COMPANY PROFILE

DesignDevise
Pty Ltd

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MELBOURNE VIC 3000
CONTACT@DESIGNDEVISE.COM.AU
0481 222 990
DESIGNDEVISE.COM.AU

SERVICES

- SOLAR RACKING DESIGN
- MULTI-STORY DESIGN
- RESIDENTIAL DESIGN
- COMMERCIAL/PUBLIC BUILDINGS
- WATER AND EARTH RETAINING STRUCTURES
- STEEL LIQUID TANKS
- CONSTRUCTION METHODS AND ERECTION SEQUENCE
- FORMWORK DESIGN
- LIFTING DESIGN
- SCAFFOLD DESIGN
- PLATFORMS DESIGN
- EXCAVATION ASSESSMENT
- ASSESSMENT OF EXISTING STRUCTURES
- PROPPING AND TEMPORARY SUPPORTS

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SOLAR RACKING

We offer structural engineering design services for solar panel racking systems throughout Australia and New Zealand. Our team collaborates with major industry clients on both small-scale and large-scale projects, reaching capacities of up to 100MW. Our expertise encompasses both ground-mount and roof-mount solar installations, providing solutions that are structurally sound, efficient, and cost-effective.

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MULTI-STORY DESIGN

At DesignDevise, we provide 3D finite element analysis modeling and design for building structures. Our capabilities include lateral wind and seismic design for tall buildings, creep and shrinkage analysis, model reviews, and comprehensive design services, including foundations.

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RESIDENTIAL

We specialize in the structural design of concrete and timber design for houses, villas, and extensions. Additionally, we conduct assessments and inspections of existing structures to evaluate their capacity for new loads, as well as perform demolition and forensic analysis services.

COMMERCIAL/PUBLIC BUILDINGS

Our engineers provide structural analysis and design services for a wide range of commercial and public construction projects, including low to high-rise buildings such as hospitals, schools, gathering halls, shopping malls, public transport facilities, and recreational structures.

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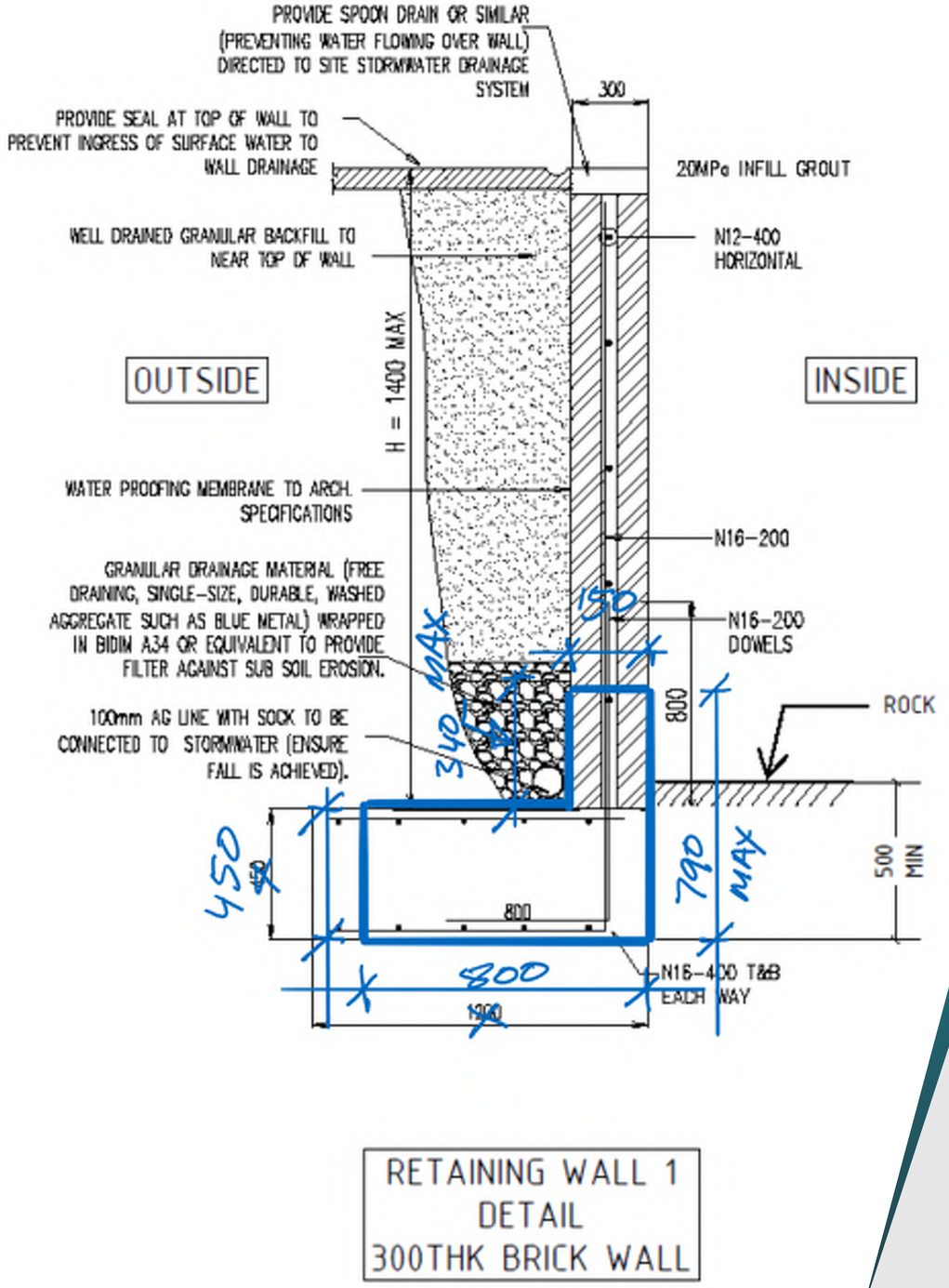

WATER AND EARTH RETAINING STRUCTURES

Water tightness and crack width requirements are crucial for water and earth-retaining structures. In most cases, these factors govern the overall structural design and necessitate complex analysis. The requirements from approving authorities are stringent and demand a deep understanding of non-linear cracking behavior; failing to address this may result in costly construction challenges. We have extensive experience in managing these issues and in designing both above and below-ground tanks, basement structures, and water and liquid-retaining systems.

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CONSTRUCTION METHODS & ERECTION SEQUENCE

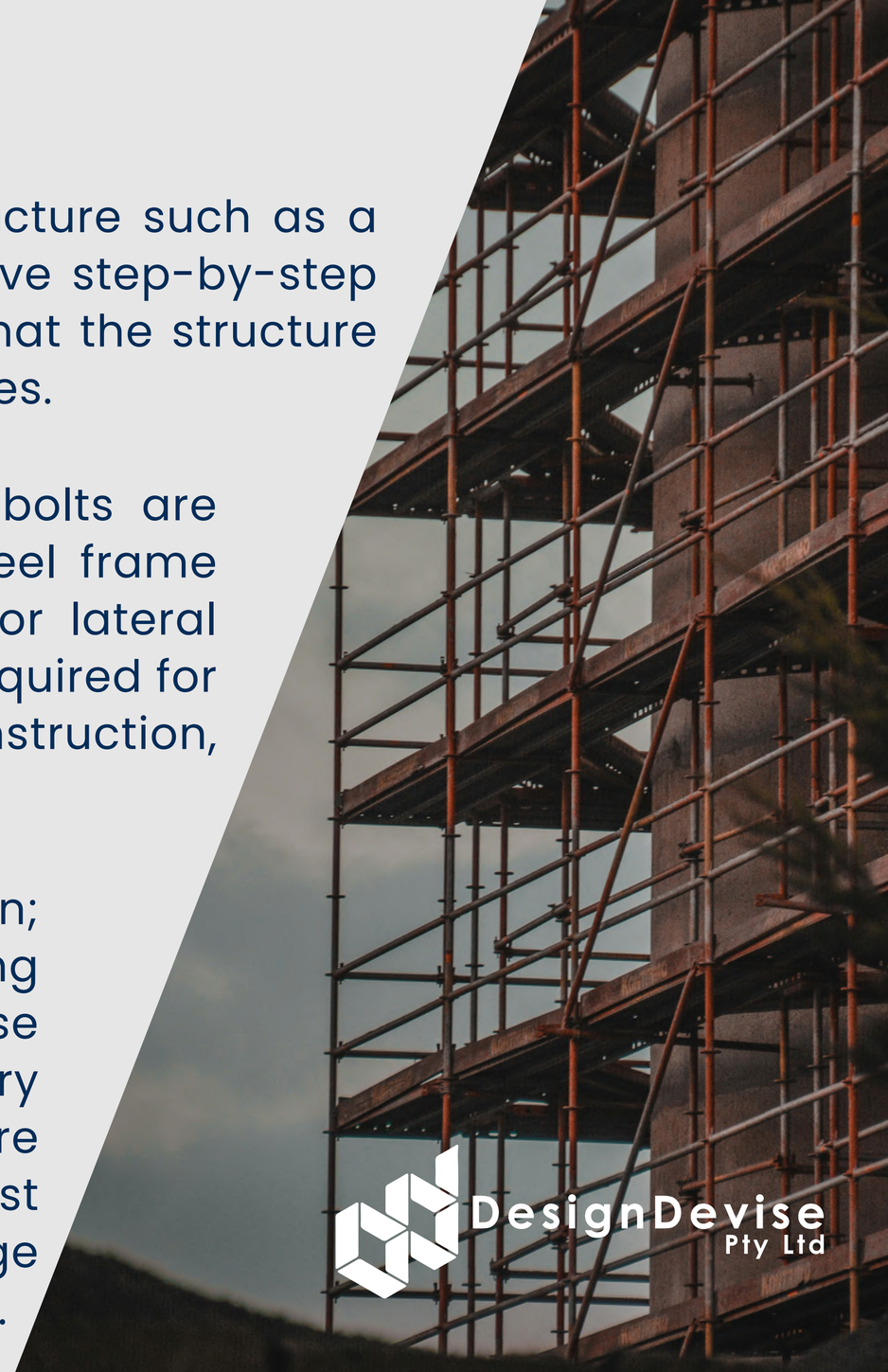
Whether you are building, demolishing, or designing a structure such as a precast or steel frame building, we provide a comprehensive step-by-step analysis of the erection sequence. Our approach ensures that the structure remains stable throughout the temporary construction phases.

- **Steel frame construction**

  We ensure the minimum number of column base plate bolts are tensioned and specify the beam sequencing to tie the steel frame back to the concrete core wall as soon as practicable for lateral stability. Additionally, we outline the minimum curing time required for the metal deck slab before proceeding with upper floor construction, among other critical considerations.

- **Precast building**

  Precast structures are not fully monolithic during construction; they function as individual units and frames prior to reaching the permanent stage. Therefore, it is crucial that these structures are designed to accommodate temporary construction stage loadings. For example, precast walls require temporary propping to withstand wind loads, while precast beams and slabs need temporary supports to manage construction loads before the installation of the topping slab.



FORMWORK DESIGN

We offer a range of formwork design solutions for concrete pits, precast units, in-situ walls, beams, columns, and slabs. Our designs can be crafted in timber or structural steel, accommodating both standard modular and complex geometries. We adhere to AS3610, CIRIA 108, and client-specific requirements to assess concrete pressure and set timelines for finalizing the formwork design.

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LIFTING DESIGN

Our engineering team provides design services for various lifting solutions, including lifting beams and frames, lifting lugs, precast lifters, and scaffold lifting systems. We also conduct design assessments for different structures subjected to lifting loads, such as steel girders and precast units, as well as the evaluation of supporting structures during crane lifting operations.

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SCAFFOLD DESIGN

We design both tube and fitting scaffold systems, as well as proprietary systems such as Layher, Kwikstage, AT-PAC, and others. Our engineers provide comprehensive scaffold drawings that include all critical information, such as load specifications, tie requirements and their details, reactions, shade cloth specifications, and interactions with supporting foundations and existing structures.

PLATFORMS DESIGN

We design platforms constructed from structural steel and aluminium members that contractors need during construction. These platforms include vehicle ramps with barriers, scaffold supports in vent shafts, crane supports on roofs, and material storage stillages, among other applications.

EXCAVATION ASSESSMENT

Our geotechnical engineering team offers expert advice on various aspects, including excavation, shoring, retaining walls, soil-structure interaction, and slope stability.

ASSESSMENT OF EXISTING STRUCTURES

DesignDevise provides engineering services for the assessment of existing structures and their loading capacities. Examples of our assessments include evaluating retaining walls for increased surcharge loads, examining bridges for additional loads such as cranes, analyzing loads and sequencing during demolition, assessing excavator and EWP loads on under-construction slabs and roofs, and evaluating existing footings for proposed new construction and associated loads.

PROPPING AND TEMPORARY SUPPORTS

As part of our Construction Methods and Erection Sequence (CMES) services, we offer solutions ranging from simple to complex propping systems. These utilize custom-made or commercially available proprietary equipment for various applications, including the casting of precast panels, slab back propping, and during the construction and demolition of different structures.

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