EDUCATION

2008| Chennai India
Qualification Bachelor of Engineering (Honours)

2013 | Illinois Institute of Technology
Master of Engineering (Geotechnical)

Institution of Engineers Australia, MIEAust CPEng

LANGUAGES

English | Hindi | Urdu | Tamil | Malayalam

CONTACT

0432 110 211
denny@allgeo.com.au

alliance
allgeo.com.au 1800 288 188

DENNY JACOB

Senior Geotechnical Engineer

PROFILE

Denny has over seven years of experience (including four years in Australia) and has been involved with geotechnical and engineering geological investigation for a wide range of sites in United Arab Emirates, United States of America, and Australia. Projects include site development, contaminated land, highways, airports, power/energy, pipelines, and new and historic building works. This has included road, rail and building construction contracts. He is a certified Chartered Professional Engineer (Civil).

Denny's current project responsibilities as a Senior Geotechnical Engineer with Alliance Geotechnical include slope risk assessments, pile and pier inspections, preparing fee proposals, supervising drilling investigations, carrying out fieldwork, developing geotechnical models, deriving appropriate soil and rock design parameters, numerical modelling and analysis of soil – structure interaction, report writing and liaising with subcontractors and stockholders

AREAS OF EXPERTISE

- Geotechnical Engineering
- Slope Stability
- Construction Phase Services
- Finite Element Modelling and Analysis
- Project Management

CERTIFICATIONS

Registered National Engineer, NER

Engineer-in-Training (EIT), California State Board of Engineers and Surveyors

Engineer-in-Training (EIT), State of Wisconsin

Certification in hazardous waste operations and emergency response (HAZWOPER)

EXPERIENCE

SPIECAPAG SOLETANCHE BACHY JV | PORT KEMBLA GAS TERMINAL (PKGT)

- AG were engaged to undertake the pre-final investment decision (FID) investigation works for the construction of a new Bulk Storage and Regasification Unit in Port Kembla. Denny was the project geotechnical engineer for the investigation which was focused on the design of barette piles for anchoring the regasification unit and a berth retaining wall. The works comprised drilling boreholes to depths > 30 m as part of a gap analysis from prior investigations and to obtain detailed design parameters based on analysis and interpretation of laboratory results including unconfined unconsolidated (UU) and consolidated undrained (CU) triaxial testing for provision of detailed design parameters.
- The investigation was undertaken in marine deposits comprising loose sands underlain by bedrock at depths greater than 25 m.

CPB CONTRACTORS | TRANSPORT FOR NSW (FORMERLY RMS) | THE NORTHERN ROAD UPGRADE STAGES 5 AND 6

- Denny was one of AG's project geotechnical engineers for the provision of geotechnical inspection services including foundation inspections, provision of recommendations for foundation treatments (embankments and cuts) comprising bridging layers, drainage layers, working platforms and geogrids, Benkelman Beam testing, data interpretation of results etc.

DIONA | WESTERN SYDNEY AIRPORT | BADGERYS CREEK RECYCLED WATER MAIN INSTALLATION

- Denny supervised the fieldwork for a combined geotechnical and pavement investigation which was undertaken by AG for the purposes of construction of a recycled water main from the proposed Western Sydney Airport in Badgerys Creek to the recycled water plan proposed in Hoxton Park. The mains were to be installed by means of trenching and by horizontal directional drilling where the mains will cross creeks or other critical infrastructure. The investigation was carried out over 12 days and comprised drilling of 20 boreholes to depths of up to 15 m. Denny also prepared a factual and interpretive report which detailed existing subsurface conditions and groundwater conditions along the alignment, assessment of geotechnical constraints for the installation of the water mains, provision of parameters for the lateral earth pressures for trenching, assessment of underbore induced settlements on existing infrastructure and provision of recommendations and advice on excavatability conditions, foundation conditions and earthworks

EXPERIENCE

PWC/ ARUP | WESTMEAD HOSPITAL INTERSECTION UPGRADE | WESTMEAD NSW

- Denny oversaw the fieldwork for a pavement investigation for an intersection upgrade at two intersections along Darcy Road, Mons Road and Institute Road. The upgrades were planned as part of accessibility upgrades to Westmead Hospital and included pavement re-construction and installation of traffic lights at the newly designed intersections. The scope of work comprised drilling boreholes to determine subsurface conditions and document the existing pavement profiles and subgrade conditions, sampling of soils for laboratory tests including California Bearing Ratio for pavement thickness design and undertaking Dynamic Cone Penetrometer tests to determine subgrade soil consistency. The works were undertaken during night shifts and comprised organisation of fieldwork schedules including applications for Road Occupancy Licenses (ROLs) and Traffic Control Plans (TCPs), coordination of traffic control, underground services locating and supervision of the drilling subcontractor crew. The drilling schedule of 12 boreholes was completed in three (3) night shifts. The interpretive report by Alliance Geotechnical provided pavement construction recommendations and design parameters including design CBRs and bearing pressures for traffic light footings.

BG& E ENGINEERING | CONCORD ROAD AND AVERILL STREET | RHODES NSW

- Denny supervised a pavement investigation for the construction of an 80 m long right turn lane extension on to Averill Street from Concord Road Rhodes. AG was tasked with undertaking a pavement investigation to determine the existing subsurface profile, document the existing pavement profile and subgrade layers and to obtain California Bearing Ratio design values. The investigation comprised drilling of boreholes using a tracked rig. Denny coordinated and supervised traffic control, underground services locating and the drilling crew seamlessly to complete the works in a single night shift. Denny also provided recommendations for the design California Bearing Ratio, in addition to recommendations for pavement construction including providing compaction specifications for each layer of the SMZ, layers placed in the upper zone of formation up to the underside of the SMZ and for material used to replace unsuitable material in accordance to TfNSW QA specifications. He also provided recommendations for pavement widenings, specifically in relation to sections of longitudinal joints where new pavements tie-in to existing pavements.

EXPERIENCE

RMS AND DOWNER MOUCHEL | PAVEMENT UPGRADES TO MENANGLE ROAD, RICHMOND ROAD AND MAMRE ROAD | NSW

- Denny supervised the fieldwork undertaken for pavement rehabilitation and upgrades as part of Downer Mouchel Roads upgrade program at various locations in Sydney. The site investigations consisted of drilling boreholes on the existing pavement at numerous locations and assessing the condition of the existing subgrade. A factual report was then prepared which detailed the subsurface conditions and presented the results of the lab testing.

ACCIONA | SYDNEY LIGHT RAIL | GEORGE STREET AND SYDNEY CBD

- Denny undertook pile/ pier inspections for smart poles, foundation assessments for ground slabs in tunnels and other ancillary structures using Dynamic Cone Penetrometers and trench stability inspections.

RMS/DOWNER MOUCHEL/ JACOBS | WESTERN MOTORWAY M4 | ST CLAIR NSW

- Denny oversaw the fieldwork for a geotechnical investigation to determine effect of groundwater on slope stability. Two boreholes were drilled, and piezometers were installed in each for groundwater monitoring. A factual geotechnical report was prepared and submitted to the RMS with interpretation of results and on-going monitoring undertaken by Jacobs.

AUSGRID | REPLACEMENT OF LATTICE TOWERS WITH MONOPOLES FOR FEEDER 926 | DURAL NSW

- Denny oversaw the geotechnical investigation to sample in situ rock and assess compressive strength for the design of proposed monopole footings for a tower replacement project in Dural. Borehole drilling was undertaken at two locations and included coordination of fieldwork and witnessing the drilling of boreholes, with the preparation of a summary report detailing subsurface conditions and provision of geotechnical design parameters for the construction of the monopoles.

RMS AND LIVERPOOL CITY COUNCIL | FLOOD MITIGATION MEASURES AT NEWBRIDGE ROAD | CHIPPING NORTON NSW

- Denny undertook bearing capacity assessments for culverts and an outfall headwall for a proposed sewer main. The assessment consisted of carrying out Dynamic Cone Penetrometer tests to determine in situ soil consistency. Further investigations were carried out using Cone Penetrometer Testing.

EXPERIENCE

SYDNEY WATER | PROPOSED SEWER LINE INSTALLATION | LIVERPOOL NSW

- The preliminary geotechnical investigation for proposed sewer lines through Liverpool CBD was undertaken by AG and the fieldwork was supervised by Denny. The site investigation comprised drilling boreholes along the proposed sewer line to determine existing ground conditions. Sampling was carried out at multiple locations to obtain engineering parameters of the subgrade soils. Rock coring was also carried out with point loads tests performed on the retrieved core.

SYDNEY WATER | SEWER MAIN REPAIRS AT BALGOWLAH ROAD, | BALGOWLAH, NSW

- Lateral stability assessment and dewatering inspection of an open trench during sewer lines repairs was required for the project. Denny provided verbal geotechnical advice to the client on site as to how to minimise effects of groundwater drawdown on surrounding structures and a geotechnical report was submitted detailing findings of the assessment. The works were successfully undertaken with no adverse effects on surrounding structures caused by the groundwater drawdown.