

PAVEMENT DESIGN CAPABILITY

PAVEMENT DESIGN SERVICES

Pavement design services are provided by Arcadis at a national level. We offer a range of design services for **highway** pavements, **port/intermodal** heavy duty pavements, **commercial** pavements, **airports** (runways and aprons) and **residential** developments. We follow state and international design methods appropriate to each job. We utilise finite element, mechanistic and empirical design methodologies. We design **thickness** profiles, **edge** and **jointing details**, **rehabilitations** (upgrades), **subsurface** drainage and **surfacing** (including bridge decks). We're frequently involved in infrastructure detailed design for SRAs, councils and contractors, consultancy/research activities and construction phase services. Additional services include **value engineering**, **constructability** reviews, **life cycle** costing analysis and **independent assurance**. Enquiries: AAP.Pavements@arcadis.com

OUR TEAM



JUSTIN MOSS
Senior Technical Director
Team Leader (Pavements)
justin.moss@arcadis.com



JUN SO
Associate Technical
Director



SCOTT MINARDS
Principal Pavement
Engineer



CRAIG HODDER
Principal Pavement
Engineer



ASHNIK NANOO
Senior Pavement Engineer



NICOLE LIANG
Pavement Engineer



KRISTINE FAYE LINDO
Pavement Engineer



NOORA PRADHAN
Pavement Engineer



ANNA KRISTINA MENDOZA
Assistant Pavement
Engineer



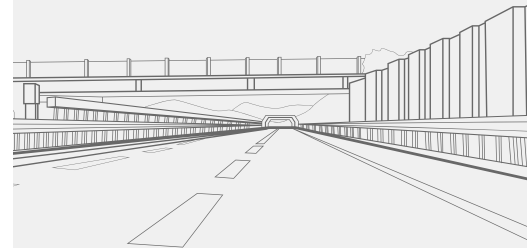
PETER TAMSETT
Principal Pavement
Engineer



YASO YASOTHARAN
Principal Pavement
Engineer



JOIN OUR TEAM!
Pavement Engineer



WHAT IS PAVEMENT DESIGN?

Pavement design is more than thickness design. It includes traffic analysis, consideration of geotechnical conditions and a thorough appreciation of material technology. Pavement design takes into considerations such as reliability, design life, value for money, alignment constraints, drainage constraints, sustainability standards and existing infrastructure considerations. Key areas of pavement design are:



Thickness
Design



Details (Edge,
Interface, Jointing)



Rehabilitation



Optioneering



Materials/
Surfacing



Pavement
Drainage

PROJECT EXPERIENCE

HIGHWAYS

Sydney Gateway 1 & 3: A NSW Government initiative to improve road & freight around Sydney Airport and Port Botany – with extensive greenfield pavements linked to WCX as well as complex tie-ins with Qantas Drive.



M1 Pacific Hwy Tuggerah to Doyalson: Detailed design for an upgrade of a 12 km length of motorway and the rehabilitation of heavily cracked concrete pavement for the four existing lanes.

M1 Kariong to Somersby: Detailed Design for the upgrade of approximately 8 km of the M1 Pacific Motorway between the existing Kariong and Somersby Interchanges. The design added an additional travel lane, repaired existing pavements and widened ramps.



M1 Pacific Hwy Woolgoolga to Ballina: In joint venture with Beca, Arcadis was responsible for the upgrade of a 30 km section of existing highway to four-lane dual carriageway and a concept design to widen to six-lanes in the future.

Newell Highway: Upgrade 28 km of the existing Newell Highway between Mungle Back Creek and Boggabilla with new heavy-duty pavements - CD, DD and REF.



Westconnex 1b (M4 East) & 3b (Rozelle Interchange): Arcadis was engaged (with AECOM) to undertake the Detailed Design including realignment around existing services, property works, major bridge and tunnel work.



Bolivia Hill: We developed Concept and Detailed Design for a 2.1 km section of the existing highway through the Bolivia Range between Glen Innes and Tenterfield – design included widened road shoulders (safety), realignment, tie-ins to the 320 m three-span cantilever bridge, extensive rock cuttings and retaining wall structures.

Village Road Freight Upgrade Project (DL): Civil and Pavements design for the upgrade of regional road for B Triple class to service a heavy freight business in WA

INTERMODAL PORTS / CONTAINER TERMINALS

Port Botany : The project involves the construction of crane rail beams to support the gantry crane, new pavements to accommodate straddle carriers and trucks, sections of ballasted rail track and track slab.

Toll Webb Dock: Arcadis was engaged to undertake the Concept and Detailed Design to upgrade the pavement in these areas to allow for the operation of reach stackers, Super B doubles and MAFI trailers.



Moorebank Intermodal: Arcadis was engaged by the developer to undertake Detailed Design of heavy duty pavement trafficked by a mix of reach stackers, autoshauntles, empty container handlers and trucks.



COMMERCIAL/URBAN PAVEMENTS

Northern Beaches Hospital: The pavement scope involved upgrades to local roads, jointing design for tie-ins and the design of heavy duty pavement pads for helicopters.

SICEEP: Arcadis was engaged to deliver the Detailed Design for the upgrade of Darling Drive and an interface with light rail.



ASSET CONSULTING & INDEPENDENT ASSURANCE

Various Asset Handover Projects: Rehabilitation optioneering, remaining life determinations and cost estimation for a bypassed concrete pavement through Scone (previously New England Hwy) in preparation for handover to Council.

Life Cycle Costing Analysis & Research: Development of life cycle costing report to analyse contemporary heavy-duty pavement options in Australia including a range of maintenance activities used for asphalt and concrete pavements.

Sydney Metro Design Services: Arcadis and Mott Macdonald Joint Venture (METRON T2M) with Principal subconsultant, Design Inc, was engaged to develop the design for the conversion of the T3 Bankstown Line between Marrickville and Bankstown Stations to metro rail standards.

AIRPORTS / AIRFIELDS

Hamilton Airport: Arcadis was engaged to design a 300 m runway extension to the main runway at Hamilton Airport and design of detention basin to mitigate flows from the airport property.

