Dewatering Completion Report (**Section 5.3.3**) to be issued to Council and WaterNSW after the completion of dewatering activities.

## 4.4 Water Treatment

All extracted water that exceeds the adopted criteria values will require treatment on-site using approved technologies prior to discharge. Engagement of a suitably qualified and experienced water treatment specialist is necessary, to design and install any treatment measures that may be required, which should include (but not necessarily be limited to):

- A treatment tank with minimum capacity capable of containing the expected inflow for the basement (as described in **Section 4.4**);
- Water filtration to reduce fine particulates;
- Automated in-line chemical dosing systems for the addition of buffering solutions and coagulants for the management of water pH and other parameters, which may be required from time to time, as described in **Section 6.5 Dewatering Contingencies**;
- Water treatment to reduce concentrations of the metals (if required) to below the adopted criteria detailed in **Table 4-1**;
- Spare retention tank(s) to provide additional residence time and sedimentation, in the case that non-compliant water quality is identified during routine monitoring, triggering temporary redirection of discharge while adjustments to the water treatment system are being implemented; and
- A means of monitoring flow rate to enable the accurate determination of total discharge volume (addressed in more detail in **Section 5.3.4**).

Selection of the preferred water treatment system shall be made by the appointed dewatering contractor with guidance from the water treatment specialist. The water treatment system should be installed, tested and operational prior to the commencement of dewatering, to ensure that only treated water that meets the adopted quality criteria is discharged to storm water.

#### System Maintenance

The water treatment system(s) must be regularly maintained by the dewatering contractor. Maintenance must include:

- Regular cleaning and or replacement of the geo-fabric filters within the retention tanks; and
- Regular removal of sediment from the retention tanks by an appropriately-licensed waste contractor.

## 5. SITE MANAGEMENT CONTROLS

### 5.1 Deviations from this Plan

The Principal Contractor or Site Manager should seek advice from the environmental consultant whenever deviation from the agreed monitoring program is considered. To ensure the monitoring data set and the early warning objectives of the DMP are not compromised, variations will only be considered where technical justification exists, and any deviations that may be accepted will be documented within the corresponding reports, and must include all justifications for the variation accepted.

### 5.2 Contact Details for Key Personnel

Once the site manager, dewatering contractor, water treatment specialist, environmental consultant (water quality expert) and geotechnical engineer have been appointed, their names and contact information must be clearly displayed on site, within the site office. An example format is as follows:

Site Manager/Principal Contractor	Name: Company:	Mobile phone: Email:
Dewatering Contractor	Name: Company:	Mobile phone: Email:
Water Treatment Specialist	Name: Company:	Mobile phone: Email:
Environmental Consultant	Name: Company:	Mobile phone: Email:
Geotechnical Engineer	Name: Company:	Mobile phone: Email:

### 5.3 Summary of Specific Activities

The appointed contractor and/or Site Manager will be responsible for ensuring that the following activities (requirements) are undertaken during the dewatering program:

- Maintain erosion and sediment control measures in a functioning condition, until all construction activities are completed;
- Perform daily visual inspection of stormwater diversions and sediment / erosion control devices, as specified in **Section 5.3.1**;
- Implement appropriate remedial measures where any controls or devices are not functioning effectively or are inappropriate;
- Collate records and comments on the condition of existing erosion and run-off controls (drains, silt fences, catch drains etc.), dewatering procedures and test results, and any site instructions issued to sub-contractors to undertake remedial works;
- Maintain general rainfall records describing each day as dry, light rain, heavy rain and the approximate duration of the rain event (to be filed on site);
- Confirm water quality parameters meet the relevant discharge limits, by disclosing supporting documentation upon request;

- Reporting any incidents of poor drainage or uncontrolled discharge; and
- Recording all daily inspection reports, environmental incidents and cumulative discharge volumes, as read from the installed flow meter (described in **Section 5.3.4**), which may be reviewed during any dewatering audit that may occur at the site.

## 5.4 Dewatering Contingencies

Contingent actions for scenarios that may arise during dewatering are detailed in **Table 6-1**.

**Table 5-1 Mitigation Measures for Potential Dewatering Issues**

Anticipated Problem	Corrective Actions
<b>Water Quality Criteria Non-Compliance</b>	
<p><i>Water Quality Criteria Exceedance</i>                      Laboratory analytical report for any monitoring event reveals that the quality of treated discharge water does not satisfy the adopted criteria detailed in <b>Table 4-1</b></p>	<p>Immediate action must be taken to halt the release of water into the municipal stormwater system, where water quality is found not to meet the adopted criteria detailed in <b>Table 4-1</b>. Discharge to the stormwater system must be suspended to enable the following procedure to be implemented:</p> <ol style="list-style-type: none"> <li>1) Discharge water will be redirected to the spare retention basin;</li> <li>2) A water sample will then be collected and sent to the laboratory for confirmation analysis for the non-compliant parameter(s) on an express (24hr) results turn-around basis;</li> <li>3) Should the analytical result for the confirmation sample show that the previously non-compliant parameter(s) is/are now meet the adopted criteria, the treated water outlet may be redirected to the stormwater system;</li> <li>4) Should the analytical result for the confirmation sample show that the discharge water quality does not comply with the adopted criteria, the environmental consultant / water treatment specialist will be required to modify the water treatment system, in order to achieve compliant discharge water quality. Collection of further treated water samples will be required to confirm the effectiveness of the modifications;</li> <li>5) After laboratory confirmation that the revised treated water quality complies with criteria, extracted water may be re-directed to the stormwater discharge point; and</li> <li>6) Weekly monitoring of treated discharge water quality monitoring will be required, until such time that contaminant concentrations are within the adopted criteria values for three consecutive sampling events. Once this is achieved, fortnightly monitoring may be reinstated.</li> </ol>
<p><i>Visible and Olfactory Impacts</i>                      Visual and/or olfactory anomalies (e.g. change in water colour, turbidity, odour, presence of oil / grease) are observed in extracted water</p>	<p>Similar to the above procedure (Steps 1 to 6) treated water will be redirected to an alternative retention vessel, while the treatment system is adjusted.</p> <p>It may be necessary to have collected waters removed by a licensed wastewater contractor, should retained quantities exceed the on-site capacity for temporary storage.</p> <p>The contractor is to seek advice from a suitably experienced environmental consultant in regard to the additional assessment and treatment that may be required for any observed changes to water appearance or detectable odours.</p> <p>In accordance with Council's Contaminated Land Policy, no nuisance odours are to be detected at any site boundary during the dewatering stage. Should odour emissions be detected at a site boundary, the following measures will be implemented:</p>



Anticipated Problem	Corrective Actions
	<ol style="list-style-type: none"> <li>1. Stop work, to allow odour to subside.</li> <li>2. Monitor ambient air across the site and boundaries with a portable photo-ionisation detector (PID).</li> <li>3. Implement control measures, including respirators for on-site workers, use of odour suppressants and wetting down of excavated material.</li> <li>4. Notify the occupants of adjoining premises regarding odour issues. Notification should be in writing, providing the contact details of the responsible site personnel.</li> <li>5. Record logs for volatile emissions and odours.</li> </ol>
<b>System Performance Issues</b>	
Dewatering system failures	Ensure that spare equipment parts (where practical) are on hand. Ensure that the failed equipment can be serviced by site personnel or an appointed contractor who can rapidly report to site when needed.
Power outages	<p>Ensure that a backup generator is readily available. In this event, an assessment across the site and surrounding sites should also be completed in order to identify whether any other lights and electrical equipment are working so to identify if the issue is site specific or if it is across a whole area.</p> <p>In addition to having the back-up generator running, the contractor should also seek advice from an electrician in regard to the additional assessment and repairs that may be required.</p>
Unexpected contaminants found during monitoring	Contact the appointed environmental consultant / water quality expert and collect samples for analysis, to assess the identified concentrations against relevant criteria. If the contaminant is found to exceed the adopted criteria for the 95% species protection for fresh waters (ANZG, 2018), follow the corrective actions corresponding to <i>Water Quality Criteria Exceedance</i> above. Expand the adopted criteria accordingly.
Chemical / fuel spill and leaks from machinery	Stop earthworks, notify site project manager. Use accessible soil or appropriate absorbent material to absorb the spill (if practicable). Stockpile the impacted material in a secure location, on builder's plastic to avoid cross contamination. Inspect water and note any visual and/or changes. The contractor should also seek advice from environmental consultant in regard to the additional assessment and treatment that may be required.
Excessive noise	<p>Identify the source and isolate if possible.</p> <p>Modify the actions of the source or erect temporary noise barriers if required.</p>
Complaint management	<p>Notify client, project manager(s) and environmental consultant (if required) following complaint, and report complaint as per management procedures.</p> <p>Implement control measures to address reason of complaint (if possible) and notify complainant of outcome.</p>

## 6. STATEMENT OF LIMITATIONS

This plan has been prepared for the exclusive use of Deicorp Pty Ltd, whom is the only intended beneficiary of EI's work. The scope of work completed for the purpose of this plan is limited to that agreed with Deicorp Pty Ltd.

No other party should rely on the document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in drafting similar plans by reputable members of the environmental industry in Australia, as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section must be read in conjunction with the whole of this plan, including its appendices.

EI's professional opinions are reasonable and based on its judgment, experience, training and results from analytical data. EI may also have relied upon information provided by the client and other third parties to prepare this document, some of which may not have been verified by EI.

EI's professional opinions contained in this document are subject to modification if additional information is obtained through further investigation or observations. In some cases, further testing and analysis may be required, which may result in a further report with different conclusions.

Should you have any queries regarding this plan, please do not hesitate to contact EI.

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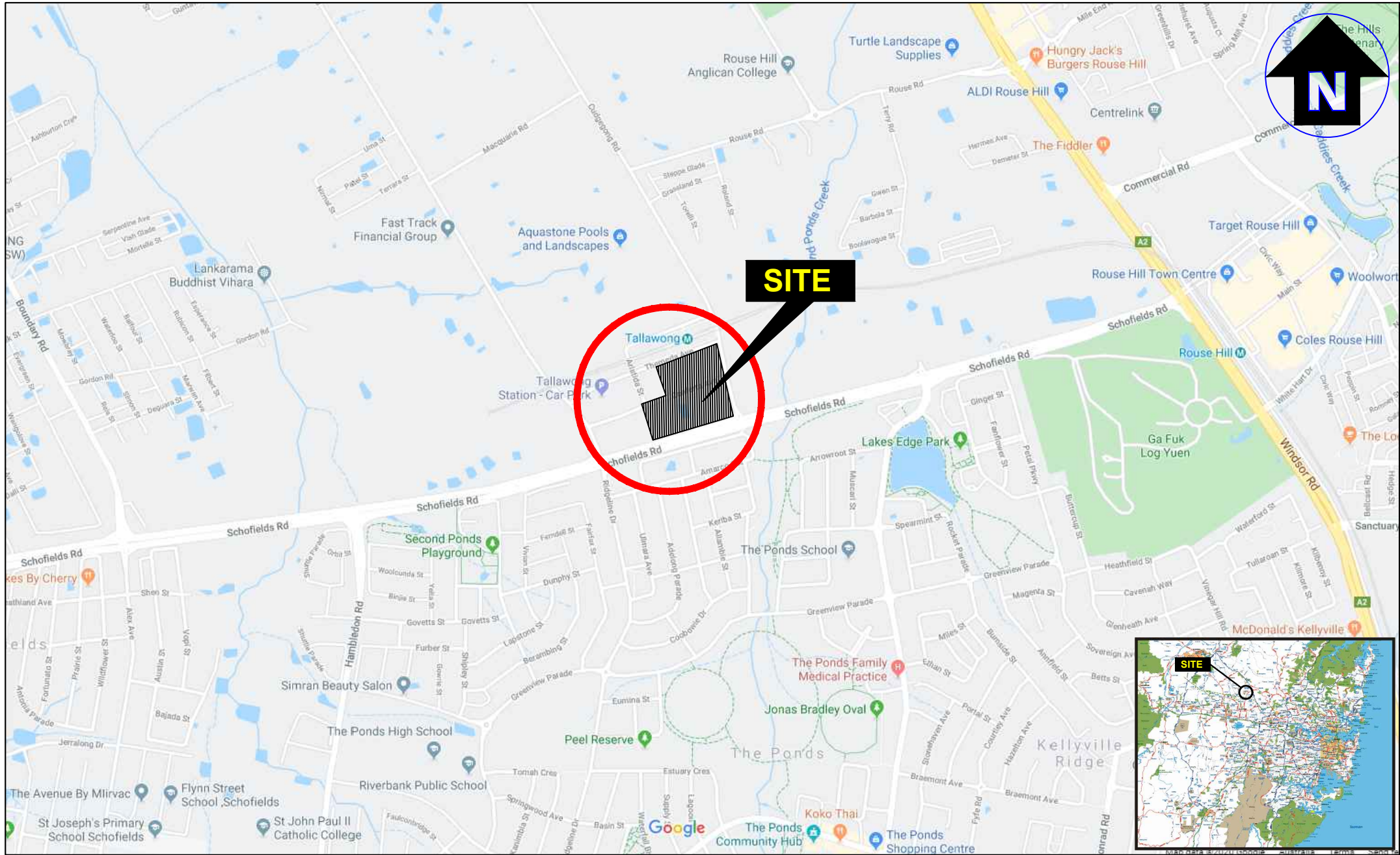
## ABBREVIATIONS

AHD	Australian Height Datum
ANZG	Australian and New Zealand Governments
ASS	Acid Sulfate Soils
BEL	Bulk Excavation Level
BTEX	Benzene, Toluene, Ethyl benzene, Xylene
DA	Development Application
DMP	Dewatering Management Plan
DP	Deposited Plan
DWC	Discharge Water Criteria
EC	Electrical Conductivity
FFL	Finished Floor Level
GME	Groundwater Monitoring Event
GTA	Groundwater Take Assessment
km	Kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
LOR	Limit of Reporting (limit of reporting for respective analytical method)
m	metres
ML	Megalitres
mg/L	Milligrams per litre
µg/L	Micrograms per litre
µS/cm	Microsiemens per Centimetre
NA	Not Applicable
NATA	National Association of Testing Authorities
NC	No Criterion
NTU	Nephelometric Turbidity Units
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
pH	Potential Hydrogen (a measure of the acidity or basicity of an aqueous solution)
PID	Photo-Ionisation Detector
PQL	Practical Quantitation Limit (quantitative limit for respective analytical method)
RL	Reduced Level
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
TPH	Total Petroleum Hydrocarbons (superseded term equivalent to TRH)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
UST	Underground Storage Tank

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## Appendix A - Figures

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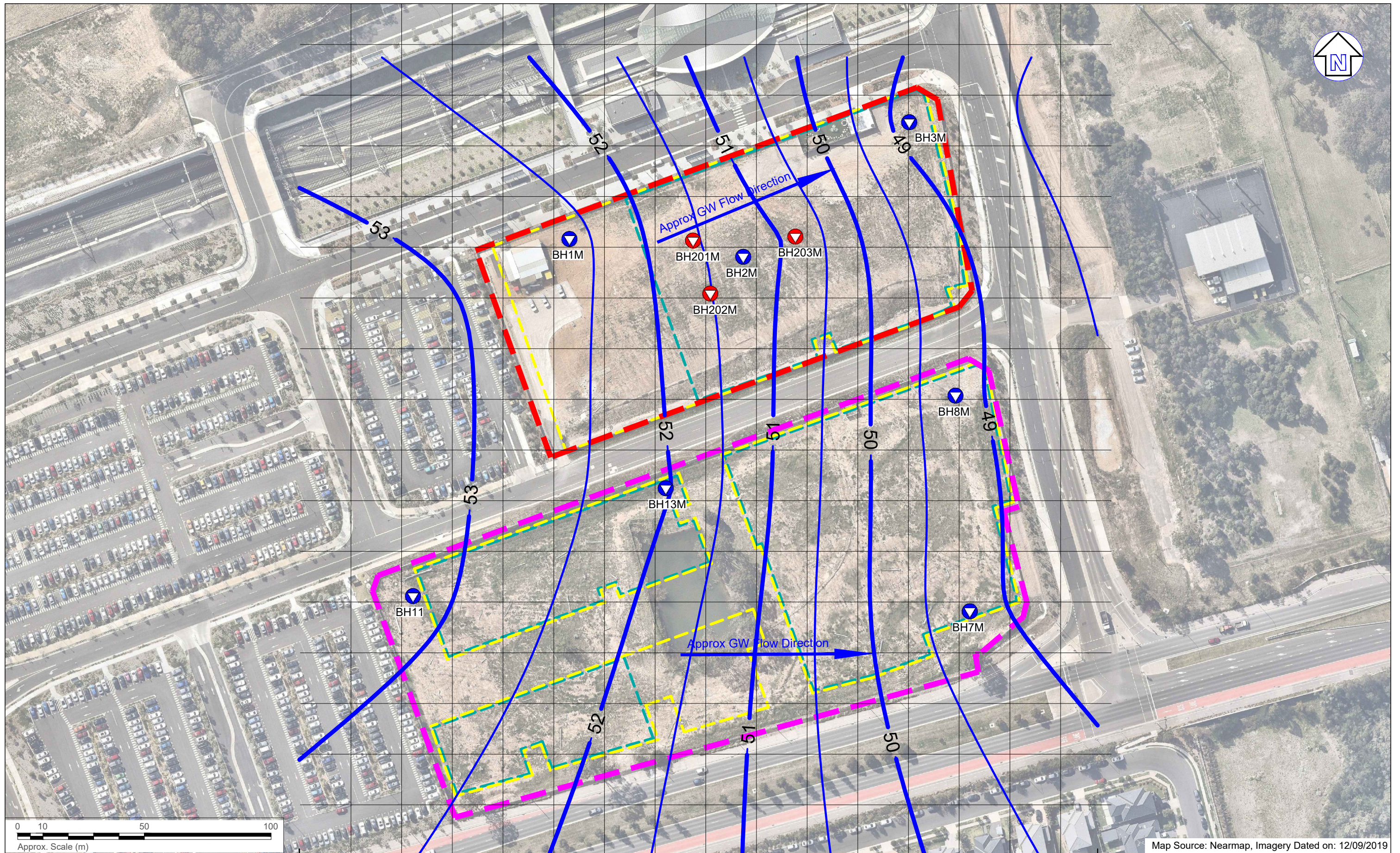
Drawn:	AM.H.
Approved:	N.G.
Date:	26-03-21
Scale:	Not To Scale

**Deicorp Pty Ltd**  
 Dewatering Management Plan  
 Tallawong Station Precinct South, Rouse Hill NSW  
 Site Locality Plan

Figure:

**1**

Project: E24445.E16



**LEGEND**

- Approximate Site 1 boundary (E24445.E16.1 - DMP)
- Approximate Site 2 boundary (E24445.E16.2 - DMP)
- Approximate basement 1 and 2 boundary
- Approximate basement 2 and 3 boundary
- ▼ Approximate newly installed monitoring well location
- ▼ Approximate monitoring well location by EI (DSI, 2020)
- Approximate groundwater flow direction
- Approximate groundwater level (RL mAHD)
- Contour interval 0.5 m

  
 Contamination | Remediation | Geotechnical  
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 Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	AM.H.
Approved:	N.G.
Date:	26-03-21

**Deicorp Pty Ltd**  
 Dewatering Management Plan  
 Tallawong Station Precinct South, Rouse Hill NSW  
 - Site 1  
 Site Layout Plan

Figure:  
2  
 Project: E24445.E16.1

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## Appendix B - Proposed Development Plans

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Rev	Date	Approved by	Issue Name
J	16/01/20	YO	PRELIMINARY
K	24/02/20	AH	PRELIMINARY
L	6/02/20	AH	PRELIMINARY
M	11/02/20	YO	PRELIMINARY
N	17/02/20	YO	PRELIMINARY
O	24/02/20	YO	For Coordination
P	03/03/20	YO	For Coordination
Q	13/03/20	YO	For Coordination
R	20/03/20	YO	For Coordination
S	22/03/20	YO	For Coordination
T	30/03/20	YO	For Coordination
U	31/03/20	YO	For Coordination
V	04/04/20	YO	For Coordination

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**Project Title**  
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 1-15 & 2-12 Conforta Avenue Rouse Hill NSW 2155

**Drawing Title**  
 GA Plans Overall  
 Basement 03 & 02

Scale: 1:500 @A1, 50% @A3  
 Project No: 18095  
 Drawn by: TURNER  
 Checked by: V  
 Drawing No: DA-110-006  
 Rev: V



Rev	Date	Approved by	Issue Name
J	16/01/20	YO	PRELIMINARY
K	24/02/20	AH	PRELIMINARY
L	6/02/20	AH	PRELIMINARY
M	11/02/20	YO	PRELIMINARY
N	17/02/20	YO	PRELIMINARY
O	24/02/20	YO	For Coordination
P	03/03/20	YO	For Coordination
Q	13/03/20	YO	For Coordination
R	20/03/20	YO	For Coordination
S	22/03/20	YO	For Coordination
T	30/03/20	YO	For Coordination
U	31/03/20	YO	For Coordination
V	04/02/20	YO	For Coordination

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**Drawing Title**  
 GA Plans Overall  
 Basement 02 & 01

**Scale**  
 1:500 @A1, 50% @A3

**Project No.** 18095  
**Dwg No.** DA-110-007

**Drawn by** TURNER  
**Rev** V

**North** ↑

**For Co-ordination**

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DLCC Quality Endorsed Company ISO 9001:2015, Registration Number 25415  
 Nominated Architect: Nicholas Turner, 8855, ABRN No. 054 094 911

**KEY PLAN**

**LEGEND**



Rev	Date	Approved by	Issue Name
J	16/01/20	YO	PRELIMINARY
K	24/02/20	AH	PRELIMINARY
L	6/02/20	AH	PRELIMINARY
M	11/02/20	YO	PRELIMINARY
N	17/02/20	YO	PRELIMINARY
O	24/02/20	YO	For Coordination
P	6/03/20	YO	For Coordination
Q	13/03/20	YO	For Coordination
R	20/03/20	YO	For Coordination
S	22/03/20	YO	For Coordination
T	30/03/20	YO	For Coordination
U	31/03/20	YO	For Coordination
V	8/4/20	YO	For Coordination

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 Tallawong Station Precinct South  
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**Drawing Title**  
 GA Plans Overall  
 Basement 01, Mezz. & Level 1

Scale: 1:500 @A1, 50% @A3  
 Project No: 18095  
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 Checked by: V  
 For Co-ordination: DA-110-008

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