CURRICULUM VITAE

NAME: Kieren Petty

YEAR OF BIRTH: 1989

ACADEMIC QUALIFICATIONS:

Bachelor of Engineering Science	2015 The University of Queensland
Master of Engineering Science	2020 The University of Queensland

PROFESSIONAL QUALIFICATIONS:

Member, The Institution of Engineers Australia

CAREER APPOINTMENTS:

2023 -	Consulting Engineer, Gilmore Engineers Pty Ltd|e3k
2022 - 2023	Design engineer, Everhard Industries
2020 - 2021	Hydraulic engineer, Storm Water Consulting
2019	Software Engineer, Storm Water Consulting
2017 - 2018	Graduate Electrical Engineer, Wood and Grieve Engineers

AREAS OF EXPERIENCE AND EXPERTISE:

Product Design, Analysis, and Testing

Turning ideas and innovations into successful products through meeting rigorous testing and certification requirements.

- Concept review, generation, and development
- Detailed design and 3D modelling
- Design to Australian or International Standards
- Design for Manufacturability – Injection Moulding and Roto Moulding
- Biodegradable plastics
- Rapid prototyping

Motor Vehicle Accidents

Motor vehicle accident analysis and reconstruction, of incidents involving a single vehicle or multiple vehicles, including passenger cars, prime movers and trailers, trucks, motorcycles, marine vessels, or buses.

- Pre-incident speed analysis
- Head-on impacts
- Tyre tread analysis
- Stopping distances calculation

- Position of vehicle pre-impact

Personal Injury

Occupational health & safety, system of work assessments and investigation and analysis of injuries and fatalities from;

- Workplace incidents

Fit For Purpose Assessment

Forensic Engineering reviews and assessments of machinery and products where legal claims have arisen over fitness for purpose.

- Vehicle operation
- Vehicle maintenance

BIOGRAPHICAL NOTES

Kieren joined Gilmore Engineers Pty Ltd | E3K as a Consulting Engineer in 2023. Kieren has had a variety of experiences in different engineering disciplines. Most recently, Kieren has worked for an Australian manufacturer, developing new products from concept to completion.

Kieren received his Bachelor of Engineering with an extended major in Mechatronic Engineering from the University of Queensland in 2015. He completed a Master of Engineering Science in Materials and Manufacturing Engineering in 2020 from the University of Queensland. His undergraduate thesis focused on using computational methods to analyse in situ combustion efficiency using infrared spectroscopy. Kieren's postgraduate thesis focused on the biodegradability of biodegradable polymers in an anaerobic environment.

At Gilmore Engineers, Kieren has been involved with articulated haulier's superstructure redesign, computational fluid dynamics (CFD) modelling, and forensic engineering investigation of motor vehicle accidents. The articulated haulier redesign involved strategic design choices to permit the highest superstructure payload without compromising the manufacturer's modification limitations. The CFD simulations involved iterative modelling of siphon designs to replicate and predict actual behaviour. Motor vehicle accidents include determining the cause of a road train accident and examination of tyres on an SUV involved in a fatality.

In 2022, Kieren began working as a design Engineer at Everhard Industries (EI). Throughout his tenure at EI, he was involved in designing, developing, and implementing multiple products. These products were made from precast concrete, injection moulded polymer, and rotomolded polymer products. He developed skills in Finite Element Analysis (FEA), design for manufacturing (DFM), and project management.

In 2019, Kieren was engaged by Storm Water Consulting (SWC) to update and develop key software applications for their business. He was able to implement the desired improvements, which significantly reduced SWC's labour costs through a reduction in repetitive menial tasks, future-proofed their business, and provided SWC with a competitive edge against their opposition. Kieren later transitioned to a Hydraulic Engineering role at SWC in 2020. In this

role, he excelled at creating and analysing flood models. He was able to develop skills in creating formal report documentation and managing client expectations.

In 2017, Kieren worked as a Graduate Electrical Engineer at Wood and Grieves Engineers, now a part of Stantec. Here, Kieren worked in building services, providing drafting and engineering support to the project engineers. This included working on an energy audit and providing energy-saving recommendations for Brisbane City Council pool operators. Through this experience, Kieren practiced key skills relating to project management, design principles, and stakeholder engagement.