2 October 2025
Ref: E35128Blet2-Rev3-SSDA

Health Infrastructure NSW (HI)
c/- TSA

COVER LETTER – SITE CONDITIONS ASSESSMENT - SSDA
NEW ROUSE HILL HOSPITAL
CORNER OF COMMERCIAL AND WINDSOR ROAD, ROUSE HILL, NSW

1 INTRODUCTION

This Site Conditions Assessment letter has been prepared by JK Geotechnics (JKG) and JK Environments (JKE) to support a State Significant Development Application (SSDA) for the construction and operation of a new hospital campus at the Corner of Commercial Road and Windsor Road, Rouse Hill (SSD-96248991).

The proposed development comprises:

- Site preparation including earthworks and tree removal;
- Construction of internal roads with connection to Commercial Road;
- Incoming electrical and communications services;
- Construction of hospital buildings up to eleven storeys;
- Construction of a ten storey above-ground car park;
- Pedestrian and cycle pathway connections;
- Landscaping; and
- Ancillary works to Commercial Road, comprising:
  - minor works (including realignment of existing median strip, kerb and gutter, footpath and lane marking) to provide access from Commercial Road into Hospital Road; and
  - associated tree removal along Commercial Road.

The scope of the proposed works includes:

- An emergency department and primary access clinic;
- Comprehensive birthing services including birthing rooms and a maternity inpatient unit;
- Inpatient beds and day surgery services;
- Short stay medical assessment services;
- Pathology, pharmacy, and medical imaging services;
- Outpatient and ambulatory care services including paediatrics and renal dialysis and antenatal and postnatal services;
- Virtual care and hospital in the home services;
- Prehabilitation, rehabilitation and lifestyle medicine;
- Administration, staff support, loading dock and back-of-house services; and
- Ancillary commercial uses to support the hospital, including retail.

The SSDA applies to the sites as summarised in Table 1 below.

Table 1 – Project site

Lot & DP Plan	Purpose	Area
Lot 311 in DP 1274392	New hospital	18,100m^2
Lot 312 in DP 1274392	New hospital	5,428m^2
part Lot 229 in DP 1249147	Footpath connection to Rouse Hill Drive and temporary use for construction	4,943m^2
part Lot 101 in DP 1060353	Ancillary works to Commercial Road	1,054m^2
part Lot 2011 in DP 1131519	Ancillary works to Commercial Road	
part Commercial Road (local road)	Ancillary works to Commercial Road	
Total Area		**29,525m^2**

JKG and JKE have undertaking multiple investigations to comprehensively assess potential impacts on and from soil resources, surface and groundwater and contamination.

This Site Conditions Assessment letter provides an overview of the site investigations undertaken and provides an associated assessment of the suitability of the site for the proposed development.

In summary, the following reports have been considered in this letter.

Table 2 – Relevant investigations

Report	Date	Subject sites	Subject investigations
Preliminary Geotechnical Investigation Report (Ref: 37756LFrpt DPHI)	18 September 2025	• DPHI site	• Geotechnical
Preliminary Geotechnical Investigation Report (Ref: 35128LFrpt Rev4)	1 September 2025	• New hospital	• Geotechnical
Geotechnical Investigation Report (Ref: 37756LFrpt2 Main Hospital)	19 September 2025		
Geotechnical Investigation Report (Ref: 37756LFrpt3 Shared Pathway)	19 September 2025	• Shared pathway	• Geotechnical
Geotechnical Investigation Report (Ref: 37756LFrpt4 Commercial Road)	19 September 2025	• Commercial Road	• Geotechnical
Detailed Site Investigation Report (Ref: E37757Brpt-DSI-DPHI)	18 September 2025	• DPHI site	• Contamination

Report	Date	Subject sites	Subject investigations
Unexpected Finds Procedure Report (Ref: E37757Brpt3-UFP-DPHI)	18 September 2025		
Surface Water and Groundwater Impact Assessment (Ref: E37757Brpt2-SGIA-DPHI)	18 September 2025		• Surface and Groundwater
Detailed Site Investigation Report (Ref: E37757Brpt-DSI-CR)	22 September 2025	• Commercial Road	• Contamination
Unexpected Finds Procedure Report (Ref: E37757Brpt3-UFP-CR)	23 September 2025		
Surface Water and Groundwater Impact Assessment (Ref: E37757Brpt2-SGIA-CR)	23 September 2025		• Surface and Groundwater
Detailed Site Investigation Report (Ref: E37757Brpt-DSI-SP)	18 September 2025	• Shared Pathway	• Contamination
Unexpected Finds Procedure Report (Ref: E37757Brpt3-UFP-SP)	18 September 2025		
Surface Water and Groundwater Impact Assessment (Ref: E37757Brpt2-SGIA-SP)	18 September 2025		• Surface and Groundwater
Supplementary Detailed (Stage 2) Site Investigation Report (Ref: E35128PHrpt-Rev6)	1 September 2025	• New Main Hospital	• Contamination
Detailed Site Investigation Report (Ref: E37757Brpt.Rev1-DSI-MH)	24 September 2025		
Unexpected Finds Procedure Report (Ref: E37757Brpt5-UFP-MH)	24 September 2025		
Surface Water and Groundwater Impact Assessment (Ref: E37757Brpt3-SGIA-MH)	18 September 2025		• Surface and Groundwater

Report	Date	Subject sites	Subject investigations
Groundwater Quality Screening Report (Ref: E35128Brpt-Rev3)	1 September 2025		
Dryland Salinity and Acid Sulfate Soils Assessment (Ref: E35128Brpt2-Rev3)	1 September 2025		
Salinity Management Plan (Ref: E37757Brpt4-SMP-MH)	18 September 2025		
Hydrogeological Analysis Report (Ref: 35128LFrpt2 Rev6)	1 September 2025		
Sampling Analysis and Quality Plan for Date Gap Investigation Report (Ref: E35128Brpt5-Rev2-SAQP)	1 September 2025	• New hospital • Ancillary works to Commercial Road • Footpath connection	• Geotechnical • Surface and Groundwater • Salinity and Acid Sulfate Soils • Contamination

This letter and associated reports have addressed the following matters within the Secretary's Environmental Assessment Requirements (SEARs) issued for the SSDA on ## #### 2025 (see Table 3).

Table 3 – Relevant SEARs items

Issue and Assessment Requirements	Response
13. Ground and Water Conditions • Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site, including soil erosion, salinity and acid sulfate soils. • Provide a Surface and Groundwater Impact Assessment that assesses potential impacts on: ➢ surface water resources (quality and quantity) including related infrastructure, hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses. ➢ groundwater resources in accordance with the Groundwater Guidelines.	Summary of key findings provided in Section 2. Reference should be made to the JK reports referenced above for additional information:
17. Contamination and Remediation • In accordance with Chapter 4 of SEPP (Resilience and Hazards) 2021, assess and quantify any soil and groundwater contamination and demonstrate that the site	Summary of key findings provided in Section 2. Reference should be made to the JK reports referenced above for additional information:

is suitable (or will be suitable, after remediation) for the development.	

2 SUMMARY OF REPORT FINDINGS

2.1 Ground and Water Conditions

2.1.1 Summary of Geotechnical Investigations

The following summarises the findings of the geotechnical investigations at each site which was used to inform the SGIA, as discussed further in Section 2.1.2 below.

2.1.1.1 New Hospital Site

JK Geotechnics carried out geotechnical investigations in 2022 and 2025 totalling 13 cored boreholes, including the installation of three groundwater monitoring wells. The boreholes encountered a shallow cover of fill overlying residual silty clay that graded into weathered siltstone typically at relatively shallow depths. The bedrock then quickly improved to medium to high strength. Groundwater was not encountered during the investigations but subsequent groundwater monitoring indicated the presence of groundwater at depths ranging between 2.0m and 6.4m below existing surface levels. Groundwater monitoring indicated fluctuations in the groundwater level over time. Longer term groundwater monitoring was underway at the time of this letter.

A hydrogeological analysis report was prepared for the site by JKG. The purpose of the analysis was to prepare a geotechnical model of the site, based on the geotechnical investigations undertaken by JKG, and to assess the potential seepage volumes into the ground floor excavation during construction and on-going use of the hospital. Based on the hydrogeological analysis, groundwater inflows were estimated to be about 0.1ML/year, although with natural fluctuations may increase to about 0.5ML/year. Regardless, a drained basement was considered suitable for the development. Furthermore, geotechnical input consisting of additional cored boreholes, as deemed required, and inspections by a geotechnical engineer during construction were recommended.

2.1.1.2 DPHI Site

JK Geotechnics carried out geotechnical investigation of the DPHI site in 2025 totalling four augered boreholes, including the installation of three groundwater monitoring wells. The boreholes encountered a shallow cover of fill overlying residual silty clay that graded into weathered siltstone typically at relatively shallow depths. The bedrock was initially very low to low strength then quickly improved to medium to high strength. Groundwater was not encountered during the investigations but a subsequent groundwater measurement indicated no groundwater within two monitoring wells, and groundwater at approximately 0.6m deep in one well, however this was assessed to be trapped or perched groundwater within the fill, and not reflective of the 'true' groundwater table.

Longer term groundwater monitoring and hydrogeological analysis was not considered warranted for the site given at this stage groundwater is not expected to be encountered. We note however details of the proposed works were limited and therefore recommended further geotechnical advice as further details become available.

2.1.1.3 Commercial Road

JK Geotechnics carried out geotechnical investigation of the Commercial Road site in 2025 totalling seventeen augered boreholes, including the installation of two groundwater monitoring wells. The boreholes encountered a shallow cover of fill overlying residual silty clay that graded into weathered siltstone typically at relatively shallow depths. The bedrock was initially extremely weathered and of hard soil strength tending to medium to high strength at depth. Groundwater was not encountered during the investigations but a subsequent groundwater measurement indicated no groundwater within one monitoring well, and groundwater at approximately 1.9m deep in the other well, however this was assessed to be trapped or perched groundwater within the fill or minor seepage over the soil-rock interface, and not reflective of the 'true' groundwater table.

Longer term groundwater monitoring and hydrogeological analysis was not considered warranted for the site given groundwater is not expected to be encountered by the Commercial Road works. Further geotechnical input recommendations comprised of inspections by a geotechnical engineer during construction.

2.1.1.4 Shared Pathway

JK Geotechnics carried out geotechnical investigation of the Shared Pathway site in 2025 totalling eight augered boreholes. The boreholes encountered fill from the surface and the fill extended to the borehole refusal depths. The fill comprised a variable material with varying proportions of sand and clay, as well as gravel, slag, organic matter, root fibre, concrete and brick fragment inclusions. No natural soils or bedrock were encountered within the boreholes. No groundwater was encountered during borehole drilling and all boreholes were dry on completion, except for one borehole where groundwater was measured at approximately 0.5m depth. However, this water was considered unlikely to be the groundwater table and more likely is a result of some 'trapped' water within the fill.

Longer term groundwater monitoring and hydrogeological analysis was not considered warranted for the site given groundwater is not expected to be encountered by the Shared Pathway works. Further geotechnical input recommendations comprised of additional boreholes, if deemed required, and inspections by a geotechnical engineer during construction.

2.1.2 Summary of Surface and Groundwater Impact Assessment (SGIA)

The primary aim of the SGIA is to assess the potential for impacts on surface and groundwater conditions associated with the proposed development and to identify any mitigation measures required to be

implemented during the development. The SGIA also includes a review of Potential Acid Sulfate Soil (PASS) and dryland salinity conditions associated with the proposed development.

2.1.2.1 New Hospital Site

The SGIA identified the following mitigation measures:

- Preparation and implementation of a Construction and Environmental Management Plan (CEMP) prior to the commencement of development works;
- Groundwater seepage entering the excavations will require treatment prior to off-site disposal to stormwater. Council approval must be obtained prior to disposal to stormwater;
- Preparation and implementation of a Salinity Management Plan (SMP) for the proposed development; and
- Ecologist Review of Sensitive Areas identified in the SGIA.

JKE prepared a SMP for the proposed hospital development. Salinity management recommendations outlined in the plan were designed generally in accordance with the amended Salinity Code of Practice. Salinity management recommendations were provided for the following:

- Proposed earthworks;
- Site drainage, surface water and storm water run-off;
- Temporary Water Retention/Detention Basins;
- Design of Built Structures;
- Gardens and Landscaped Areas;
- Roads, Footpaths and Hardstand Areas; and
- Ongoing management.

The recommendations should be reviewed (and if necessary, revised) in the event of any changes to the proposed development at the site. The recommendations should be assessed by the project design team as applicable for the proposed development.

Reference should also be made to the recommendations outlined in other relevant documentation, including but not limited to the local council salinity control/management plan, development consent conditions, geotechnical reports and landscape design documentation.

2.1.2.2 DPHI Site

The SGIA identified the following mitigation measures:

- Preparation and implementation of a CEMP prior to the commencement of development works; and
- In the event of excavations, groundwater seepage entering the excavations will require treatment prior to off-site disposal to stormwater. Council approval must be obtained prior to disposal to stormwater.

2.1.2.3 Commercial Road Site

The SGIA identified the following mitigation measures:

- Preparation and implementation of a CEMP prior to the commencement of development works; and
- In the event of excavations, groundwater seepage entering the excavations will require treatment prior to off-site disposal to stormwater. Council approval must be obtained prior to disposal to stormwater.

2.1.2.4 Shared Pathway Site

The SGIA identified the following mitigation measures:

- Preparation and implementation of a CEMP prior to the commencement of development works; and
- In the event of excavations, groundwater seepage entering the excavations will require treatment prior to off-site disposal to stormwater. Council approval must be obtained prior to disposal to stormwater.

2.2 Contamination and Remediation

The primary aim of the DSI were to identify any past or present potentially contaminating activities at the site, identify the potential for site contamination, and make a detailed assessment of the soil and groundwater contamination conditions. A brief summary of the DSI findings are presented in the sections below.

2.2.1.1 New Hospital Site

The DSI included a review of site information including previous investigations completed at the site, historical information, soil sampling from 32 test pits locations and groundwater sampling from six monitoring wells. The site has been historically used for agricultural (grazing) purposes prior to the 1970s and as a golf course between 1970s to circa 1994.

The DSI identified the following Areas of Environmental Concern (AEC) at the site: fill material and former land use as a golf course. The Conceptual Site Model (CSM) identified the adjoining electrical substation as a potential off-site AEC.

The soil laboratory results did not identify any elevations of Contaminants of Potential Concern (CoPC) above the human health-based and ecological Site Assessment Criteria (SAC).

JKE note that a total polychlorinated biphenyls (PCB) concentration of 1.2mg/kg (which was below the SAC of 7 mg/kg) was detected in fill sample obtained from TP521 (0-0.1m). A field duplicate/replicate sample SDUP503 (0-0.1m) obtained from the same fill profile was analysed for total PCBs. The result was less than the laboratory detection limits (PQL), indicating that the primary result was an anomaly. An underlying natural soil sample TP521 (0.4-0.5m) was also analysed for total PCBs and the results were less than the PQL.

TP521 is located in the central section of the hospital site. No point sources of PCBs were identified during the DSI or the previous investigations undertaken at the hospital site. Since the detection is within the surficial fill profile, and as the nearest adjacent sampling points are 28m away, the potential extent of the PCBs is uncertain, and it is possible that the sample in TP521 has not detected the highest concentrations.

On this basis and considering there is a potential for a complete SPR linkage to eventuate due to the surficial nature of the impact, further action is required.

JKE recommend additional targeted sampling and further analysis of PCBs in soils in the vicinity of TP521, followed by a site-specific Tier 2 Human Health Risk Assessment (HHRA) to address the NEPM (2013) framework. If risks are assessed to be unacceptable, then a Remediation Action Plan (RAP) must be prepared and implemented. We recommend that the specialist HHRA consultant be engaged and provide advice relating to the specific type of PCB analysis required to inform the risk assessment, prior to completing the additional sampling.

We recommend that an Unexpected Finds Protocol (UFP) be prepared, and this must include a specific contingency plan for the removal of any former asbestos containing irrigation pipelines that may still remain on the hospital site, and also protocols for addressing other unexpected finds.

Elevations of selected heavy metals (copper, nickel and zinc) and PFOS (a PFAS substance) were detected in the groundwater above the ecological SAC. We have assessed the risk pose by these elevations to be low in the context of the proposed land use provided that if groundwater is encountered during construction, it is appropriately managed.

The DSI recommended undertaking a HHRA to assess the need for remediation and preparing and implementing an UFP for the proposed use of the site.

2.2.1.2 DPHI Site

The DSI included a review of site information including previous investigations completed at the site, historical information, soil sampling from 11 test pits locations and groundwater sampling from one monitoring well. The site has been historically used for agricultural (grazing) purposes prior to the 1970s and as a golf course between 1970s to circa 1994.

The DSI identified the following Areas of Environmental Concern (AEC) at the site: fill material and former land use as a golf course. The soil laboratory results did not identify any elevations of contaminants of potential concern (CoPC) above the human health-based and ecological site assessment criteria (SAC).

Elevations of selected heavy metals (total chromium, copper and zinc) and PFOS (a PFAS compound) were detected in the groundwater above the ecological SAC. The report stated that the exceedances are likely to be representative of background concentrations in an urban environment and point sources of site contamination were not identified. The risk posed by the elevations were assessed to be low in the context of the proposed land use.

The DSI recommended preparing and implementing an UFP for the proposed use of the DPHI site.

2.2.1.3 Commercial Road Site

The DSI included a review of site information including previous investigations completed at the site, historical information, soil sampling from 15 boreholes locations and groundwater sampling form one monitoring well. The site has been an RMS road since circa 1930s and minor road widening works were completed circa 2004.

The DSI identified the following AEC at the site: fill material, landuse as an RMS road and off-site electrical substation.

The soil laboratory results did not identify any elevations of CoPC above the human health-based and ecological SAC. The groundwater laboratory results identified minor elevations of heavy metals above the ecological SAC. The minor elevations were considered to be associated with background conditions associated with the urban environment and not due to point sources.

The DSI recommended preparing and implementing an UFP for the proposed development of the Commercial Road.

2.2.1.4 Shared Pathway Site

The DSI included a review of site information including previous investigations completed at the site, historical information, soil sampling from eight borehole locations. The site has been historically used for agricultural (grazing) purposes prior to the 1970s and as a golf course between 1970s to circa 1994. The site currently forms part of the bus transit way (T-way) and associated reserve.

The DSI identified the following AEC at the site: fill material, former land use as a golf course and bus transit way. The soil laboratory results did not identify any elevations of CoPC above the human health-based and ecological SAC.

The DSI recommended preparing and implementing an UFP for the proposed development of the Shared Pathway

3 LIMITATIONS

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If you have any questions concerning the contents of this letter please do not hesitate to contact us.

Kind Regards

Vittal Boggaram
Principal | Environmental Engineer | Hydrologist

Owen Fraser
Senior Associate | Geotechnical Engineer